

Masthead Logo

University of Iowa General Catalogs

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The University of Iowa 2018-19 General Catalog

University of Iowa

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Catalog Home

The General Catalog provides information about academic programs at the University of Iowa, one of three universities governed by the Board of Regents, State of Iowa. The Catalog also provides links to supporting offices at the University, a list of administrative officers, an A-Z list of University of Iowa faculty members, a University calendar, and a link to the Code of Iowa for information regarding admission requirements and Iowa resident/nonresident standing.

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Academics at Iowa

The University of Iowa offers academic degree and nondegree programs at the undergraduate and graduate levels. It also offers professional degrees, postdoctoral study, and other opportunities for nondegree study and research. The General Catalog describes the University's degree and nondegree programs at the undergraduate and graduate levels.

The following pages provide global information about undergraduate, graduate, and professional study across the University. They include all undergraduate and graduate majors, minors, and certificate programs with links to the relevant Catalog sections; descriptions of the University's course numbering and grading systems; and contact information for supporting offices.

There are several options to search for information on programs of study by using the black bar above. The A-Z Directory lists information in alphabetical order. Catalog Contents allows a user to search by department or unit for the majors, minors or certificates offered, and for information about each University program. Find Your Program provides users the ability to search by undergraduate, graduate, and professional program options, as well as additional learning opportunities in college or pre-college programs by selecting choices with the Filter Options drop-down list. UI Courses lists all the University courses by academic unit.

Explore what the University of Iowa has to offer!

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Course Numbering

Course numbers at the University of Iowa consist of an alphabetical prefix (up to four letters) showing the college, department, or program, followed by a colon and a four-digit numerical suffix for the individual course. For example, SOC:2810 identifies the course numbered 2810 in the Department of Sociology (SOC), titled Social Inequality.

Course suffix numbers 0000-0999 designate prelower-level courses; numbers 1000-2999 designate lower-level undergraduate courses; numbers 3000-4999 designate courses for upper-level undergraduate and graduate students (except in the College of Engineering, where numbers 3000-5999 designate courses for undergraduate and graduate students); numbers 5000-7999 designate graduate-level courses; and numbers 8000-9999 designate professional-level courses.

Tippie College of Business

ACCT	Accounting
BUS	Business Administration (Tippie College of Business)
ECON	Economics
ENTR	Entrepreneurship (Entrepreneurial Management)
FIN	Finance
MBA	Graduate Management Programs (Master of Business Administration Program)
MGMT	Management (Management and Organizations)
MKTG	Marketing
MSCI	Management Sciences

College of Dentistry

DENT	Dentistry
DPH	Dental Public Health (Preventive and Community Dentistry)
ENDO	Endodontics
FAMD	Family Dentistry
GSND	Geriatric and Special Needs Dentistry
OMFS	Oral and Maxillofacial Surgery
OPER	Operative Dentistry
OPRM	Oral Pathology, Radiology, and Medicine
ORDN	Orthodontics
ORSC	Oral Science
PCD	Preventive and Community Dentistry
PEDO	Pediatric Dentistry
PERI	Periodontics
PROS	Prosthodontics

College of Education

EALL	Education Interdepartmental (College of Education)
EDTL	Education Teaching and Learning (Teaching and Learning)
EHOP	Education Honors Opportunity Program (College of Education)
EPLS	Educational Policy and Leadership Studies
PSQF	Psychological and Quantitative Foundations
RCE	Rehabilitation and Counselor Education

REA	UI REACH
SIED	Science Education (Teaching and Learning)

College of Engineering

BME	Biomedical Engineering
CBE	Chemical and Biochemical Engineering
CEE	Civil and Environmental Engineering
ECE	Electrical and Computer Engineering
ENGR	Core Engineering Courses
IE	Industrial Engineering (Industrial and Systems Engineering)
ME	Mechanical Engineering

Graduate College

AMCS	Applied Mathematical and Computational Sciences
BMED	Biomedical Science
CBIO	Cancer Biology (Biomedical Science)
GENE	Genetics
GRAD	Graduate College
IGPI	Interdisciplinary Graduate Program in Informatics (Informatics)
IMMU	Immunology
IWP	International Writing Program
MMED	Molecular Medicine
NSCI	Neuroscience
SLIS	Library and Information Science
TBM	Translational Biomedicine
TOX	Human Toxicology
UICB	University of Iowa Center for the Book (Center for the Book)
URP	Urban and Regional Planning

College of Law

LAW	Law
LWAB	Law Study Abroad
HRTS	University of Iowa Center for Human Rights

College of Liberal Arts and Sciences

ACTS	Actuarial Science (Statistics and Actuarial Science)
AFAM	African American Studies
AMST	American Studies
ANIM	Animation (Art and Art History)
ANTH	Anthropology
ARAB	Arabic (French and Italian)
ARTE	Art Education (Art and Art History)
ARTH	Art History (Art and Art History)
ARTS	General Art (Art and Art History)
ASIA	Asian Languages and Literatures (Asian and Slavic Languages and Literatures)
ASL	American Sign Language
ASLE	American Sign Language in English
ASP	Aging and Longevity Studies
ASTR	Astronomy (Physics and Astronomy)

ATEP	Athletic Training Program (Health and Human Physiology)
BIOC	Biochemistry
BIOL	Biology
BKAT	Papermaking (Art and Art History)
CCCC	Critical Cultural Competence
CERM	Ceramics (Art and Art History)
CHEM	Chemistry
CHIN	Chinese (Asian and Slavic Languages and Literatures)
CINE	Cinematic Arts
CL	Comparative Literature
CLAS	Liberal Arts and Sciences Nondepartmental (College of Liberal Arts and Sciences)
CLSA	Classics: Ancient Civilizations (Classics)
CLSG	Greek (Classics)
CLSL	Latin (Classics)
CNW	Creative Nonfiction Writing (English)
COMM	Communication Studies
CRIM	Criminology, Law and Justice (Sociology)
CS	Computer Science
CSD	Communication Sciences and Disorders
CW	Creative Writing—Writers' Workshop (English)
DANC	Dance
DIGA	Public Digital Arts
DPA	Division of Performing Arts
DRAW	Drawing (Art and Art History)
DSGN	Design (Art and Art History)
DST	Disability Studies
ECON	Economics
EES	Earth and Environmental Sciences
ENGL	English
ENVS	Environmental Sciences
ESL	English as a Second Language
EVNT	Event Planning
FPC	Fundraising and Philanthropy Communication
FREN	French (French and Italian)
GEOG	Geography (Geographical and Sustainability Sciences)
GHS	Global Health Studies
GRMN	German
GWSS	Gender, Women's, and Sexuality Studies
HHP	Health and Human Physiology
HIST	History
HPAS	Health and Physical Activity Skills (Health and Human Physiology)
IIEP	Iowa Intensive English Program (English as a Second Language)
INTD	Interdepartmental Studies
INTM	Intermedia (Art and Art History)
IS	International Studies
ITAL	Italian (French and Italian)
IYWS	Iowa Young Writers' Studio (Magid Center for Undergraduate Writing)
JMC	Journalism and Mass Communication
JPNS	Japanese (Asian and Slavic Languages and Literatures)

KORE	Korean (Asian and Slavic Languages and Literatures)
LAS	Latin American Studies
LATH	Latham Science Engagement Initiative
LATS	Latina/o Studies
LING	Linguistics
MATH	Mathematics
MDVL	Medieval Studies
MICR	Microbiology and Immunology
MTLS	Jewelry and Metal Arts (Art and Art History)
MUS	Music
MUSM	Museum Studies
NAIS	Native American and Indigenous Studies
OSTC	Optical Science and Technology Center
PHIL	Philosophy
PHTO	Photography (Art and Art History)
PHYS	Physics (Physics and Astronomy)
PNTG	Painting (Art and Art History)
POLI	Political Science
PORT	Portuguese (Spanish and Portuguese)
PRNT	Printmaking (Art and Art History)
PSY	Psychological and Brain Sciences
RELS	Religious Studies
RHET	Rhetoric
RUSS	Russian (Asian and Slavic Languages and Literatures)
SCLP	Sculpture (Art and Art History)
SJUS	Social Justice (Gender, Women's, and Sexuality Studies)
SLA	Second Language Acquisition
SOAS	South Asian Studies (Asian and Slavic Languages and Literatures)
SOC	Sociology
SPAN	Spanish (Spanish and Portuguese)
SPST	Sport Studies (American Studies)
SRM	Sport and Recreation Management (Health and Human Physiology)
SSW	Social Work
STAT	Statistics (Statistics and Actuarial Science)
SWAH	Swahili (French and Italian)
TAPE	Teaching Assistant Preparation in English (English as a Second Language)
TDSN	Three-Dimensional Design (Art and Art History)
THTR	Theatre Arts
TR	Therapeutic Recreation (Health and Human Physiology)
TRNS	Translation
WLLC	Division of World Languages, Literatures and Cultures
WRIT	Writing (Magid Center for Undergraduate Writing)

Carver College of Medicine

ACB	Anatomy and Cell Biology
ANES	Anesthesia
AT	Athletic Training (Orthopedics and Rehabilitation)
BIOC	Biochemistry
CTS	Cardiothoracic Surgery
DERM	Dermatology

DIET	Dietary
EM	Emergency Medicine
EMTP	EMT—Paramedic Program (Carver College of Medicine)
FAM	Family Medicine
FRRB	Free Radical and Radiation Biology
IM	Internal Medicine
MED	Carver College of Medicine
MICR	Microbiology and Immunology
MPB	Molecular Physiology and Biophysics
MSTP	Medical Scientist Training Program
NEUR	Neurology
NSG	Neurosurgery
OBG	Obstetrics and Gynecology
OPHT	Ophthalmology and Visual Sciences
ORTH	Orthopedics and Rehabilitation
OTO	Otolaryngology—Head and Neck Surgery
OTP	Orthoptics Teaching Program (Carver College of Medicine)
PA	Physician Assistant Studies and Services
PATH	Pathology
PCOL	Pharmacology
PEDS	Pediatrics (Stead Family Department of Pediatrics)
PERF	Perfusion (Cardiothoracic Surgery)
PSYC	Psychiatry
PTRS	Physical Therapy and Rehabilitation Science
RAD	Radiology
RADO	Radiation Oncology
RSCI	Cardiovascular Interventional Program (Radiation Sciences)
RSCT	Computed Tomography Program (Radiation Sciences)
RSMR	Magnetic Resonance Imaging Program (Radiation Sciences)
RSMS	Diagnostic Medical Sonography Program (Radiation Sciences)
RSNM	Nuclear Medicine Technology
RSP	Radiation Sciences Program
RSRT	Radiologic Technology Program (Radiation Sciences)
RSTH	Radiation Therapy Program (Radiation Sciences)
SURG	Surgery
URO	Urology

College of Nursing

NURS	Nursing
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College of Pharmacy

PHAR	Pharmacy
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College of Public Health

BIOS	Biostatistics
CBH	Community and Behavioral Health
CPH	College of Public Health
EPID	Epidemiology

HMP	Health Management and Policy
OEH	Occupational and Environmental Health

University College

ABRD	Study Abroad
AERO	Aerospace Studies
BBC	Belin-Blank Center for Gifted Education
BMS	Biomedical and Health Sciences
CCP	Career Center Programs
CDE	Center for Diversity and Enrichment
CSI	College Success Initiatives
HONR	Honors Program (University of Iowa Honors Program)
IALL	Iowa Lakeside Laboratory
IBA	Iowa Biosciences Academy
INTL	International Activities (Study Abroad)
LLS	Lifetime Leisure Skills
LS	Leadership Studies
MILS	Military Science
SSTP	Secondary School Training Program (Secondary Student Training Program)
UIUB	University of Iowa Upward Bound
ULIB	University Libraries
URES	Undergraduate Research Experiences

Grading

The University uses a letter grading system for individual courses, except for the College of Law, which uses a numeric system for course grading. In order to compute grade-point average, letter grades are converted according to the following numerical scale. Grade-point averages are displayed at the bottom of students' grade reports. All of the following marks appear on the permanent record.

Grade points for each semester hour:

A+	4.33
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0

Not used in computing grade-point average:

AUS	Audit Successful
AUU	Audit Unsuccessful
H	Honors
H-	Near Honors
IP	In Progress
N	Nonpass
P	Pass
S	Satisfactory
U	Unsatisfactory

Other marks on the permanent record:

H	Undergraduate honors section
HC	Individual undergraduate honors earned
I	Incomplete
IP	In progress
O	No grade reported
R	Registered, no grade required
W	Withdrawn
X	Excused
=	Changed grade
#	Grade not included in grade-point average
*	Undergraduate honors section

Supporting Offices

Prospective undergraduate, graduate, and professional students should apply to the University through the Office of Admissions. Several other University of Iowa offices provide major services to entering and continuing students.

Application for admission (undergraduate, graduate, and professional programs):

Office of Admissions

The University of Iowa
107 Calvin Hall
Iowa City, IA 52242-1396
Phone: 1-319-335-3847
Email: admissions@uiowa.edu
Website (undergraduate admissions): <https://admissions.uiowa.edu>
Website (graduate and professional admissions): <https://grad.admissions.uiowa.edu>

Registration, course offerings, classroom scheduling, tuition and fees, residency status, transcripts, verifications, general catalog, graduation analysis, degree audits, diplomas and certificates, GI Bill:

Office of the Registrar

The University of Iowa
2 Jessup Hall
Iowa City, IA 52242-1316
Email: registrar@uiowa.edu
Website: <https://registrar.uiowa.edu/>

Registration and changes in registration, transcripts and verifications, U-bill payments and questions, scholarship submissions, student name changes:

UI Service Center

The University of Iowa
17 Calvin Hall
Iowa City, IA 52245
Phone: 1-319-384-4300
Email: registrar@uiowa.edu
Website: <https://uiservicecenter.uiowa.edu>

Student housing information, application:

University Housing and Dining

The University of Iowa
4141 Burge Hall
Iowa City, IA 52242-1214
Phone: 1-319-335-3000
Email: housing@uiowa.edu [reshall-housing@uiowa.edu]
Website: <https://housing.uiowa.edu/>

Scholarships, grants, loans, student employment:

Office of Student Financial Aid

The University of Iowa
208 Calvin Hall
Iowa City, IA 52242-1315
Phone: 1-319-335-1450
Email: financial-aid@uiowa.edu
Website: <https://financialaid.uiowa.edu>

Student retention services, information, and programming for racial/ethnic minorities, first generation students, students identifying as members of the LGBTQ community, students with disabilities, and student veterans and their dependents:

Center for Diversity and Enrichment

Chief Diversity Office
The University of Iowa

24 Phillips Hall
Iowa City, IA 52242-1323
Phone: 1-319-335-3555
Email: cde@uiowa.edu
Website: <https://diversity.uiowa.edu/office/center-diversity-and-enrichment>

Equal opportunity/nondiscrimination:

Equal Opportunity and Diversity

Chief Diversity Office
The University of Iowa
202 Jessup Hall
Iowa City, IA 52242-1316
Phone: 1-319-335-0705
Email: diversity@uiowa.edu
Website: <https://diversity.uiowa.edu/office/equal-opportunity-and-diversity>

College of Liberal Arts and Sciences

Interim Dean

- Joseph K. Kearney

Executive Associate Dean

- Raúl E. Curto

Associate Dean for Research and Infrastructure

- Marc P. Armstrong

Associate Dean for Undergraduate Programs and Curriculum

- Helena R. Dettmer

Associate Dean for Graduate Education

- Christine Getz

Associate Dean for Outreach and Engagement

- Meenakshi Gigi Durham

Undergraduate majors: B.A.; B.S.; B.F.A.; B.M.

Graduate degrees: programs leading to M.A.; M.S.; M.F.A.; Ph.D. (degrees conferred by the Graduate College)

Website: <https://clas.uiowa.edu>

The College of Liberal Arts and Sciences (CLAS) offers a rich liberal arts experience within a major research university.

In CLAS, undergraduate students can choose from 65 undergraduate majors, almost 70 minors, and almost 30 interdisciplinary certificates in departments spanning the arts; humanities; natural and mathematical sciences; social sciences; and communication disciplines. University of Iowa graduate students pursue degrees in almost 50 CLAS subject areas.

All University of Iowa undergraduates must complete the GE CLAS Core, which offers opportunities to explore a wide variety of subjects and learn core skills needed to succeed in a major. Some students enter CLAS as open majors, taking advantage of the college's many academic offerings to discover their interests before declaring majors.

Students are encouraged to combine areas of study to create individualized academic portfolios. Many undergraduates enroll in the University of Iowa Honors Program or earn honors in the major from their primary academic department, often conducting important research alongside faculty mentors. In addition, students have frequent opportunities to engage in community service through their classes.

The success of CLAS students is the college's top priority. Professional academic advisors help students make the best choices to fulfill their academic goals and to graduate in a timely manner. The college offers innovative programs to help students enhance necessary skills, such as writing, speaking, math, scientific literacy, and world languages.

When CLAS students graduate, they have completed an academically rigorous educational experience. They are empowered to excel in the global, 21st-century world and to create meaningful and fulfilling lives.

Office of Academic Programs & Student Development

Located in Schaeffer Hall, at the center of campus, the Office of Academic Programs & Student Development is an integral part of the College of Liberal Arts and Sciences. The office's staff, led by the associate dean for undergraduate programs and curriculum, welcomes students who have questions or need help; who wish to declare or change majors; who need to petition to register late, to add or drop a course late; or who must withdraw an entire registration after the established deadlines.

The office's staff members also answer students' questions concerning academic requirements and programs of study. Staff meet with students about GE CLAS Core requirements, graduation requirements, collegiate policies that affect students, and a range of other issues, including academic probation and dismissal and strategies for the successful completion of a degree.

Students in the College of Liberal Arts and Sciences may petition for exceptions to CLAS rules and requirements in the Office of Academic Programs & Student Development. Students may discuss their questions and the petition process first with an associate director in the office.

The office works closely with students on academic probation and counsels them on strategies for success. It conducts semiannual reviews of students on academic probation, handles dismissals from the college, and considers requests for reinstatement.

The Office of Academic Programs & Student Development also oversees appropriate disciplinary action for academic misconduct and welcomes students with concerns or complaints related to academics. The office aims to resolve complaints swiftly while ensuring needed change is made. All students in the College of Liberal Arts and Sciences are encouraged to engage with the academic community by exercising the rights and responsibilities of a student.

GE CLAS Core

Students entering the College of Liberal Arts and Sciences who wish to earn a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.) degree must complete the requirements of the General Education CLAS Core in addition to the requirements of their major and other requirements for graduation.

The GE CLAS Core requires students to explore topics outside of their chosen major, helping students to acquire the knowledge and transferable skills necessary for becoming well-educated individuals. During this exploration of GE CLAS Core topics and courses, many students also discover intriguing majors, minors, and certificates that challenge them to embrace personal transformation and related goals.

The GE CLAS Core requirements must be completed before graduation; most students complete the majority of these requirements during the first two years at Iowa, especially since GE CLAS Core courses stress the transferable skills of critical thinking, writing, and speaking that help students to be more successful in their studies.

For GE CLAS Core requirements, related academic policies, and lists of approved courses, see GE CLAS Core [p. 459] in the Catalog.

Programs

CLAS Units and Academic Programs

Undergraduate Majors, Minors, and Certificates

The College of Liberal Arts and Sciences has 39 departments and offers 65 undergraduate majors, about 70 minors, and almost 30 interdisciplinary certificate programs.

In addition, CLAS students may declare a number of majors offered by other undergraduate colleges at the UI, with the College of Liberal Arts and Sciences granting the degree. The Tippie College of Business offers a major in economics (B.A. and B.S.), and with the College of Liberal Arts and Sciences, sponsors a major in enterprise leadership (B.A.). The Carver College of Medicine offers majors in biochemistry (B.A. and B.S.) and in microbiology (B.S.); and the College of Education offers a major in science education (B.S.). For descriptions of the above majors and their requirements, view those programs in the Catalog.

The College of Education offers a Teacher Education Program leading to licensure at the secondary level for students who have completed certain CLAS majors, such as art, English, mathematics, the sciences, and world languages, and who wish to work with students in middle school or high school. Students must apply for admission to the Teacher Education Program; contact the College of Education's Office of Student Services.

Students who begin their study in the College of Liberal Arts and Sciences may apply to degree programs in other colleges at the University of Iowa. If they are accepted, they may earn undergraduate degrees in business (B.B.A.) or nursing (B.S.N.); a B.S. with a major in medical laboratory science, nuclear medicine technology, or radiation sciences; or a professional degree in pharmacy (Pharm.D.). Use the Catalog's A-Z Directory to link to these programs.

Students who are interested in earning a professional or graduate degree in addition to a bachelor's degree may apply for early admission or to combined degree programs offered through partnerships between CLAS and other UI colleges. Students admitted to these programs may count a limited amount of credit toward both degrees. CLAS has early admission programs with the College of Dentistry [p. 1147] (D.D.S.) and the College of Law [p. 1502] (J.D.). Combined bachelor's/graduate degree programs are available in several disciplines; see "Combined Programs" in the Graduate [p. 1416] College section of the Catalog.

The College of Liberal Arts and Sciences offers a wide selection of undergraduate certificates and minors, including two certificates offered with other colleges: the Certificate in International Business (with the Tippie College of Business) and the Certificate in Wind Energy (with the College of Engineering). Find CLAS certificates and minors in the Catalog.

CLAS students also may earn undergraduate certificates and minors offered by other colleges. The Tippie College of Business offers certificate programs in entrepreneurial management and in risk management and insurance, and a minor in business administration. The College of Public Health offers an undergraduate public health certificate, and University College offers certificate programs in clinical and translational science, human rights, leadership studies,

nonprofit management, and sustainability. The College of Education offers minors in educational psychology and in human relations. For lists of all undergraduate certificates and minors offered by the University, see Find Your Program and select those programs of study.

Graduate Degrees and Certificates

The College of Liberal Arts and Sciences offers graduate programs in most of its disciplines, with degrees conferred by the Graduate College. Students may earn degrees at the master's and doctoral levels; graduate certificates are available in some areas of study. See the Graduate [p. 1416] College section of the Catalog for a complete list of graduate degrees offered by the University.

For information about specific CLAS graduate programs, consult the specific academic programs.

Courses

Most College of Liberal Arts and Sciences courses are offered by the college's departments, programs, and schools. They are listed and described in the corresponding General Catalog sections.

The college also offers the following nondepartmental courses.

Liberal Arts and Sciences Nondepartmental Courses

CLAS:1000 First-Year Seminar **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

CLAS:1001 CLAS Master Class **1-3 s.h.**

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

CLAS:1002 Elementary Spanish I **4 s.h.**

Emphasis on oral skills. Taught in Spanish. Requirements: pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages First Level Proficiency.

CLAS:1003 Elementary Spanish II **4 s.h.**

Continuation of CLAS:1002; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1002, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Second Level Proficiency.

CLAS:1005 ESL Special Topics **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings). Same as ESL:1005.

CLAS:1501 Intermediate Spanish I **3 s.h.**

Continuation of CLAS:1003; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1003, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Second Level Proficiency.

CLAS:1502 Intermediate Spanish II**3 s.h.**

Continuation of CLAS:1501; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1501, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Fourth Level Proficiency.

CLAS:1600 Life Design: Building Your Future**1 s.h.**

How interests and talents can be paired up to achieve a fulfilling life; what students are passionate about; address questions (i.e., How can you identify what you're good at? How can you build a life of purpose and meaning? How can you cultivate mentors? What is the relationship between ambition, drive, and success? What major might be the best fit and how can University resources help your academic and personal success?); portfolio of reflective exercises, activities, journal assignments.

CLAS:1700 Got CLAS? Blending College of Liberal Arts and Sciences Majors with Your Passions**1 s.h.**

Process of choosing a major; focus on strengths, discover passions, and dream of possibilities while cultivating an active, complementary university experience; develop mentoring relationships with faculty, voice fears about choosing a major and career, take risks in revising and expanding life and career expectations; introduction to majors within the College of Liberal Arts and Sciences (CLAS); assessments to define strengths and interests, reflection of experiences. Recommendations: first-year undergraduate standing and College of Liberal Arts and Sciences open major.

CLAS:1800 The Art of Active Learning**1 s.h.**

Case studies, individual assessments, video, class discussions, and short readings to encourage understanding of academic standards and active engagement in the learning process; examination of behaviors, study skills, habits, and attitudes that can affect success in the classroom and in life.

CLAS:2000 Is Graduate School Right for You?**1 s.h.**

Overview of American graduate school admission in liberal arts and sciences disciplines; how to research appropriate programs, types of funding, and application requirements.

CLAS:2016 The Netherlands and Pella**1 s.h.**

History and culture of the Netherlands; immigration pattern of the Dutch who came to Pella, Iowa. Duplicates IS:2016.

CLAS:3111 Reimagining Downtown**3 s.h.**

Interdisciplinary perspective; assist upper-level undergraduates apply their education and creativity toward a specific initiative, the Downtown Project, located in the Fremont East and Arts District areas of Las Vegas, Nevada. Requirements: junior or senior standing and admission by application.

CLAS:3200 International Perspectives: Xicotepec**1-3 s.h.**

Interdisciplinary service-learning course; Mexican culture and history through community-based service project, assigned readings, and discussion; includes a required spring break trip to Mexico. Same as SOC:3200.

CLAS:4100 Peer Assistant**1-2 s.h.**

Opportunities to participate in classroom and course activities; work with students as an assistant to course instructor.

CLAS:4200 Undergraduate Internship**arr.**

Professional and/or creative experience for writing certificate students; students must arrange an on- or off-campus internship with faculty advisor approval. Requirements: undergraduate standing and a minimum of 24 s.h. of course work with at least 12 s.h. in University of Iowa courses.

CLAS:5100 Practicum: College Teaching and**Professional Development for Teaching Assistants arr.**

Guidance for teaching assistants seeking introduction to teaching at college level; focus on practical pedagogical concerns, including how to structure a course, devise learning outcomes, develop a syllabus and a calendar of assignments, evaluate student work, and create a student-centered classroom with collaborate learning experiences; pre-semester intensive training session, weekly meetings during first month of semester, periodic meetings to address midterm and late-semester issues; concurrent with TA teaching assistantships. Recommendations: interest in teacher training and preparation. Same as RHET:5100.

African American Studies

Interim Chair

- Timothy J. Havens

Undergraduate major: African American studies (B.A.)

Undergraduate minor: African American studies

Graduate degree: M.A. in African American world studies

Graduate certificate: African American studies

Faculty: <https://clas.uiowa.edu/afam/people/faculty>

Website: <https://clas.uiowa.edu/afam/>

African American studies (AAS) analyzes black life within the United States through the lens of African-descended people all over the diaspora. Drawing on a rich tradition of research, teaching, and civic engagement, the faculty introduces students to the interdisciplinary foundations of the field. Major, minors, and students enrolled in African American studies classes create projects that lead to new intellectual perspectives.

The curriculum revolves around three core areas of study: history, religion, and the diaspora; literature and performing arts, and media politics, and society. By taking courses in each of these areas, students carefully consider the construction of race, ethnicity, and identity and the performance of class, gender, and sexuality. They emerge from these classes equipped to understand how African American culture shapes the world around them.

Cocurricular Activities

African American Cultural Center

African American studies encourages students to use the African American Cultural Center (Afro-House). The center serves as a museum and library housing educational artifacts. Offering enrichment for the University of Iowa and promoting diversity among all members of the Iowa City community, the center also provides a cultural hub for African American students.

African American Studies Student Association

The African American Studies Student Association aims to promote knowledge about Black life in the United States by hosting speakers, publicizing artistic performances, and sponsoring relevant programs with various campus collaborators. The association is primarily designed for AAS majors and minors; however, any University of Iowa student interested in African American studies is eligible to become a member.

Seminar and Lecture Series

The African American Studies Seminar Series and the Darwin Turner Lecture bring important scholars and creative artists to the University of Iowa campus. Guests of the lecture and seminar series have included Amiri Baraka, Trudier Harris, Ta-Nehisi Coates, Michelle Wallace, Mary Patillo, J. Lorand Matory, Portia Maultsby, Paul Butler, Gabrielle Forman, and Valerie Smith.

Graduate Seminar

Graduate students from a range of disciplines in the Colleges of Liberal Arts and Sciences, Law, Public Health, and Education, and the Tippie School of Business, as well as elsewhere are encouraged to participate in the program's

interdisciplinary graduate seminar, which is dedicated to research methods and advanced readings in African American studies.

African American Studies Annual Awards Program

Each spring, the African American studies program honors AAS majors and minors, along with exceptional University of Iowa students and organizations. Scholarships are awarded by the Marie Nesbitt Foundation, the African American Studies Program, the National Association of Black Journalists, and the Iowa Black Alumni Association. Awards are offered that recognize student efforts in community service, leadership, creative arts, graduate research, cultural appreciation, and academic achievement.

Graduate Student Mentoring and Advising

The African American Studies Program sponsors several intellectual and social gatherings for graduate students across multiple disciplines. During these events, students connect with others interested in African American studies and receive advice about becoming faculty members, being productive members of the academic profession, and career options outside of academia.

Iowa Black Alumni Association

The Iowa Black Alumni Association (IBAA) promotes the general mission of the University of Iowa. The group enhances the career prospects of prospective, current, and former black University of Iowa students. It also recognizes these individuals for their service.

Programs

Undergraduate Programs of Study

Major

- Major in African American Studies (Bachelor of Arts) [p. 25]

Minor

- Minor in African American Studies [p. 29]

Graduate Programs of Study

Major

- Master of Arts in African American World Studies

The African American Studies Program is not accepting graduate students at this time.

Certificate

- Certificate in African American Studies [p. 31]

Courses

African American Studies Courses

AFAM:1000 First-Year Seminar

1 s.h.

Small discussion class; topics chosen by instructor.

Requirements: first-year standing.

AFAM:1020 Introduction to African American Culture**3 s.h.**

Examination of black cultural experiences in the United States and the African diaspora; focus on literature, music, film, comics, anime, popular culture, and visual/performing arts. GE: Values and Culture. Same as AMST:1030.

AFAM:1030 Introduction to African American Society**3 s.h.**

Examination of black social and historical institutions in the United States and the African diaspora; focus on education, sports, political science, religion, health, criminal justice, history, sociology, and other disciplines. GE: Social Sciences; Values and Culture.

AFAM:1240 The Art of Listening to Jazz**3 s.h.**

What is jazz and its importance; guided introduction to jazz music, anatomy of jazz music, cultural context; development of skills to become an informed listener; process of performing jazz music, its connection with black culture; focused listening/analysis of prominent jazz artists' work from past and present, including intersection between jazz and hip hop; formal music experience or training not required.

AFAM:1241 The Soundtrack of Black America**3 s.h.**

Linkage of African American culture and music; black musical innovations that shaped mainstream American musical tastes over the last century; exploration of relationship between black music and culture; examples of blues, jazz, gospel, hip hop; artists including Bessie Smith (blues), Mahalia Jackson (gospel), Miles Davis (jazz), Nas and Talib Kweli (hip hop).

AFAM:1250 Introduction to African American Religions**3 s.h.**

GE: Values and Culture. Same as RELS:1350.

AFAM:1820 Everybody is a Star: Black Celebrity Since 1968**3 s.h.**

How shifts in social access after 1968 meant that renowned blacks no longer automatically saw themselves as freedom fighters; effects of change shown in Michael Jackson's career, Barack Obama's election, and fame of Beyonce, Lil' Wayne, and Oprah; analysis of black celebrity from 1968 to 2012 with focus on Muhammad Ali, Dianna Ross, Whitney Houston, Denzel Washington, Michael Jordon, Stevie Wonder, T.D. Jakes, Condoleeza Rice, Jay Z, LeBron James; black celebrity influence on post-civil rights understandings of gender, class, sexuality, politics; biographies, cultural criticism, music videos, movies, documents.

AFAM:1830 Music of the African American Diaspora**3 s.h.**

History and characteristics of music styles emerging from African American culture from time of slavery to present; beginning with Negro spiritual, exploration of origins and musical anatomy of relevant music styles (blues, gospel, jazz, rhythm and blues, funk); ubiquitous role music plays in civil, cultural, and political unrest amongst African American community throughout 20th century.

AFAM:2014 Giants of Jazz: Miles, Trane, and Duke**3 s.h.**

Miles Davis, John Coltrane and Duke Ellington as figureheads of the Jazz music style; how they changed the trajectory of modern music along with sidemen (B. Strayhorn and H. Hancock); Ellington's resolute defiance of stereotypical views of African Americans; Miles' brazen protests against civil injustices; how these icons are much more than mere musicians; cultural impact of landmark albums including "Kind of Blue," "A Love Supreme," and "The Birth of the Cool"; focus on their life, music and sociopolitical impact. Same as MUS:2014.

AFAM:2055 The Look of Blackness: African American Literature and Visual Art**3 s.h.**

Examination of African American literature over a 200-year span; how preoccupation with blackness as a visual marker of difference impacts formation of written works; how black writers wield, emphasize, and manipulate visuality; blackness foregrounded as if literary texts operate in league with, or in defiance of, visual images circulating throughout American culture, from late 18th-century poetry to mid 20th-century novels; primary texts placed alongside high art and popular visual forms of distinct historical moments to explore how black American writers deploy visual art forms in narrative conceptions of black identity. Same as ENGL:2462.

AFAM:2064 Racial Inequity and the Experiences of African American Families in the U.S.**3 s.h.**

Racial inequality and experiences of African American families in the U.S. during 20th and 21st centuries; historical context for contemporary research on African American family; relative impact of structural and cultural factors on various aspects of African American family life, declining marriage rates, family formation patterns; intersections of race and class in family life; research methods used to examine dynamics of African American family life, including quantitative analysis, structured qualitative interviews, and ethnography. Same as SOC:2064.

AFAM:2070 Black Television Culture**3 s.h.**

Social and political impact of television dramas featuring people of African descent in the West; examination of production, reception, representation, and industry as it relates to the African American images that are granted tenure on television screens. Same as COMM:2069.

AFAM:2076 Race, Ethnicity, and Media**3 s.h.**

Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives (stereotype analysis, aesthetic analysis, history) applied to real-world examples; address one or more racial/ethnic groups in the United States. Same as COMM:2076.

AFAM:2079 Race and Ethnicity in Sport**3 s.h.**

Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as SPST:2079.

AFAM:2266 Civil War and Emancipation**3 s.h.**

150 years later, what can we learn about American history from studying a war that both killed and liberated a remarkable and an unprecedented number of people? Why did it take a war to end slavery? How did emancipation occur and how did enslaved people accelerate the destruction of U.S. slavery during the war? Same as HIST:2266.

AFAM:2267 African American History to 1877: From Slave Cabin to Senate Floor**3 s.h.**

Experiences of African and African American people in the American colonies and the states of the new nation; history of Africans and African Americans as early settlers, enslaved and free, in places such as Detroit, Chicago, New York, and New Orleans; interactions with indigenous people; role in the war for American independence; long history of resistance to slavery and racial discrimination; exploration of the rich history of community building, creation of significant black social and cultural institutions, and formation of black political thought and political activism. GE: Diversity and Inclusion. Same as HIST:2267.

AFAM:2465 Selected African American Authors 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:2465.

AFAM:2500 Black Culture and Experience: Contemporary Issues 3 s.h.

Exploration of various contemporary social topics (e.g., education, religion, literature, theater, media, politics, sports, criminal justice, health, economics); use of readings, interactive experiences, course assignments (reading essays, interview/profile, observation analysis, case study, final paper), and unit quizzes to understand black life in the 21st century. GE: Diversity and Inclusion.

AFAM:2700 The Black Image in Sequential Art: Comics, Graphic Novels, and Anime 3 s.h.

Provides a foundation to critically interpret the representation of people of African descent in sequential art; primary focus on serial comic strips, gags, comic books, graphic novels, video games, animation, anime, Manga, film, zines, and televisual examples of blackness; emphasis of readings and viewing materials on gender, sexualities, economics, ethnicity, the transnational circulation and commodification of the black image, fandom communities, independent and mainstream sequential art producers. Same as AMST:2700.

AFAM:2730 African American Islam 3 s.h.

Same as RELS:2730.

AFAM:2781 Black Literature and Politics: Controversies of National Allegiance 3 s.h.

Black literature born amid political controversy, from slave narratives to award-winning texts of late 20th century; evolving politics of African American writers; changing political landscape of this expansive period and representative literature; how African American writers shape U.S. political debate; surprising politics of many canonical African American writers. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:2460, POLI:2107.

AFAM:2800 African American Women, Health, Hair, and Sexuality 3 s.h.

From the exotic to the erotic, African American women's bodies have been constructed to fulfill a variety of personal and cultural fantasies as well as social functions that are "killing us softly"; how cultural icons and myths of black women—Jezebel, Mammy, Tragic Mulatto, Aunt Jemima, Sapphire, Matriarch, Welfare Queen, and more recently, the overachieving black woman—shape and create restrictions and visions of the self that contribute to health disparities; engaging black feminist/womanist theory to explore how larger images influence everyday acts of self-care and pleasure, such as hair and sexuality, on the health of African American women. Same as GWSS:2800.

AFAM:3053 The Civil Rights Movement 3 s.h.

History of the American civil rights movement. Same as AMST:3053.

AFAM:3130 Black American Cinema 3 s.h.

Major historical and cultural movements in black cinema; independent and early Hollywood films, animation, blaxploitation, the black renaissance, black auteurs (e.g., Spike Lee, Julie Dash), hip-hop cinema, womanist films, 21st-century developments in film (e.g., theatre to film adaptations of Tyler Perry), new media's effect on film and cinema; particular attention given to gender, sexualities, region, ethnicity, and class. Same as AMST:3130.

AFAM:3245 Twentieth-Century African American Religion: Civil Rights to Hip-Hop 3 s.h.

Twentieth-century African American religious history; major political and cultural movements, such as civil rights, black power, black feminism/womanism, hip-hop. Same as RELS:3745.

AFAM:3275 History of Slavery in the U.S.A. 3-4 s.h.

Beginning, expansion, and ending of American slavery; how our national memory of slavery in popular culture (in high school history, in historical landmarks and museums) helps or hinders our understanding of history of slavery in the U.S. Same as HIST:3275.

AFAM:3400 Black Popular Music 3 s.h.

History and expressive culture of people of African descent living in America through popular music forms; historical time span between the 17th and 21st centuries; poetry, music, cultural analysis, film, and art as sources for the study of black music; genres covered include spirituals and gospel, blues, jazz, rock, rhythm and blues, Afropunk, alternative and neo soul, and hip-hop. Recommendations: AFAM:1020 and AMST:1030. Same as AMST:3400.

AFAM:3459 African American Literature Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3459.

AFAM:3460 African American Literature After 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3460.

AFAM:3462 African American Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3462, THTR:3462.

AFAM:3465 African American Autobiography 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3465.

AFAM:3500 Malcolm X, King, and Human Rights 3 s.h.

Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as RELS:3808.

AFAM:3550 African Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3550.

AFAM:3555 Topics in African Cinema 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3555.

AFAM:3710 African American Women Writers 3 s.h.

Introduction to major African American women authors of the 19th, 20th, and 21st centuries; major debates of black feminist literary scholarship; analyze African American literary representations by reading novels, poetry, short stories, plays, relevant historical and critical texts. Same as GWSS:3710.

AFAM:3758 The Ancient African Past 3 s.h.

Africa to 1880; oral tradition and other sources; political development, ecological change, slavery and slave trade. Same as HIST:3758.

AFAM:3760 The Making of Modern Africa 3 s.h.

Africa in colonial and postcolonial period; economics, political structures of colonialism; social change, political life in the 20th century. Same as HIST:3760.

AFAM:3840 Free-Style Writing: Poetry, Plays, and Performances 3 s.h.

Creative writing lab experience in reading, writing, and performing poetry and short plays; expansion of students' horizons of the self; arc of innovation in African American literature from Harlem Renaissance to present, with texts from Langston Hughes and Zora Neale Hurston to Saul Williams and Jill Scott; role of the artist in society and as outsider and insider; shifting perspectives on race, gender, class; musical influences and models, from blues to house music; sensuality, spirituality; artistic reflections on the cultural moment; effects of these on literary form and performance style; students create and perform a work for an audience. Same as THTR:3403.

AFAM:3900 Topics in African American Studies arr.

Different topic each semester.

AFAM:3925 African Americans and the Media 3 s.h.

Same as JMC:3165.

AFAM:4001 Television and African American Culture 3 s.h.

Role of television in African American culture; examination of debates, stereotyping, authenticity, effects of programming, aesthetics, and television's relationship to other forms of cultural expression. Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2058, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as COMM:4172.

AFAM:4195 African American History 1619-1865 3 s.h.

Race and African American history, from the rise of racial slavery to the Civil War; advanced course. Same as HIST:4295.

AFAM:4298 African American History 1865-Present 3 s.h.

African American history since Reconstruction; survey of African American politics and society from Reconstruction to present. Same as HIST:4296.

AFAM:4710 Midwest African American Literature and Culture 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:4410.

AFAM:4910 Special Topics 3 s.h.

Selected topics, issues, and debates about various components of African American culture including literature, sociology, psychology, media, history, rhetoric, theater, sports, health, and education.

AFAM:4980 Independent Study arr.

Topics vary.

AFAM:4990 Honors Project arr.

Independent research and writing on interdisciplinary topic.

AFAM:5900 Advanced Readings in African American Culture arr.

Textual, social, political analyses of works by black authors.

AFAM:6500 Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences 3 s.h.

Exploration of the scholarship of Stuart Hall along with theories, methods, and history of cultural studies; focus on major areas of Hall's work including Marxist thought and the political economy, diasporas and globalization, cultural production and popular culture, film and cinema studies, race, ethnicity, identity, and difference; key theorists that influenced Stuart Hall (e.g., Marx, Foucault, Fanon, Gramsci, Althusser) and scholars in cultural studies that have made appropriate use of Hall's writings and theories in their own work; role of theory in everyday life and the critical role of public intellectuals. Same as AMST:6500.

AFAM:6635 Crossing Borders Seminar 2-3 s.h.

Same as ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

AFAM:7130 Readings on Twentieth-Century Black Internationalism arr.

Complex dynamics of black internationalism during 20th century, focusing on the global visions, transnational activities, and transracial political alliances of people of African descent worldwide; readings will reflect geographical breadth of the African Diaspora including Africa, the Americas, and Europe. Same as HIST:7130.

AFAM:7205 Gender and Race in Nineteenth-Century U.S. arr.

Same as GWSS:7205, HIST:7205.

AFAM:7210 The Long Civil Rights Movement arr.

Exploration of the history and historiography of the modern black freedom struggle in the United States, with particular attention to how historians in recent years have reconsidered traditional framings of that struggle's chronology, geography, gender politics, political aspirations, and achievements. Same as HIST:7210.

AFAM:7214 Readings: African American Women's History arr.

Same as GWSS:7214, HIST:7214.

AFAM:7710 Seminar: Interpreting Oral Histories arr.

Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as HIST:7710.

African American Studies, B.A.

Learning Outcomes

Students will:

- understand basic facts, principles, key figures, and events related to African American experience in American society, plus recognize the significant contributions of African Americans in the United States and abroad;
- become familiar with the foundations of the discipline of African American studies and the development of the field, specifically conceptual ideas that shape the academic study of African American life;
- acquire the tools for contextualizing and understanding the intersectionality of race, class, gender, and/or sexual orientation in an effort to identify relevant challenges and solve human problems related to the African American community;
- learn to critically analyze cultural issues shaping the lives and conditions of African Americans through curriculum, community service, and service learning as they confirm the value of diversity in the 21st century; and
- be prepared for their careers in nonprofit organizations, civil service, law, entrepreneurship, education, or academia through the development of skills in critical thinking, oral and written communication, and research.

Requirements

The Bachelor of Arts with a major in African American studies requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer credit is evaluated individually and is limited to a maximum of 9 s.h.

The B.A. with a major in African American studies requires the following course work.

Code	Title	Hours
	Introductory Courses	6
	African American Studies Core	18
	Electives	6
	Total Hours	30

Introductory Courses

Students are required to complete the following introductory courses.

Code	Title	Hours
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3

Introduction to African American Culture (AFAM:1020) examines the evolution of cultural experiences and developments in the United States and the African diaspora (e.g. the Harlem Renaissance, graphic novels, blues, hip hop, soul, and gospel). The course includes readings in literature,

music, film, comics, anime, popular culture events, plus the visual and performing arts.

Introduction to African American Society (AFAM:1030) examines the construction of social and historical institutions in the United States and the African diaspora (e.g., black church, black family, black traditions, and social movements). The course includes readings in education, sports, political science, religion, health, criminal justice, history, sociology, and other disciplines.

African American Studies Core

In addition to the two required introductory courses, all students must complete at least two courses from each of the three topical areas below (minimum of 18 s.h.). Additional courses may be approved for the topical areas; consult with an African American studies advisor.

History, Religion, and the Diaspora

Code	Title	Hours
Two of these:		
AFAM:1250/ RELS:1350	Introduction to African American Religions	3
AFAM:2266/ HIST:2266	Civil War and Emancipation	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:2730/ RELS:2730	African American Islam	3
AFAM:3245/ RELS:3745	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
AFAM:3275/ HIST:3275	History of Slavery in the U.S.A.	3-4
AFAM:3555/ ENGL:3555	Topics in African Cinema	3
AFAM:3758/ HIST:3758	The Ancient African Past	3
AFAM:3760/ HIST:3760	The Making of Modern Africa	3
AFAM:3900	Topics in African American Studies (when topic is history, religion, or the diaspora)	arr.
AFAM:4195/ HIST:4295	African American History 1619-1865	3
AFAM:4298/ HIST:4296	African American History 1865-Present	3
AFAM:7205/ GWSS:7205/ HIST:7205	Gender and Race in Nineteenth-Century U.S.	arr.
EPLS:5126	Twentieth-Century Educational Movements	2-3

Literature and Performing Arts

Code	Title	Hours
Two of these:		
AFAM:1240	The Art of Listening to Jazz	3
AFAM:1241	The Soundtrack of Black America	3
AFAM:1820	Everybody is a Star: Black Celebrity Since 1968	3

AFAM:1830	Music of the African American Diaspora	3
AFAM:2014/ MUS:2014	Giants of Jazz: Miles, Trane, and Duke	3
AFAM:2465/ ENGL:2465	Selected African American Authors	3
AFAM:2700/ AMST:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
AFAM:2781/ ENGL:2460/ POLI:2107	Black Literature and Politics: Controversies of National Allegiance	3
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
AFAM:3460/ ENGL:3460	African American Literature After 1900	3
AFAM:3462/ ENGL:3462/ THTR:3462	African American Drama	3
AFAM:3465/ ENGL:3465	African American Autobiography	3
AFAM:3710/ GWSS:3710	African American Women Writers	3
AFAM:3840/ THTR:3403	Free-Style Writing: Poetry, Plays, and Performances	3
AFAM:3900	Topics in African American Studies (when topic is literature or performing arts)	arr.
AFAM:4710/ ENGL:4410	Midwest African American Literature and Culture	3

Media, Politics, and Social Institutions

Code	Title	Hours
Two of these:		
AFAM:2064/ SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2076/ COMM:2076	Race, Ethnicity, and Media	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AFAM:3053/ AMST:3053	The Civil Rights Movement	3
AFAM:3130/ AMST:3130	Black American Cinema	3
AFAM:3400/ AMST:3400	Black Popular Music	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
AFAM:3900	Topics in African American Studies (when topic is media, politics, or social institutions)	arr.
AFAM:3925/ JMC:3165	African Americans and the Media	3

AFAM:4001/ COMM:4172	Television and African American Culture	3
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Electives

Students also must take two elective courses (minimum of 6 s.h.) selected from the three topical areas listed above. With the approval of an African American studies advisor, students may substitute relevant courses offered by other departments for one or both electives; the substituted courses may not be cross-listed with African American studies. Students must gain the advisor's approval before enrolling in a substitute course.

Code	Title	Hours
Two electives selected from the three topical areas above, or approved substitutes		6

Language Requirement

The language requirement for the African American studies major is the same as the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students are encouraged, but not required, to take African language courses (Swahili is currently offered) or Spanish language courses to fulfill the World Languages requirement.

Honors

Honors in the Major

Students majoring in African American studies have the opportunity to graduate with honors in the major. Honors in the major offers students the opportunity to pursue special interests and individual in-depth research.

Honors students must maintain a minimum UI cumulative g.p.a. of at least 3.33 and complete all required course work for the major (30 s.h.). Students should register for up to 6 s.h. of AFAM:4990 Honors Project which enhances a student's ability to complete honors projects under the guidance of the supervising faculty member. Students enroll in AFAM:4990 with the approval of their African American studies advisor, who typically supervises the course. They may count up to 6 s.h. earned in AFAM:4990 toward the 30 s.h. required for the major.

Under the guidance of the African American studies advisor, an honors student defines a research project (thesis) using primary, secondary, or archival sources. Students submit a project proposal by the end of their junior year. They also complete a thesis under the guidance of a supervising faculty member and present the results as a senior essay to a committee of two faculty members, including the supervising African American studies faculty member and one other African American studies faculty member, chosen in consultation with the supervisor. A student's committee may choose to hear an oral defense of the honors thesis, usually during the student's last semester.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the African American studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

During the first year of study, students should focus on completing the GE CLAS Core [p. 459], perhaps including Swahili or Spanish course work to begin satisfying the World Languages requirement.

Before the fifth semester begins: at least three courses in the major, including AFAM:1020 Introduction to African American Culture and AFAM:1030 Introduction to African American Society

Before the seventh semester begins: at least seven courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least nine courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

African American Studies, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: introductory course ^{a, b}		3
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: Natural Sciences without Lab ^c		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: introductory course ^{a, b}		3
GE CLAS Core: Diversity and Inclusion ^c		3
GE CLAS Core: Natural Sciences with Lab ^c		4
Elective course ^d		2
Hours		15-16
Second Year		
Fall		
Major: history, religion, and the diaspora topical area course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
GE CLAS Core: Quantitative or Formal Reasoning ^c		3

GE CLAS Core: World Languages First Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-17

Spring

Major: history, religion, and the diaspora topical area course	3
Major: media, politics, and social institutions topical area course	3
GE CLAS Core: International and Global Issues ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-17

Third Year

Fall

Major: literature and performing arts topical area course	3
Major: media, politics, and social institutions topical area course	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Elective course ^d	3
Hours	16-17

Spring

Elective course ^d	3
Major: literature and performing arts topical area course	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Elective course ^d	3
Hours	16-17

Fourth Year

Fall

Major: elective course ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Spring

Major: elective course ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Total Hours	123-129

a Choose from AFAM:1020 or AFAM:1030.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students are required to complete 6 s.h. in major electives.

Career Advancement

The African American studies major provides valuable background for careers in a diverse society, in areas such as community work, public school teaching, religion, government, political science, and law. Some graduates go on to advanced study, many preparing for work as teachers and administrators at colleges and universities.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

African American Studies, Minor

The minor in African American studies requires a minimum of 15 s.h., including 12 s.h. taken at the University of Iowa. At least two of the African American studies core courses must be taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Course work completed for another major or minor may not be counted toward the minor in African American studies.

The minor must include the following course work.

Code	Title	Hours
Introductory Courses		6
African American Studies Core		9
History, Religion, and the Diaspora Course		
Literature and Performing Arts Course		
Media, Politics, and Social Institutions Course		
Total Hours		15

Introductory Courses

Students are required to complete the following introductory courses.

Code	Title	Hours
Both of these:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3

African American Studies Core

Students must complete one course from each of the three topical areas below (9 s.h.), with at least two courses taken at the University of Iowa.

History, Religion, and the Diaspora

Code	Title	Hours
One of these:		
AFAM:1250/ RELS:1350	Introduction to African American Religions	3
AFAM:2266/ HIST:2266	Civil War and Emancipation	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:2730/ RELS:2730	African American Islam	3
AFAM:3245/ RELS:3745	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
AFAM:3275/ HIST:3275	History of Slavery in the U.S.A.	3-4
AFAM:3555/ ENGL:3555	Topics in African Cinema	3
AFAM:3758/ HIST:3758	The Ancient African Past	3

AFAM:3760/ HIST:3760	The Making of Modern Africa	3
AFAM:3900	Topics in African American Studies (when topic is history, religion, or the diaspora)	arr.
AFAM:4195/ HIST:4295	African American History 1619-1865	3
AFAM:4298/ HIST:4296	African American History 1865-Present	3
AFAM:7205/ GWSS:7205/ HIST:7205	Gender and Race in Nineteenth-Century U.S.	arr.
EPLS:5126	Twentieth-Century Educational Movements	2-3

Literature and Performing Arts

Code	Title	Hours
One of these:		
AFAM:1240	The Art of Listening to Jazz	3
AFAM:1241	The Soundtrack of Black America	3
AFAM:1820	Everybody is a Star: Black Celebrity Since 1968	3
AFAM:1830	Music of the African American Diaspora	3
AFAM:2014/ MUS:2014	Giants of Jazz: Miles, Trane, and Duke	3
AFAM:2465/ ENGL:2465	Selected African American Authors	3
AFAM:2700/ AMST:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
AFAM:2781/ ENGL:2460/ POLI:2107	Black Literature and Politics: Controversies of National Allegiance	3
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
AFAM:3460/ ENGL:3460	African American Literature After 1900	3
AFAM:3462/ ENGL:3462/ THTR:3462	African American Drama	3
AFAM:3465/ ENGL:3465	African American Autobiography	3
AFAM:3710/ GWSS:3710	African American Women Writers	3
AFAM:3840/ THTR:3403	Free-Style Writing: Poetry, Plays, and Performances	3
AFAM:3900	Topics in African American Studies (when topic is literature or performing arts)	arr.
AFAM:4710/ ENGL:4410	Midwest African American Literature and Culture	3

Media, Politics, and Social Institutions

Code	Title	Hours
One of these:		
AFAM:2064/ SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3

AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2076/ COMM:2076	Race, Ethnicity, and Media	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AFAM:3053/ AMST:3053	The Civil Rights Movement	3
AFAM:3130/ AMST:3130	Black American Cinema	3
AFAM:3400/ AMST:3400	Black Popular Music	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
AFAM:3900	Topics in African American Studies (when topic is media, politics, or social institutions)	arr.
AFAM:3925/ JMC:3165	African Americans and the Media	3
AFAM:4001/ COMM:4172	Television and African American Culture	3

African American Studies, Graduate Certificate

The graduate Certificate in African American Studies requires a least 12 s.h. of credit. Students must maintain a g.p.a. of at least 2.75 in work for the certificate. With civil and corporate work environments taking a distinct interest in the diversity of people, training, and ideas within their respective environments, the certificate provides a means of formally acknowledging cultural and intellectual understanding that is being sought by potential employers.

Students must be enrolled in a graduate degree program of study to earn the certificate. They meet yearly with their certificate advisor to plan their certificate course work.

The Certificate in African American Studies requires the following work.

Code	Title	Hours
AFAM:5900	Advanced Readings in African American Culture	3
Three courses (3 s.h. each) related to African American studies numbered 3000 or above; at least 6 s.h. of these must be taken in a department other than a student's primary area of study (consult advisor)		9

Admission

Doctor of Philosophy students are encouraged to apply for the certificate program in their first year of graduate study, and students earning their master's degree in their first semester. Students then have sufficient time to select course work in an area of African American studies that is most appealing to them. Applicants must have a g.p.a. of at least 2.75 at the time of application.

Applicants who have taken courses that may apply toward the certificate can review a list of acceptable course work on the Graduate Certificate in African American Studies web page. They should note the courses that may apply toward the certificate on their certificate application in addition to a written justification, or they may meet with the African American studies director of graduate studies as soon as possible to begin the consideration process.

Admission to the certificate program is determined by application. Applications are reviewed by the African American Studies Graduate Steering Committee twice each year. Applications should be received no later than October 15 for spring entry; March 15 for summer or fall entry (the application deadline is extended for fall 2018 entry to August 1).

For more information on formal application to the certificate program, contact the African American Studies director of graduate studies or view the Graduate Certificate in African American Studies web page.

Aging and Longevity Studies

Chair, School of Social Work

- Sara Sanders

Coordinator, Aging and Longevity Studies

- Mercedes E. Bern-Klug

Undergraduate minor: aging and longevity studies

Undergraduate certificate: aging and longevity studies

Graduate certificate: aging and longevity studies

Faculty: <https://clas.uiowa.edu/socialwork/undergraduate-program/aging-longevity-studies-program/faculty>

Website: <https://clas.uiowa.edu/socialwork/undergraduate-program/aging-longevity-studies-program/certificate>

Aging and Longevity Studies offers undergraduate and graduate programs and a selection of courses open to students in all majors.

Undergraduate students in the College of Liberal Arts and Sciences who would like to focus on aging and longevity studies as their major or as a second major should consider the individualized plan of study track offered by the Interdepartmental Studies Program; see Interdepartmental Studies [p. 616] in the Catalog. Entry into the program requires approval of a plan of study.

Undergraduate students working on a Bachelor of Arts degree in the School of Social Work have the option to earn 12 s.h. in aging-related course work as an area of focus in their major. Graduate students earning a Master of Social Work degree can declare gerontology/aging as an area of focus by completing course work in aging. For more information, contact the School of Social Work.

Aging and Longevity Studies is administered by the School of Social Work [p. 917].

Programs

Undergraduate Programs of Study

Minor

- Minor in Aging and Longevity Studies [p. 34]

Certificate

- Certificate in Aging and Longevity Studies [p. 35]

Graduate Program of Study Certificate

- Certificate in Aging and Longevity Studies [p. 36]

Career Advancement

The Aging and Longevity Studies Program minor or undergraduate or graduate certificate is an important asset for employment in any field. Working with an aging population and the issues affecting them will be increasingly important as the population of older adults also rises.

Among the organizations that have hired University of Iowa students and alumni are assisted living centers, retirement communities, senior centers, long-term care organizations, hospice centers, elder services, state government, businesses, advocacy organizations, and athletic clubs.

Areas of employment for individuals with specializations in aging and longevity studies include:

State and local government agencies: State Department on Aging; Area Agency on Aging; all departments will be affected by population aging, even if they do not specialize in working with older adults, such as transportation, energy, housing, human services, small business supports, veterans services, among others

Nonprofit organizations: senior centers; the American Association of Retired Persons (national, regional, and state offices); Exploritas/Elderhostels (travel options for older adults)

Social service organizations: Meals on Wheels, congregate meal sites, heating assistance programs, transportation

Private corporations: human resources departments

Courses

Aging and Longevity Studies Courses

ASP:1000 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ASP:1800 Aging Matters: Introduction to Gerontology

3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as CSD:1800, NURS:1800, SSW:1800, TR:1800.

ASP:2000 Big Ideas: Creativity for a Lifetime

3 s.h.

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; integration of teamwork and opportunities for individual growth that allow for personal development; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, ECTL:2000, RHET:2000.

ASP:2181 The Anthropology of Aging

3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ANTH:2181, GHS:2181.

ASP:3135 Global Aging**3 s.h.**

Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as GHS:3050, SSW:3135.

ASP:3150 Psychology of Aging**3 s.h.**

The later years of human life viewed from perspectives of developmental psychology, biology, sociology.

ASP:3151 The Anthropology of the Beginnings and Ends of Life**3 s.h.**

Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3151, GHS:3151.

ASP:3152 Anthropology of Caregiving and Health**3 s.h.**

Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ANTH:3152, GHS:3152.

ASP:3160 Biology of Aging**3 s.h.**

Biogerontology; definition of aging and senescence, biological theories of aging, demographics, model systems foraging, premature aging syndromes, aging of organ systems in humans.

ASP:3300 Mapping the Creative Legacy**3 s.h.**

Reviewing a lifetime of creative work offers a unique window into the influences and perspectives that shape an artist's development over decades; understanding creativity throughout the lifespan; fieldwork with senior artists to document the evolution of their original output; generating oral histories, documenting a substantial number of artistic works, and helping to produce a creative legacy; course culminates with a gallery exhibition of senior artists' work, curated by the students.

ASP:3519 Politics of Aging**3 s.h.**

Core concepts and methods related to aging and policies that address the needs of older persons; demographic measures of population health and aging, including incidence and distribution of specific conditions relevant in older age; theories of public policy and involvement of older persons in the political process; key historical and current policies, at both the federal and state/local levels, that influence service provision and the well-being of older persons in the United States. Same as POLI:3519.

ASP:3610 Writing in the Presence of Death: Rhetoric, Narrative, and Hospice**3 s.h.**

Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfactory completion of GE CLAS Core Rhetoric. Same as GWSS:3610, RHET:3610.

ASP:3740 End-of-Life Care for Adults and Families**3 s.h.**

End-of-life issues in care of adults, older adults, and their families. Same as MED:3740, NURS:3740, PHAR:3740.

ASP:3786 Death/Dying: Issues Across the Life Span**3-4 s.h.**

Introduction to the field of end-of-life care; examination of student concerns about death, dying, and grieving process; historical, cultural, societal, and personal perspectives of death and dying in modern society. Same as SSW:3786.

ASP:3900 Independent Study in Gerontology**arr.**

Individual projects and/or research.

ASP:3920 Service Learning in Aging Studies**1-3 s.h.**

Experiential learning in settings with older adults. Corequisites: ASP:1800, if not taken as a prerequisite.

ASP:4000 Senior Living and Support Services for Older Adults and Persons with Disabilities**3 s.h.**

Overview of continuum of care and services designed to meet needs of older adults and persons with disabilities; services for functionally independent persons; focus on older adults with mild to moderate functional limitations; how services are financed; basic screening and assessment tools and techniques; exploration of services available in individual and group settings (i.e., senior centers, home health, rehab, assisted living, nursing homes, hospice).

ASP:4165 Communication Disorders and Aging**2 s.h.**

Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for nonmajors and service providers other than speech-language pathologists and audiologists. Same as CSD:4165.

ASP:4190 Aging Studies Internship and Seminar**3 s.h.**

Opportunities for students in various disciplines to relate their areas of study to older adults and aging; interdisciplinary relationships, approaches to meeting needs of older adults; an online seminar that meets regularly is included in this experience. Same as SSW:4190.

ASP:5219 Aging and the Family**2-3 s.h.**

Research related to aging and the family; intergenerational relations, marital status in later life, diversity of older families, caregiving, elder abuse, policy issues. Same as SSW:5219.

ASP:5401 The Care of the Frail Elderly**3 s.h.**

Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: NURS:5035. Corequisites: NURS:6200 and NURS:6701. Same as NURS:5401.

ASP:5750 Medicare and Medicaid Policy**3 s.h.**

Health policies most pertinent to Americans over age of 65. Same as HMP:5750.

ASP:8355 Introduction to Geriatric Dentistry**2 s.h.**

Biological, psychological, and social aspects of aging; normal aging and disease processes associated with aging; pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as PCD:8355.

Aging and Longevity Studies, Minor

The undergraduate minor in aging and longevity studies requires a minimum of 15 s.h. in aging-related course work. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Courses for the minor must be approved by the Aging and Longevity Studies Program if they are not aging and longevity studies courses (prefix ASP) or are not cross-listed with aging and longevity studies courses. Students earning the minor may not enroll in ASP:4190 Aging Studies Internship and Seminar.

The minor may be earned by undergraduate students in the Colleges of Liberal Arts and Sciences, Education, Engineering, Nursing, and the Tippie College of Business.

Students may earn the minor or the undergraduate certificate in aging and longevity studies, but not both.

The minor in aging and longevity studies requires the following course work.

Code	Title	Hours
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
Aging and longevity studies courses with the prefix ASP (except ASP:4190) or courses cross-listed with aging and longevity courses; at least 6 s.h. of these must be numbered 3000 or above and must be taken at the University of Iowa		12

Aging and Longevity Studies, Certificate

The undergraduate Certificate in Aging and Longevity Studies requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Undergraduate students may earn the undergraduate certificate or the minor in aging and longevity studies, but not both.

The Certificate in Aging and Longevity Studies takes a multidisciplinary approach to gerontology. Its course work has been coordinated and sequenced to provide a broad background in aging for students from varied disciplines. Students should speak with the aging and longevity studies coordinator about their intent to earn the certificate and declare the certificate program in MyUI. They work with their academic advisors and the coordinator to develop an individual plan of study that complements their degree program and career interests.

The certificate's required 18 s.h. of credit must be earned in aging and longevity studies courses (prefix ASP) and other courses approved for the program. With permission from the aging and longevity studies coordinator, students also may be able to use other aging-related courses for the certificate. Students must earn at least 12 s.h. of certificate credit in courses numbered 2000 or above, and they must earn at least 12 s.h. toward the certificate at the University of Iowa.

Certificate requirements include a core curriculum of five courses and an additional 3 s.h. of elective course work from the list of approved aging-related courses. Students may take core courses before or concurrently with other courses in the program, but they should complete the core courses before they enroll in the internship. Students who complete an aging-related internship or practicum in their major field may be able to count that experience as their aging and longevity studies internship; consult with the aging and longevity studies coordinator. Transfer credit requests are evaluated individually by the aging and longevity studies coordinator.

The Certificate in Aging and Longevity Studies requires the following course work.

Core Courses

All certificate students must complete the following five core courses.

Code	Title	Hours
One of these:		
ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
All of these:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
ASP:3150	Psychology of Aging	3

ASP:3160	Biology of Aging	3
ASP:4190/ SSW:4190	Aging Studies Internship and Seminar	3

Electives

Students must complete an additional 3 s.h. of elective course work selected from aging and longevity studies courses (prefix ASP) and/or from approved aging-related courses offered by other academic units. Practicum and/or research courses offered by other academic units may be accepted for internship credit if they focus on aging; students who wish to apply course work from other departments should consult the Aging and Longevity Studies Program.

Students can opt to take ASP:2181 The Anthropology of Aging and ASP:3135 Global Aging from the list above, and use one to meet the Core Courses requirement and the other to meet the 3 s.h. Electives requirement.

Aging and Longevity Studies, Graduate Certificate

The graduate Certificate in Aging and Longevity Studies requires 18 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.75 in work for the certificate. The certificate program is open to University of Iowa graduate students with aging-related career interests and needs.

The certificate's required 18 s.h. of credit must be earned in Aging and Longevity Studies Program courses (prefix ASP) and other courses approved for the program. With permission from the aging and longevity studies coordinator, students may be able to apply other aging-related courses to the certificate. All certificate courses must be numbered 3000 or above. Of the required 18 s.h., at least 15 s.h. must be earned at the University of Iowa.

Certificate requirements include a core curriculum of five courses, including ASP:3900 Independent Study in Gerontology (3 s.h.) and an additional 3 s.h. in electives numbered 3000 or above in the Aging and Longevity Studies Program (prefix ASP) or in approved aging-related course work in other departments. Students may take core courses before or concurrently with other courses in the program, but they should complete the core courses before they enroll in the internship. Students who complete an aging-related internship or practicum in their major field may be able to count that experience as their aging studies certificate internship; consult with the aging and longevity studies coordinator. Transfer credit requests are evaluated individually by the aging and longevity studies coordinator.

The Certificate in Aging and Longevity Studies takes a multidisciplinary approach to gerontology. Its course work is coordinated and sequenced to provide a broad background in aging for students from varied disciplines. Students should speak with the aging and longevity studies coordinator about their intent to earn the certificate. They work with their academic advisors and the coordinator to develop an individual plan of study that complements their degree program and career interests.

The Certificate in Aging and Longevity Studies requires the following course work.

Core Courses

All certificate students must complete the following five core courses.

Code	Title	Hours
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
ASP:3160	Biology of Aging	3
ASP:3900	Independent Study in Gerontology	3
ASP:4190/ SSW:4190	Aging Studies Internship and Seminar	3

Electives

Students must complete an additional 3 s.h. of electives, numbered 3000 or above, selected from courses offered by the Aging and Longevity Studies Program (prefix ASP) and/or from approved aging-related courses offered by other academic units. Practicum and/or research courses offered by other academic units may be accepted for elective credit if they focus on aging; students who wish to apply course work from other departments should consult the Aging and Longevity Studies Program.

American Sign Language

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Director, American Sign Language

- Russell Ganim

Coordinator, American Sign Language

- Robert C. Vizzini

Undergraduate minor: American Sign Language

Faculty: <https://clas.uiowa.edu/dwllc/asl/people>

Website: <https://clas.uiowa.edu/dwllc/asl>

The American Sign Language Program offers an undergraduate minor. It also offers a number of courses open to all students. They include a four-semester course sequence in American Sign Language (ASL), and courses on fingerspelling, Deaf culture, ASL literature, ASL interpreting, and other topics. The four-course ASL sequence satisfies the World Languages requirement of the GE CLAS Core [p. 459] (see "Language for GE CLAS Core" below). Classroom instruction is supplemented by video materials and interactive software in the Language Media Center.

The American Sign Language Program is administered by the Division of World Languages, Literatures and Cultures [p. 336].

Language for GE CLAS Core

The following four-course sequence satisfies the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students must demonstrate 75 percent proficiency in the expressive and receptive elements of each course in order to register for the next course in the sequence.

Code	Title	Hours
ASL:1001	American Sign Language I	4
ASL:1002	American Sign Language II	4
ASL:2001	American Sign Language III	4
ASL:2002	American Sign Language IV	4

Students taking more than one calendar year off from the American Sign Language (ASL) sequence are required to contact the ASL Program to schedule a placement test which will determine their placement in an American Sign Language I-IV course. Students are strongly advised to complete the ASL sequence without such a gap whenever possible. Students taking the placement test and not placing into the next course in the sequence may be retested before the class begins if they have undertaken a significant experience since the last placement test that might warrant retesting. All retesting is at the discretion of the ASL Program.

Programs

Undergraduate Program of Study Minor

- Minor in American Sign Language [p. 39]

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Courses

- American Sign Language Courses [p. 37]
- American Sign Language in English Courses [p. 38]

American Sign Language Courses

ASL:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ASL:1001 American Sign Language I 4 s.h.

Conversational skills, basic grammar of ASL; introduction to the ASL cultural community through readings, videos. Taught in American Sign Language. First in a four-semester sequence. GE: World Languages First Level Proficiency.

ASL:1002 American Sign Language II 4 s.h.

Continuation of ASL:1001; emphasis on ASL grammar and syntax; focus on culture through readings, videos. Taught in American Sign Language. Prerequisites: ASL:1001. GE: World Languages Second Level Proficiency.

ASL:1101 Fingerspelling and Numbers I 2 s.h.

Development of expressive and receptive American Sign Language fingerspelling, loan sign, and number skills based on word, phrase, and number recognition. Taught in American Sign Language. Prerequisites: ASL:1002.

ASL:1102 Fingerspelling and Numbers II 1 s.h.

Development of expressive and receptive American Sign Language fingerspelling, loan sign, and number skills based on word, phrase, and number recognition. Taught in American Sign Language. Prerequisites: ASL:1101.

ASL:2001 American Sign Language III 4 s.h.

Continuation of ASL:1002; emphasis on ASL grammar and syntax; focus on culture through readings, videos. Taught in American Sign Language. Prerequisites: ASL:1002. GE: World Languages Second Level Proficiency.

ASL:2002 American Sign Language IV 4 s.h.

Continuation of ASL:2001. Taught in American Sign Language. Prerequisites: ASL:2001. GE: World Languages Fourth Level Proficiency.

ASL:3100 American Sign Language Conversation 3 s.h.

Improvement of receptive and expressive conversational ASL skills through small group discussion, class presentations. Taught in American Sign Language. Prerequisites: ASL:2002. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

ASL:3200 Topics in Deaf Studies 3 s.h.

Current topics in Deaf studies; skill development in communicative fluency in ASL. Taught in American Sign Language. Prerequisites: ASL:2002. Requirements: concurrent enrollment in ASL:2002 if not taken as a prerequisite.

ASL:3300 American Deaf Culture 3 s.h.

Cultural practices, beliefs, and values of the American Deaf community. Taught in American Sign Language. Prerequisites: ASL:2002. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

ASL:3400 Issues in ASL and Deaf Studies 3 s.h.

Current issues in American Sign Language and the American Deaf community, such as linguistics, culture, and literacy. Prerequisites: ASL:2002. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

ASL:3500 Deafness in the Media 3 s.h.

Exploration of the construct of Deafness through mainstream media (e.g., commercial television, movies, fictional and nonfictional literature in print and on the internet); various ways Deaf people are constructed and presented for hearing audiences from the past 20 years. Taught in American Sign Language. Prerequisites: ASL:2002. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

ASL:3600 American Sign Language Literature 3 s.h.

Introduction to the world of ASL literature, as recorded on videotape or film and in live performance; traditional folklore, storytelling, poetry, drama, oratory, jokes, and nonfiction narrative; analysis of genres in their social and cultural contexts as expressions of Deaf experience; how historical and current issues in Deaf culture are represented in literary form. Taught in American Sign Language. Prerequisites: ASL:2002. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

ASL:3800 Independent Study arr.

An American Sign Language/deaf studies topic; individual study.

ASL:4201 History of the American Deaf Community 3-4 s.h.

Creation of a distinct language and culture of Deaf people in America during the 19th and 20th centuries. Prerequisites: ASL:2002. Same as HIST:4201.

American Sign Language in English Courses

ASLE:2500 Introduction to Interpreting 3-4 s.h.

Introduction to interpreting; history and current nature of the field, available opportunities, certification, training, ethics. Taught in spoken English. Requirements: students should have some familiarity with a language not their own (spoken or signed); ASL:2002 is prerequisite for the ASL discussion section.

ASLE:3905 Teaching Deaf and Hard of Hearing Students 3-4 s.h.

Issues in d/Deaf education; management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in English and/or American Sign Language. Requirements: for 4 s.h. option—concurrent enrollment in ASL:2002, if not taken as a prerequisite. Same as EDTL:3905.

American Sign Language, Minor

The undergraduate minor in American Sign Language (ASL) requires 15 s.h. of ASL course work, including 12 s.h. in advanced courses numbered 2500 or above taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor must include ASL:2002 American Sign Language IV or demonstrated equivalent proficiency. Only one American Sign Language in English course (prefix ASLE) may be applied to the minor in ASL; if students choose to apply an ASLE course toward the minor, it must be taken for 4 s.h.

Students may earn the minor in American Sign Language or the Certificate in American Sign Language and Deaf Studies, but not both.

The minor in American Sign Language requires the following course work.

Code	Title	Hours
This course:		
ASL:2002	American Sign Language IV	4
At least 11 s.h. from these:		
ASL:3100	American Sign Language Conversation	3
ASL:3200	Topics in Deaf Studies	3
ASL:3300	American Deaf Culture	3
ASL:3400	Issues in ASL and Deaf Studies	3
ASL:3500	Deafness in the Media	3
ASL:3600	American Sign Language Literature	3
ASL:4201/ HIST:4201	History of the American Deaf Community	3
ASLE:2500	Introduction to Interpreting	4
ASLE:3905/ EDTL:3905	Teaching Deaf and Hard of Hearing Students	4

American Studies

Chair

- Lauren Rabinovitz

Undergraduate majors: American studies (B.A.); sport studies (B.A.)

Undergraduate minors: American studies; sport studies

Graduate degrees: M.A. in American studies; Ph.D. in American studies

Faculty: <https://clas.uiowa.edu/american-studies/people/faculty>

Website: <https://clas.uiowa.edu/american-studies/>

The Department of American Studies provides an interdisciplinary introduction to American culture, past and present. It helps students acquire a broad familiarity with the dynamics of cultural experience and explore aspects of life in the United States, such as sport, popular and fine arts, institutions, values, gender and ethnic relations, artifacts, and the everyday life of a diverse citizenry.

The department offers undergraduate programs of study in American studies and in sport studies as well as graduate programs of study in American studies, with a sport studies subprogram available in the Ph.D. program of study.

The department also is the administrative home of the American Indian and Indigenous Studies Program, which offers an undergraduate certificate and minor and a graduate certificate; see Native American and Indigenous Studies [p. 785] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in American Studies (Bachelor of Arts) [p. 46]
- Major in Sport Studies (Bachelor of Arts) [p. 48]

Minors

- Minor in American Studies [p. 51]
- Minor in Sport Studies [p. 52]

Graduate Programs of Study

Majors

- Master of Arts in American Studies [p. 53]
- Doctor of Philosophy in American Studies [p. 54]

Courses

- American Studies Courses [p. 40]
- Sport Studies Courses [p. 44]

American Studies Courses

AMST:1000 First-Year Seminar 0-1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, field trips). Requirements: undergraduate first-year standing.

AMST:1010 Understanding American Cultures 3 s.h.

The United States in historical, contemporary, and transnational perspective; social and cultural diversity and conflict in American life; debates on concepts of America, the American Dream, national culture, citizenship. GE: Values and Culture.

AMST:1030 Introduction to African American Culture 3 s.h.

Examination of black cultural experiences in the United States and the African diaspora; focus on literature, music, film, comics, anime, popular culture, and visual/performing arts. GE: Values and Culture. Same as AFAM:1020.

AMST:1049 Introduction to American Indian and Native Studies 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as HIST:1049, NAIS:1049.

AMST:1060 Sex and Popular Culture in America 3 s.h.

Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as ENGL:1410, GWSS:1060.

AMST:1065 Disney in America 3 s.h.

How Walt Disney Corporation has influenced American cultural values, ideals, and experiences through its evolution from an animation company in the 1920s, to a theme park company and television producer in the 1950s, to a media conglomerate today; the corporation's national importance, Hollywood's contributions to the Depression and World War II, postwar urban and community planning, America's changing leisure behavior, advertising and childhood, modern business history, and exportation of American culture.

AMST:1070 Drugs in American Popular Culture 3 s.h.

Cultural aspects of drug use and drug policy in American popular culture, particularly concerning recreational drugs; how ideas of race, gender, social class, and nation are connected to stories people tell about use of marijuana, cocaine, methamphetamine, heroin, and alcohol; sources include films, television, advertising, music, and cultural texts.

AMST:1074 Inequality in American Sport 3 s.h.

Cultural meanings of sport in contemporary U.S. culture; American dream as promoted, challenged in sport; sport experiences, inclusion, and exclusion as affected by gender and sexuality, race and ethnicity, social class, age, physical ability/disability, and nationalism. GE: Diversity and Inclusion. Same as GWSS:1074, SPST:1074.

AMST:1075 American Popular Music: Rock and Roll to 1980 3 s.h.

AMST:1076 Rock and Roll 1980 to the Present 3 s.h.

From the beginning, rock and roll subcultures have deliberately challenged and changed the values, attitudes, and behaviors of the mainstream (as well as the music itself); during the past 40 years, movements such as punk, hip hop, and electronica have confronted conventional notions of race, gender, sexual identity, social justice, and economic disparities in ways that reveal much about the underlying tensions of American life; using music as a lens, students examine these aspects of the nation's social history from 1980 to the present; materials are drawn from music, films, music videos, popular magazines, newspapers, and books.

AMST:1080 American Political Humor 3 s.h.

How political humor reflects and influences American attitudes regarding government institutions, elected officials, the democratic process; how humor works; examples from Revolutionary War present and from varied media, including cartoons, fiction, film, television, internet.

AMST:1154 Food in America 3 s.h.

Cultural significance of production, distribution, and consumption of food in the United States. GE: Values and Culture.

AMST:1290 Native American Foods and Foodways 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as GHS:1290, HIST:1290, NAIS:1290.

AMST:1400 Introduction to American Popular Culture 3 s.h.

Introduction to popular culture studies; variety of cultural expressions including cyber communities, radio, humor, television, music, sport, and material culture; discussion of these popular genres and topics within larger context of gender, race, sexualities, class, consumerism, nation state and global capitalism; what popular culture is; difference between folk, high, mass, and popular culture; how to critically read and interpret popular cultural expressions; role(s) consumers of popular culture play in market economy; new information technologies to enhance learning experience.

AMST:1500 American Celebrity Culture 3 s.h.

Cultural history of meanings and implications of fame and celebrity in America; shift from 18th-century culture of "fame" (something bestowed posthumously on great statesmen) to 19th-century culture of "celebrity" that conferred instant stardom on actors, sportsmen, musicians, writers, and others; role of mass media and impresarios (e.g., Barnum and "Buffalo Bill") in promoting culture of celebrity; refinement of star system by Hollywood, television, and internet; implications for political culture, consumer culture, and attitudes towards race, gender, class, and sexuality.

AMST:1630 U.S. History Through Objects 3 s.h.

Interpretation of U.S. history through stories embedded in material artifacts ranging from guns, farming tools, and religious relics to mechanical toys, office gadgets, and vehicles; invention, manufacture, and marketing of tools and objects; their use and adaptation by various groups of Americans (women, African Americans, immigrants); meanings and memories invested in them; preservation of objects in museums, attics, and time capsules.

AMST:1847 Hawkeye Nation: On Iowa and Sport 3 s.h.

Identity, community, and place explored within local frameworks: the University of Iowa, Iowa City, State of Iowa; how sport, literature, film, other cultural institutions forge connections to community and shape Iowa's image in the public imagination; identity and community as complex and contested issues; local rituals, sites of memorialization, acts of erasure, management and use of public and private space such as UI athletic complex, Field of Dreams, Iowa Writers' Workshop, Iowa Avenue Literary Walk, Blackhawk Park; interdisciplinary approaches grounded in American studies, sport studies, American Indian and native studies, literature, history. Same as SPST:1847.

AMST:1900 Time in America: Clocks, Calendars, and Capsules 3 s.h.

History of technologies for telling the time, from ancient water clocks to atomic clocks; changing methods of measuring, subdividing, and regulating time in 19th- and 20th-century America; implementation of (and resistance to) time discipline in factories, plantations, and offices; rituals for marking historical time (e.g., time capsules); fantasies of time travel in fiction and film; debates about the acceleration of time and emergence of a "slow movement."

AMST:2000 Introduction to American Studies 3 s.h.

Variety of historic and contemporary sources, such as literature, law, photography, painting, film, TV, music, fashions, environments, events of everyday life. GE: Values and Culture.

AMST:2025 Diversity in American Culture 3 s.h.

History and variety of American identities, examined through citizenship, culture, social stratification; conflict and commonalities among groups according to race, ethnicity, gender, class, sexuality; how art, literature, music, film, photography, and other cultural artifacts represent diversity of identities. GE: Diversity and Inclusion.

AMST:2050 The American Vacation 3 s.h.

Development of the Idea of vacation from upper-class origins to acceptance as part of middle- and working-class life; Niagara Falls, Saratoga Springs, the Catskills, Atlantic City, Idlewild, Coney Island, national parks of the American West, Chicago World's Fair, Gettysburg, Disneyland; how vacation experiences and meanings are shaped by social class, race, gender, age; growth of leisure time, labor legislation, proper use of leisure time, tourism, vacations as social rituals, golden age of family vacations. Same as SPST:2050.

AMST:2052 Fairs and Amusement Parks 3 s.h.

Nineteenth- and twentieth-century international expositions, amusement parks, and theme parks as cultural events of U.S. self-definition.

AMST:2084 Sport and Film 3 s.h.

Sport films as means of exploring contemporary ideas about sport in the U.S.; focus on narrative structure, characterization, historical, and political contexts; formal aspects of film analysis (e.g., editing, lighting, cinematography). Same as SPST:2084.

AMST:2165 Native Peoples of North America 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as ANTH:2165, NAIS:2165.

AMST:2200 American Gothic: Film, Literature, and Popular Culture 3 s.h.

Gothic eruptions of the uncanny in 19th- through 21st-century American literature, film, and mass culture; how ghosts, vampires, and visitants from the dark side call attention to fluid or liminal social space while communicating information and anxieties about repressed histories, economic change, and unstable intersections of gender, sexuality, race, religion, and class identities; special attention given to modernity and post-modernity of American gothic as an artifact of U.S. consumer culture and mass visual media.

AMST:2300 Native Americans in Film 3 s.h.

Representations of Native Americans in film from the western to science fiction and animation. Same as NAIS:2300.

AMST:2400 The Guitar in American Culture 3 s.h.

Cultural history of the guitar in America from 19th century to present; how the instrument evolved in America (e.g., with the introduction of steel strings, electric pick-ups, amplifiers, new body shapes); how the instrument contributed to musical styles from folk, blues, and jazz to pop, rock, heavy metal, and beyond; what impact it had on American culture and politics as a means of folk-cultural expression for black slaves and sharecroppers, an icon of youth rebellion and counter-cultural opposition, a signifier of hyper-masculinity (one that has been reclaimed by female guitarists), or even a ritual object to smash or burn on stage; the guitar's future in an age of electronic music.

AMST:2500 U.S. Cinema and Culture 3 s.h.

Representation of race, ethnicity, class, gender, and sexuality in Hollywood movies.

AMST:2600 American Monuments 3 s.h.

History of public monuments in America from the inception of first major monuments in the 1820s to the latest incarnations (e.g., counter-monuments such as the 9/11 Memorial, spontaneous and temporary monuments, online memorials); how monuments have depicted Indians, blacks, Southern confederates, women, and other groups; how monuments have commemorated wars, Indian massacres, lynchings, and political movements (e.g., civil rights, women's suffrage); how monuments have been reinterpreted through popular protests and depositing of artifacts; why monuments have attracted so much controversy, culminating in recent events at Charlottesville. Same as HIST:2206.

AMST:2700 The Black Image in Sequential Art: Comics, Graphic Novels, and Anime 3 s.h.

Provides a foundation to critically interpret the representation of people of African descent in sequential art; primary focus on serial comic strips, gags, comic books, graphic novels, video games, animation, anime, Manga, film, zines, and televisual examples of blackness; emphasis of readings and viewing materials on gender, sexualities, economics, ethnicity, the transnational circulation and commodification of the black image, fandom communities, independent and mainstream sequential art producers. Same as AFAM:2700.

AMST:2950 Animals and Performance in American Culture 3 s.h.

Role of animals in various forms of cultural expression in the U.S. from the 19th to the 21st centuries; along with visual and literary arts, special emphasis will be placed on live performance (e.g., circus and theatre) because of how it highlights embodied and affective modes of communication that inform our connections to animals; relationship of cultural forms involving animals (real and imagined) to the lived experience of animals in the wider historical and social context; how animals shape human ideas about race, ethnicity, class, gender, sexuality, and construct notions of "Americanness." Same as THTR:2450.

AMST:3047 American Disasters 3 s.h.

Fault lines of American society and culture as exposed during catastrophe; history of American disaster investigated through methods from cultural history, visual theory, sociology, and media studies; varied disasters 1800 to present, including those involving cities (Chicago fire, San Francisco earthquake, Chicago heat wave), transportation (Titanic, Challenger, Columbia), and environment (Union Carbide and Bhopal, Exxon Valdez); causes of catastrophes; how Americans react and are drawn to catastrophe (e.g., disaster films, jokes); related topics, including technology, urbanism, race, class, apocalyptic religion, journalism, popular culture.

AMST:3050 Topics in American Cultural Studies 3 s.h.

Special topics in American history, literature, culture.

AMST:3051 The Office: Business Life in America 3 s.h.

History of business life in America from birth of Wall Street to rise of Silicon Valley; modes of managing and regulating office workers; changing designs of office buildings, furniture, gadgets; corporate response to rise of class inequalities and growing gender and racial diversity in workforce; portrayal of businessperson in novels, movies, television, art, photography.

AMST:3053 The Civil Rights Movement 3 s.h.

History of the American civil rights movement. Same as AFAM:3053.

AMST:3060 Cities in American Culture 3 s.h.

Impact of American cities (skyscrapers, entertainments, crowds, ethnic neighborhoods) on American culture; depiction of American urban environments by artists, writers, musicians, filmmakers; treatment of city life in popular culture (superhero comics and movies, sitcoms, hip-hop, and more); debates about post-industrial decline of cities; focus on New York, Chicago, Los Angeles.

AMST:3063 American Ruins 3 s.h.

Emergence and development of American fascination with ruins, from indigenous to urban-industrial remains; actual ruins and depiction of imagined ruins in art, literature, cinema.

AMST:3130 Black American Cinema 3 s.h.

Major historical and cultural movements in black cinema; independent and early Hollywood films, animation, blaxploitation, the black renaissance, black auteurs (e.g., Spike Lee, Julie Dash), hip-hop cinema, womanist films, 21st-century developments in film (e.g., theatre to film adaptations of Tyler Perry), new media's effect on film and cinema; particular attention given to gender, sexualities, region, ethnicity, and class. Same as AFAM:3130.

AMST:3135 The Social Construction of Whiteness 3 s.h.

Whiteness as a socially constructed racial category with material effects in everyday life; race as a category with salience in determining public policy, forming identities, and shaping people's actions; interdisciplinary approach using social history, philosophy, science, law, literature, autobiography, film, and the expressive arts.

AMST:3171 Baseball in America 3 s.h.

Forces that influenced political, economic, and social development of professional baseball in the United States; rise of major league baseball, its relationship to the minor leagues, and development of organized baseball industry. Same as SPST:3171.

AMST:3178 American Sport to 1900 3 s.h.

Growth and institutionalization of sport from colonial times to 1900. Same as SPST:3178.

AMST:3179 Twentieth-Century American Sport 3 s.h.

Historic development of sport in the United States since 1900; economic forces, professionalization, growth of media. Same as SPST:3179.

AMST:3195 American Cultures and American Photography 3 s.h.

Introduction to visual, cultural, and historical frameworks to view and interpret photographs as material artifacts.

AMST:3198 New Media and the Future of Sport 3 s.h.

Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as JMC:3135, SPST:3198.

AMST:3400 Black Popular Music 3 s.h.

History and expressive culture of people of African descent living in America through popular music forms; historical time span between the 17th and 21st centuries; poetry, music, cultural analysis, film, and art as sources for the study of black music; genres covered include spirituals and gospel, blues, jazz, rock, rhythm and blues, Afropunk, alternative and neo soul, and hip-hop. Recommendations: AFAM:1020 and AMST:1030. Same as AFAM:3400.

AMST:3430 Women on Stage 3 s.h.

Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as GWSS:3430, THTR:3430.

AMST:3500 American Gothic: Film, Literature, and Popular Culture 3 s.h.

Gothic eruptions of the uncanny in 19th- through 21st-century American literature, film, and mass culture; how ghosts, vampires, and visitants from the dark side call attention to fluid or liminal social space while communicating information and anxieties about repressed histories, economic change, and unstable intersections of gender, sexuality, race, religion, and class identities; special attention given to modernity and post-modernity of American gothic as an artifact of U.S. consumer culture and mass visual media.

AMST:3900 Seminar in American Cultural Studies 3 s.h.

Interdisciplinary perspectives on a single theme or period.

AMST:3994 Independent Study arr.**AMST:4999 Honors Project arr.**

Independent interdisciplinary research, writing.

AMST:5000 Interdisciplinary Research in American Studies 3 s.h.

Research, theories, and methods in American studies; origins, evolution, and future of discipline; key figures, texts, and debates.

AMST:5002 Critical Theories and Cultural Studies 3 s.h.

Exploration and application of critical theories to contemporary sport; feminism, Marxism, critical race theory, whiteness studies, queer theory, postcolonial theory, postmodernism, and poststructuralism. Same as SPST:5002.

AMST:6030 Seminar: Performing Arts in American Culture 3 s.h.

American theater, dance, music, and performance.

AMST:6050 Seminar: Topics in American Studies 3 s.h.

American cultural history; urbanization, mass media, pluralism, assimilation.

AMST:6058 Seminar: Technology and American Culture 3 s.h.**AMST:6070 Seminar: Topics in Sport Studies 1-3 s.h.**

Special topics on sport in historical or contemporary contexts. Same as SPST:6070.

AMST:6078 Seminar: Women in Sport 3 s.h.

Women's sport involvement in historical and/or contemporary contexts; focus on social class, religion, race, ethnicity, sexuality, medical opinion, economic considerations, political events, and educational philosophies that have influenced women's participation. Same as GWSS:6710, SPST:6078.

AMST:6080 American Film and American Culture 3 s.h.

Relationships between film and culture as developed in a particular approach, period, subject.

AMST:6099 American Studies Proseminar 1-2 s.h.

Intensive reading on American cultural analysis topics; may include screenings, field trips, guest speakers, special events.

AMST:6140 Engaged Scholarship in the Humanities 0,3 s.h.

Survey of literature on community-engaged scholarship (CES) in the humanities; exploration of the pioneering work of engaged scholars in Native American, Latino, and African American studies; students write a research prospectus that is consistent with CES methodologies. Same as HIST:6140.

AMST:6276 Sport in U.S. Culture 3 s.h.

Sport as a significant cultural form in the United States; focus on role of sport in cultural reproduction; institutional relationships between sport and politics, economy, education, and media. Same as SPST:6276.

AMST:6300 Writing for Learned Journals 1-4 s.h.

Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as GRAD:6300, GWSS:6300, RHET:6330.

AMST:6500 Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences 3 s.h.

Exploration of the scholarship of Stuart Hall along with theories, methods, and history of cultural studies; focus on major areas of Hall's work including Marxist thought and the political economy, diasporas and globalization, cultural production and popular culture, film and cinema studies, race, ethnicity, identity, and difference; key theorists that influenced Stuart Hall (e.g., Marx, Foucault, Fanon, Gramsci, Althusser) and scholars in cultural studies that have made appropriate use of Hall's writings and theories in their own work; role of theory in everyday life and the critical role of public intellectuals. Same as AFAM:6500.

AMST:7077 Sport Studies Workshop 1 s.h.

Development of individual research projects for group discussion. Requirements: graduate standing in American studies or sport studies. Same as SPST:7070.

AMST:7085 Dissertation Writing Workshop 1 s.h.

Dissertation preparatory work with peer and faculty critiques, including preparation of a prospectus, research activities, and chapter writing. Requirements: American studies graduate standing with postcomprehensive examination status.

AMST:7090 Ph.D. Thesis arr.**AMST:7994 Independent Study** arr.

Sport Studies Courses

SPST:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

SPST:1074 Inequality in American Sport 3 s.h.

Cultural meanings of sport in contemporary U.S. culture; American dream as promoted, challenged in sport; sport experiences, inclusion, and exclusion as affected by gender and sexuality, race and ethnicity, social class, age, physical ability/disability, and nationalism. GE: Diversity and Inclusion. Same as AMST:1074, GWSS:1074.

SPST:1847 Hawkeye Nation: On Iowa and Sport 3 s.h.

Identity, community, and place explored within local frameworks: the University of Iowa, Iowa City, State of Iowa; how sport, literature, film, other cultural institutions forge connections to community and shape Iowa's image in the public imagination; identity and community as complex and contested issues; local rituals, sites of memorialization, acts of erasure, management and use of public and private space such as UI athletic complex, Field of Dreams, Iowa Writers' Workshop, Iowa Avenue Literary Walk, Blackhawk Park; interdisciplinary approaches grounded in American studies, sport studies, American Indian and native studies, literature, history. Same as AMST:1847.

SPST:2050 The American Vacation 3 s.h.

Development of the Idea of vacation from upper-class origins to acceptance as part of middle- and working-class life; Niagara Falls, Saratoga Springs, the Catskills, Atlantic City, Idlewild, Coney Island, national parks of the American West, Chicago World's Fair, Gettysburg, Disneyland; how vacation experiences and meanings are shaped by social class, race, gender, age; growth of leisure time, labor legislation, proper use of leisure time, tourism, vacations as social rituals, golden age of family vacations. Same as AMST:2050.

SPST:2077 Sport and Religion in America 3 s.h.

Sport as a religion; religiosity in sports; examination of religion and sport as connected in important ways in American society. Same as RELS:2877.

SPST:2078 Women, Sport, and Culture 3 s.h.

Feminist analysis of girls' and women's sports experiences, including reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women's sport, feminist critiques, alternatives to sport. Same as GWSS:2078.

SPST:2079 Race and Ethnicity in Sport 3 s.h.

Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as AFAM:2079.

SPST:2081 Theory and Ethics of Coaching 3 s.h.

Philosophical bases, ethical issues; theoretical, practical applications.

SPST:2084 Sport and Film 3 s.h.

Sport films as means of exploring contemporary ideas about sport in the U.S.; focus on narrative structure, characterization, historical, and political contexts; formal aspects of film analysis (e.g., editing, lighting, cinematography). Same as AMST:2084.

SPST:2170 Sport and Globalization 3 s.h.

Sport as both a global and local phenomenon; influence of global economic, political, and cultural forces on local sporting expressions, experiences, and identities; global sporting cultures from cricket to capoeira; global sporting spectacles from the Olympics and Paralympics to the FIFA World Cup; global sporting celebrities and athlete migrants from Maria Sharapova and Cristiano Ronaldo to Yao Ming and Dominican Republic baseball; global sporting production, consumption, and development from global labor and environmental concerns to sport for development and peace. GE: International and Global Issues.

SPST:2500 Sport and Technology 3 s.h.

Connections between sport and technology; performance enhancement to paralympians, sex testing to scientific racism, Fitbits to e-sports, data analytics and journalism; cultural approaches to understanding how science, medicine, and technology impact active bodies, sporting industries, and infrastructure; debates regarding risks and responsibilities; exploration of various roles (e.g., athletes, administrators, architects, engineers, programmers, trainers) in creating and sustaining past, present, and future of sports.

SPST:3171 Baseball in America 3 s.h.

Forces that influenced political, economic, and social development of professional baseball in the United States; rise of major league baseball, its relationship to the minor leagues, and development of organized baseball industry. Same as AMST:3171.

SPST:3172 Football in America 3 s.h.

Forces that influenced political, economic, and cultural development of college and professional football in the United States; rise of the National Football League and its relationship to college football and commercial media interests.

SPST:3175 Sport and the Media 3 s.h.

Examination of sport and media's intimate relationship; aesthetic, cultural, political, economic, and industrial factors that shape it. Same as JMC:3183.

- SPST:3176 Sport and Nationalism** 3 s.h.
Role of sport in the phenomenon of nationalism; selected theories; case studies on Ireland, Australia, British West Indies, Cold War U.S., fascist Europe.
- SPST:3177 Sport in the Western World** 3 s.h.
Development of Western sport; relation to social, political, economic, intellectual factors.
- SPST:3178 American Sport to 1900** 3 s.h.
Growth and institutionalization of sport from colonial times to 1900. Same as AMST:3178.
- SPST:3179 Twentieth-Century American Sport** 3 s.h.
Historic development of sport in the United States since 1900; economic forces, professionalization, growth of media. Same as AMST:3179.
- SPST:3180 Classics of Sports Journalism: From Jack London to Grantland** 3 s.h.
Historical examples of celebrated works of sports journalism; focus on long-form texts. Same as JMC:3190.
- SPST:3181 The Business of Sport Communication** 3 s.h.
Critical and practical approach to understanding contemporary sports media and business practices that mark it; focus on sports media industries and institutions; branding, marketing, demographic, public relations, and promotional factors that shape content. Same as JMC:3181.
- SPST:3182 Sport, Scandal, and Strategic Communication in Media Culture** 3 s.h.
Use of sport scandal to consider relationship between sport and media in American and global popular culture; broad range of case studies used to consider what constitutes a sport scandal, how this definition shifts in different circumstances; crucial roles media play in creating, communicating, and diffusing these crises; how phenomenon of sports scandal has intensified along with emergence of cable television, internet, and social media. Same as JMC:3182.
- SPST:3193 Independent Study** arr.
Problem in a specific area.
- SPST:3198 New Media and the Future of Sport** 3 s.h.
Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as AMST:3198, JMC:3135.
- SPST:3500 The Olympics** 3 s.h.
Real-time analysis and evaluation of current Winter or Summer Olympic and Paralympic Games; cultural history of modern Olympic Games (1896 to present); economics and politics of mega-events (e.g., cancellations, boycotts, protests); amateurism, professionalism, and athlete migrants; commercialization, broadcasting rights, and branding; nationalism, internationalism, and (post)colonialism; social and cultural impacts and controversies (e.g., social and environmental sustainability); Olympic bids, committees, and hosts; sex, gender, and racial discrimination; doping; technology, television, and social media.
- SPST:3911 Sport Since 9/11** 3 s.h.
Profound impact of events of September 11, 2001 in the United States and abroad; how sport has often played a role in constructing understandings of the United States and what it means to be a U.S. citizen; use of sport to interrogate U.S. nationalism and what it means to be a U.S. citizen in post-9/11 era; investigation of stories about the United States after 9/11 using responses from MLB and NFL, 2002 Olympics, and others; the future; how more critically nuanced understandings of sport's role in the United States might lead us to become more reflective and active citizens.
- SPST:4900 Topics in Sport Studies** 1-3 s.h.
Special topics on sport in historical or contemporary contexts.
- SPST:4999 Honors Project** 1-3 s.h.
- SPST:5002 Critical Theories and Cultural Studies** 3 s.h.
Exploration and application of critical theories to contemporary sport; feminism, Marxism, critical race theory, whiteness studies, queer theory, postcolonial theory, postmodernism, and poststructuralism. Same as AMST:5002.
- SPST:6010 Nonprofit Organizational Effectiveness I** 3 s.h.
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, LAW:8751, MGMT:9150, RELS:6070, SSW:6247, URP:6278.
- SPST:6020 Nonprofit Organizational Effectiveness II** 3 s.h.
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, LAW:8752, MGMT:9160, RELS:6075, SSW:6248, URP:6279.
- SPST:6070 Seminar: Topics in Sport Studies** 1-3 s.h.
Special topics on sport in historical or contemporary contexts. Same as AMST:6070.
- SPST:6072 Seminar in Cultural Studies of Sport** 3 s.h.
Current theoretical debates in sport studies; applications of critical cultural studies theories to critical analysis of sport.
- SPST:6074 Seminar in Sport History** 3 s.h.
Topics in sport history; theoretical and methodological issues.
- SPST:6078 Seminar: Women in Sport** 3 s.h.
Women's sport involvement in historical and/or contemporary contexts; focus on social class, religion, race, ethnicity, sexuality, medical opinion, economic considerations, political events, and educational philosophies that have influenced women's participation. Same as AMST:6078, GWSS:6710.
- SPST:6276 Sport in U.S. Culture** 3 s.h.
Sport as a significant cultural form in the United States; focus on role of sport in cultural reproduction; institutional relationships between sport and politics, economy, education, and media. Same as AMST:6276.
- SPST:7070 Sport Studies Workshop** 1 s.h.
Development of individual research projects for group discussion. Requirements: graduate standing in American studies or sport studies. Same as AMST:7077.
- SPST:7090 Thesis: Ph.D.** arr.
- SPST:7940 Independent Study** arr.

American Studies, B.A.

Learning Outcomes

Upon completion of the B.A. in American studies, students should have:

- a deepened knowledge and critical understanding of American history, cultures, and society;
- the ability to interpret a range of sources (literature, painting, maps, diaries, music, census data, material objects) and to integrate those sources into a persuasive argument about American culture; and
- the ability to explain one's own perspective on American identity and to place that identity in the diverse, global context of our time.

Overview

American studies majors develop broad training in cultural analysis and communication. Students take courses that make sense of the contemporary world, both nationally and internationally, using a variety of approaches to the study of culture, including film, the digital humanities, art, theater, and literature. Faculty members have particular strengths in racial and ethnic studies, gender, sport studies, journalism, American literature, history, and American popular culture.

Requirements

The Bachelor of Arts with a major in American studies requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. At least 24 s.h. for the major must be earned at the University of Iowa.

The major in American studies stresses broad training in cultural analysis and communication. American studies students may arrange internships (1-3 s.h.) for credit toward their major through the University's Pomerantz Career Center.

A distinctive feature of the American studies major is the opportunity to develop broad training in cultural analysis as well as emphasis of particular interests within the study of American culture.

Shortly after declaring the major, students should meet with their faculty advisor to explore the range of course work available and to begin shaping a plan of study. By the second semester in the major, students and their advisor should have agreed upon a plan of study for completing the requirements for the major.

The B.A. with a major in American studies usually requires the following 11 courses.

Code	Title	Hours
AMST:1010	Understanding American Cultures	3
AMST:2000	Introduction to American Studies	3
AMST:2025	Diversity in American Culture	3
AMST:3900	Seminar in American Cultural Studies	3
One additional American studies course numbered 2000 or above		3

One additional American studies course numbered 3000 or above	3
Five additional American studies courses	15
Total Hours	33

Honors

Honors in the Major

Students majoring in American studies have the opportunity to graduate with honors in the major and to pursue special interests through individual, in-depth research.

Honors students carry out a research project. Working under the guidance of an undergraduate advisor, each student defines a research project and then makes a project proposal, ideally by the end of the junior year. A student then completes the project under the guidance of a supervising faculty member. American studies honors students register for up to 6 s.h. in AMST:4999 Honors Project.

Contact the American studies honors advisor for more information about honors in the major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the American studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: declaration of the major and discussion of a plan of study with an American studies advisor

Before the seventh semester begins: at least six courses from the plan of study and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least nine courses from the plan of study

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

American Studies, B.A.

Course	Title	Hours
First Year		
Fall		
AMST:1010	Understanding American Cultures ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences without Lab ^b		3
CSI:1600	Success at Iowa	2
Elective course ^c		3
Hours		14-15
Spring		
AMST:2000	Introduction to American Studies	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: Social Sciences ^b		3
Elective course ^c		2
Hours		15-16
Second Year		
Fall		
AMST:2025	Diversity in American Culture ^a	3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
AMST:3900	Seminar in American Cultural Studies	3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Third Year		
Fall		
Major: 2000-level or above course		3
Major: Elective course		3
Elective course ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
Major: 3000-level or above course		3
Major: Elective course		3
Elective course ^c		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17

Fourth Year

Fall

Major: Elective course	3
Major: Elective course	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

Major: Elective course	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-129

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

American studies provides preparation for careers in business, public relations, marketing, advertising, diversity outreach, tourism, education, politics and government, social service, media and journalism, museums, and the arts. It also provides a good foundation for graduate studies in the humanities, the social sciences, theology, and business, or for professional study in law or medicine.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Sport Studies, B.A.

Learning Outcomes

Graduates of the B.A. in sport studies should have the following competencies.

- An understanding of the field's interdisciplinary body of knowledge through familiarity with:
 - the culture of contemporary U.S. sport as it relates to institutions and contexts such as the media, politics, and the economy;
 - the diversity of sport experiences in the U.S., including how opportunities for and the nature of participation are influenced by social class, race, ethnicity, nationality, gender, sexuality, age, and physical ability/disability;
 - the historical and cultural processes shaping U.S. sport from the 19th century to the present; and
 - the nature and significance of U.S. sport within the context of global sporting patterns and forms, especially as this relates to imperialism, neocolonialism, and postcolonialism.
- A knowledge of theoretical perspectives relevant to the critical study of sport in culture.
- An understanding of the methodologies appropriate for the critical study of sport and the ability to apply these to individual research projects.
- The ability to apply critical thinking skills in the interpretation and analysis of peer-reviewed research and literature.
- The ability to analyze and synthesize primary and secondary source materials and communicate both orally and in writing evidence-based arguments regarding U.S. sport.

Requirements

The Bachelor of Arts with a major in sport studies requires a minimum of 120 s.h., including 45 s.h. of work for the major (30 s.h. in sport studies and 15 s.h. in an outside concentration area or a minor). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. At least 24 s.h. of credit for the major must be earned at the University of Iowa. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The sports studies major examines sport in its historical and contemporary cultural contexts. Course work provides students with the critical skills necessary to understand the cultural significance of sport as it relates to the media, the economy, the political system, and the educational system. A focus on the race, class, and gender differences in the sport experience is central to the major.

Many students use their experience in the program to prepare for graduate school. For others, the required second concentration area or minor serves as an introduction to careers in a number of fields, such as sport journalism, sport management, or coaching.

The B.A. with a major in sport studies requires the following course work.

Code	Title	Hours
	Sport Studies Foundation Courses	6
	Sport Studies Core Courses	12
	Electives (approved courses)	12
	Outside Concentration Area or Minor Courses	15
	Total Hours	45

Sport Studies Foundation

Students should complete the foundation courses as early as possible.

Code	Title	Hours
Both of these:		
AMST:1010	Understanding American Cultures	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3

Sport Studies Core

Students must complete one course from each of the following four content areas (total of 12 s.h.).

Code	Title	Hours
Diversity in Sport		
One of these:		
SPST:2078/ GWSS:2078	Women, Sport, and Culture	3
SPST:2079/ AFAM:2079	Race and Ethnicity in Sport	3
International Dimensions		
One of these:		
SPST:2170	Sport and Globalization	3
SPST:3176	Sport and Nationalism	3
SPST:3177	Sport in the Western World	3
SPST:3500	The Olympics	3
Contemporary Sport in America		
One of these:		
SPST:3175/ JMC:3183	Sport and the Media	3
SPST:3179/ AMST:3179	Twentieth-Century American Sport	3
History of Sport and Leisure in America		
One of these:		
SPST:2050/ AMST:2050	The American Vacation	3
SPST:3178/ AMST:3178	American Sport to 1900	3

Electives

Students must complete at least 12 s.h. of approved elective courses; the department suggests courses from the following list. Courses not used to satisfy the sport studies core can serve as electives; see "Sport Studies Core" above.

Code	Title	Hours
AMST:1065	Disney in America	3
AMST:1500	American Celebrity Culture	3
AMST:2000	Introduction to American Studies	3
AMST:2052	Fairs and Amusement Parks	3

SPST:1847/ AMST:1847	Hawkeye Nation: On Iowa and Sport	3
SPST:2077/ RELS:2877	Sport and Religion in America	3
SPST:2081	Theory and Ethics of Coaching	3
SPST:2084/ AMST:2084	Sport and Film	3
SPST:2500	Sport and Technology	3
SPST:3171/ AMST:3171	Baseball in America	3
SPST:3172	Football in America	3
SPST:3180/ JMC:3190	Classics of Sports Journalism: From Jack London to Grantland	3
SPST:3181/ JMC:3181	The Business of Sport Communication	3
SPST:3182/ JMC:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
SPST:3193	Independent Study	arr.
SPST:3198/ JMC:3135/ AMST:3198	New Media and the Future of Sport	3
SPST:3911	Sport Since 9/11	3
SPST:4900	Topics in Sport Studies	1-3
SPST:4999	Honors Project	1-3

Outside Concentration Area or Minor

All sport studies students must complete 15 s.h. of course work in an allied field of concentration outside the major (e.g., American studies; journalism and mass communication; business; gender, women's, and sexuality studies). Work for the concentration must include 6 s.h. earned in courses numbered 3000 or above or in courses that are designated advanced by the department or program that offers them. Concentration area courses may not be taken pass/nonpass.

Students select their allied field of concentration in consultation with their advisor, and they must have their advisor's written approval for the area.

Students also may satisfy the concentration requirement by earning a second major or a minor in another discipline. Students who satisfy the requirement in this way are held responsible for ensuring that they have fulfilled the requirements for the second major or the minor.

Coaching Authorization or Endorsement

Students may prepare for coaching by completing additional course work that also qualifies them for a coaching authorization from the State of Iowa. The following courses are recommended.

Code	Title	Hours
ATEP:2030	Basic Athletic Training	3
HHP:1100	Human Anatomy	3
HHP:3300	Human Growth and Motor Development	3
SPST:2081	Theory and Ethics of Coaching	3

Students who successfully complete the requirements for the coaching authorization must submit an application to the Iowa Board of Educational Examiners. For more information, visit Coaching Authorization FAQs on the board's website.

Honors

Honors in the Major

Students majoring in sport studies have the opportunity to graduate with honors in the major and to pursue special interests through individual, in-depth research.

Honors students carry out a research project. Working under the guidance of an undergraduate advisor, each student defines a research project and then makes a project proposal, ideally by the end of the junior year. The student then completes the project under the guidance of a supervising faculty member. Sport studies honors students register for up to 3 s.h. in SPST:4999 Honors Project.

Contact the American studies honors advisor for more information about honors.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sport studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: declaration of the major

Before the sixth semester begins: area of concentration determined

Before the seventh semester begins: at least six sport studies courses and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least eight sport studies courses

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Sport Studies, B.A.

Course	Title	Hours
First Year		
Fall		
AMST:1010	Understanding American Cultures ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: Natural Sciences without Lab ^b		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
SPST:1074	Inequality in American Sport ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: Social Sciences ^b		3
Elective course ^c		2
Hours		15-16
Second Year		
Fall		
Major: sport studies core course		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
Major: sport studies core course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Third Year		
Fall		
Major: elective course ^e		3
Major: outside concentration course ^f		3
Major: sport studies core course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
Major: elective course ^e		3
Major: outside concentration course ^f		3
Major: sport studies core course		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course		3
Hours		16-17

Fourth Year

Fall

Major: elective course ^e	3
Major: outside concentration course ^f	3
Major: outside 3000-level concentration course ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

Elective course ^c	3
Major: elective course ^e	3
Major: outside 3000-level concentration course ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-129

- a Students should complete these foundation courses as early as possible.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students must complete at least 12 s.h. of approved sport studies elective courses.
- f Students must complete 15 s.h. of course work in an allied field of concentration outside the major (e.g., American studies; journalism and mass communication; business; gender, women's, and sexuality studies). Work for the concentration must include 6 s.h. earned in courses numbered 3000 or above or in courses that are designated advanced by the department or program that offers them.

Career Advancement

Many sport studies students use their experience to prepare for graduate school. For others, the required second area of concentration or minor serves as an introduction to careers in a number of fields, such as sports journalism or sports information, sport management, and coaching.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

American Studies, Minor

The undergraduate minor in American studies requires a minimum of 15 s.h. in American studies courses, including 12 s.h. in courses considered advanced for the minor taken at the University of Iowa (courses numbered above AMST:1010 are considered advanced for the minor). Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students interested in earning the American studies minor should consult with one of the department's faculty members.

Sport Studies, Minor

The undergraduate minor in sport studies requires a minimum of 15 s.h. in University of Iowa sport studies courses (prefix SPST), including at least 6 s.h. in courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students select courses for the minor according to their interests and the recommendation of the undergraduate coordinator.

American Studies, M.A.

Requirements

The Master of Arts program in American studies requires a minimum of 36 s.h. of graduate credit. The degree generally is offered without thesis; students must petition the director of graduate studies for permission to pursue the thesis option.

Each M.A. student designs an interdisciplinary field of concentration in consultation with the student's American studies advisor.

The M.A. in American studies requires the following work.

Code	Title	Hours
AMST:5000	Interdisciplinary Research in American Studies (taken twice in consecutive years)	6
Two graduate seminars in American studies		6
Five courses in the interdisciplinary field of concentration		15
Electives		9
M.A. portfolio		
Total Hours		36

Each student must complete an M.A. portfolio, which includes a research paper, faculty evaluations for all courses taken during the student's first full year of graduate study, and a self-evaluation essay.

The research paper is a graduate seminar paper that demonstrates a student's skills as a research scholar and writer and represents the student's strongest work. The paper should be 25-30 pages, including a bibliography.

The self-evaluation essay summarizes the American studies methods and materials that have shaped the student's interdisciplinary work in the field and states how the master's degree work in American studies has contributed to, challenged, or complicated the student's goals and ambitions beyond the degree.

Students assemble the M.A. portfolio under the guidance of their advisors and should submit it no later than December 1 of their third semester in residency. The portfolio is evaluated on a satisfactory/unsatisfactory (S/U) basis by a three-person American studies faculty committee. Students whose portfolio receives a U may resubmit the portfolio during their fourth semester of residency.

For students who wish to continue their education with doctoral study, the M.A. portfolio serves as the application for admission to the Ph.D. program in American studies. The department informs applicants whether they have been accepted into the Ph.D. program by the end of the fall semester in which they submit their M.A. portfolio; admission is contingent upon successful completion of the M.A. during a student's fourth semester of residency.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

American studies students' career goals are as varied as the topics they study. Even though the major does not have an explicit vocational goal, graduates are well prepared for careers in a wide range of areas, such as business, education, arts and museum administration, government, journalism, and social services.

The program also provides a good foundation for graduate studies in the humanities, the social sciences, theology, and business as well as for professional studies in law or medicine.

American Studies, Ph.D.

Requirements

The Doctor of Philosophy program in American studies requires a minimum of 72 s.h. of graduate credit. Students may focus in American studies or choose the sport studies subprogram.

Students work with their faculty advisor to map out a coherent plan of study that reflects their particular interests. Students are permitted considerable flexibility in constructing their study plan, but they must meet certain basic requirements, which include foundation courses, area foundation courses, two interdisciplinary fields of concentration, a research skills course, elective course work, and a dissertation.

The two fields of concentration may be defined to correspond with a student's strongest intellectual interests, but they must be interdisciplinary in concept and multidisciplinary in scope. Each must include course work from more than one of the University's departments and programs. The two concentration areas may, and usually should, have an intellectual relationship with each other.

Students are expected to address the cultural diversity of American life in their course work and reading.

The Doctor of Philosophy requires the following work. Some course requirements are different for American studies and sports studies.

Course Work

Required Foundation Courses

All students complete the required foundation courses and should take them as early as possible.

Code	Title	Hours
AMST:5000	Interdisciplinary Research in American Studies (taken twice in consecutive years)	6

Area Foundation Courses

Code	Title	Hours
American Studies Students		
	Two American studies graduate seminars	6
Sport Studies Students		
SPST:5002	Critical Theories and Cultural Studies	3
SPST:6074	Seminar in Sport History	3

First Field of Concentration

Code	Title	Hours
American Studies Students		
	Courses in an interdisciplinary field with a historical concentration designed with the advisor and approved by the department's Plan of Study Committee	18
Sport Studies Students		
	Courses on sport in cultural and historical contexts selected with the advisor and approved by the department's Plan of Study Committee	18

Second Field of Concentration

Code	Title	Hours
American Studies Students		
	Courses in an interdisciplinary field designed with the advisor and approved by the department's Plan of Study Committee	18
Sport Studies Students		
	Courses in an interdisciplinary field designed with the advisor and approved by the department's Plan of Study Committee; may be a second field in sport studies or a field outside sport studies	18

Research Skills

Code	Title	Hours
All Ph.D. Students		
AMST:7085	Dissertation Writing Workshop (taken three times)	3
Sport Studies Track		
	Students in the sport studies track must take the following:	
SPST:7070	Sport Studies Workshop (taken three times)	3

Additional Requirements

Code	Title	Hours
American Studies and Sport Studies Students		
	Dissertation work (AMST:7090) and electives	21

Admission to Ph.D. Candidacy

Admission to Ph.D. candidacy signifies that the department judges a doctoral student qualified to take the comprehensive examination. Doctoral students advance to Ph.D. candidacy based on a review conducted during their second year in the Ph.D. program (typically during fall semester); the review assesses a student's readiness to complete studies through the comprehensive examination and the dissertation, which is an original work of scholarship. In addition to judging a student's readiness for Ph.D. candidacy, the review provides a progress report on the student's work and a tentative prognosis for future prospects in the field.

Comprehensive Examination

The comprehensive examination comprises three written exams and one oral exam.

The first exam is taken under the supervision of an American studies faculty member, who also chairs the comprehensive examination. The candidate takes a timed, take-home written exam of no less than four hours and no longer than two days. The exam details the candidate's approach to American studies (methods and models), including the student's position and critical engagement with models of American studies scholarship.

The remaining two written exams explore the candidate's major fields; these are at least four hours long and may be given on a take-home basis at the examiner's discretion.

The oral exam covers material from the written exams.

Dissertation

The final requirement for the Ph.D. in American studies is the dissertation, a substantive book-length manuscript that involves interdisciplinary research and analysis and that represents an original contribution to knowledge. All dissertations must be approved by a committee of five faculty members, including at least two from the Department of American Studies.

Internships

Qualified graduate students in American studies can arrange internships with a number of local agencies, including the State Historical Society of Iowa, the Division of Historic Preservation, the University of Iowa Museum of Art, the Iowa Humanities Board, Brucemore, the Herbert Hoover Presidential Library and Museum, and the Putnam Museum. With special permission, candidates conducting research during such on-the-job training may receive academic credit through AMST:7994 Independent Study. Other internships with social agencies, government, or business also may be arranged.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

American studies students' career goals are as varied as the topics they study. Even though the major does not have an explicit vocational goal, graduates are well prepared for careers in a wide range of areas, such as business, education, arts and museum administration, government, journalism, and social services.

The program also provides a good foundation for graduate studies in the humanities, the social sciences, theology, and business as well as for professional studies in law or medicine.

Anthropology

Chair

- James G. Enloe

Director of Graduate Studies

- Matthew E. Hill

Director of Undergraduate Studies

- Margaret Beck

Undergraduate major: anthropology (B.A., B.S.)

Undergraduate minor: anthropology

Graduate degrees: M.A. in anthropology; Ph.D. in anthropology

Faculty: <https://clas.uiowa.edu/anthropology/people/faculty>

Website: <https://clas.uiowa.edu/anthropology/>

Anthropology is the comparative study of peoples and cultures past and present. The discipline's four major subfields—cultural anthropology, biological anthropology, linguistic anthropology, and archaeology—share a holistic, global perspective and commitment to field-based methodologies. Anthropological knowledge constructively contributes these perspectives and methods to work in other social sciences, physical and biological sciences, and the arts and humanities.

Anthropology provides a framework for understanding the relation of human beings to their natural environment and to the social and cultural worlds they create and inhabit. The field provides insight into biological and sociocultural evolution and examines how economic, social, and political processes, symbolic systems, and social structures interact to shape human experience. Fieldwork-based, comparative studies of past and present cultures yield information on regularities and differences, and special insight into the diversity of human creativity and cultural change.

Anthropological training provides skills useful in a variety of careers. The department offers a course, ANTH:3016 Career Paths in Anthropology (1 s.h.), that helps students relate anthropological training to their diverse career goals. As the American Anthropological Association points out, "careful record-keeping, attention to details, analytical reading, and clear thinking are taught by anthropological courses. Social ease in strange situations, critical thinking, and strong skills in oral and written expression are cultivated by anthropological training."

For undergraduates, the department offers five tracks within the major—anthropology for the health professions, culture and heritage management, environmental anthropology, gender and culture, and medical anthropology—for students with specialized interests in these areas.

The Department of Anthropology also offers numerous courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 459] requirements.

At the graduate level, the department grants both M.A. and Ph.D. degrees in anthropology. Most students enter the Ph.D. program, and are awarded an M.A. after fulfilling program requirements at the end of their second year. The department also offers a terminal M.A. degree with a focus on cultural resource management—archaeology (CRM), which provides academic preparation for a professional career in this field. Students work closely with faculty and staff from the Office of the State Archaeologist.

In addition to offering undergraduate and graduate degree programs, the Department of Anthropology administers the University's Museum Studies [p. 746] Program, which offers an undergraduate certificate.

Anthropology GE CLAS Core Courses

The Department of Anthropology offers a number of courses that students may use to satisfy requirements of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. The courses and the GE CLAS Core areas are listed below.

Natural, Quantitative, and Social Sciences

Code	Title	Hours
Natural Sciences		
ANTH:1301	Human Origins	3
Social Sciences		
ANTH:1101	Cultural Anthropology	3
ANTH:1401	Language, Culture, and Communication	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3001	Introduction to Museum Studies	3

Culture, Society, and the Arts

Code	Title	Hours
Diversity and Inclusion		
ANTH:2151	Global Migration in the Contemporary World (GE status effective fall 2018)	3
ANTH:2165	Native Peoples of North America	3
Historical Perspectives		
ANTH:1201	World Archaeology	3
International and Global Issues		
ANTH:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2261	Human Impacts on the Environment	3
Values and Culture		
ANTH:1101	Cultural Anthropology	3
ANTH:2175	Japanese Society and Culture	3

Faculty

Members of the anthropology faculty work within and across the discipline's four subfields, and conduct both localized and multi-sited field research at locations worldwide, including East, South, and Southeast Asia; Europe; southern Africa;

North America (especially the U.S. and Mexico); South America; and the Pacific (especially Hawaii and New Zealand).

Current faculty interests include cultural evolution, cultural politics, environmental anthropology, European archaeology, feminist anthropology and sexuality studies, medical anthropology, paleoanthropology, science and technology studies, and Asian studies. For more detail, visit the Department of Anthropology Faculty web page.

Programs

Undergraduate Programs of Study

Majors

- Major in Anthropology (Bachelor of Arts) [p. 64]
- Major in Anthropology (Bachelor of Science) [p. 70]

Minor

- Minor in Anthropology [p. 78]

Graduate Programs of Study

Majors

- Master of Arts in Anthropology [p. 79]
- Doctor of Philosophy in Anthropology [p. 81]

Resources, Facilities

The department has well-equipped laboratories for the study of archaeology, biological anthropology, computational genetics, evolutionary anthropology, and a state-of-the-art multimedia linguistic anthropology laboratory. Resources include a GIS/quantitative analysis laboratory, ground penetrating radar, and x-ray fluorescence equipment.

Under the direction of University archaeologists, students acquire skills in data recovery and interpretive techniques. Opportunities are available for students to participate in archaeological field research in France, the Netherlands, Portugal, Sicily, the United States Southwest, or at various sites in the United States Midwest. Occasional fieldwork in East and Southeast Asia is available to graduate students in the paleoanthropology research program.

Individual faculty members maintain field laboratories and conduct research outside the United States, maintaining ties with research institutions in foreign countries, including the Laboratoire d'Ethnologie Préhistorique at Pincevent, France; the Centre de Recherches Archéologiques at Verberie, France; Gobabeb Research and Training Center, Namibia; the National Museum of Ethnology, Japan; the Institute of Technology Bandung (ITB), Indonesia; the Gemeente Nijmegen, Bureau Archeologie, Nijmegen, the Netherlands; the Deutsches Archäologisches Institut of Madrid, Spain; and the National University of Singapore, Singapore.

The department has access to the Iowa Archaeological Collections through the Office of the State Archaeologist and maintains its own archaeological collections (midwestern prehistoric and historical and comparative faunal material).

The department maintains a documented human osteology teaching collection amassed by the University of Iowa Carver College of Medicine and the Department of Anatomy and Cell Biology, and it holds a substantial documented human osteology research collection originally from Stanford

University's medical school that is maintained jointly with the Office of the State Archaeologist.

The University is a charter member of the Human Relations Area Files (HRAF), an extensively annotated set of source materials on the peoples of the world—their environments, behavioral patterns, social lives, and cultures. Through HRAF and other library resources, anthropology students have access to source materials on more than 400 different cultures.

The University's exchange programs for Iowa students provide opportunities and some scholarships for study abroad.

Courses

Anthropology Courses

ANTH:1000 First-Year Seminar **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g. films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ANTH:1001 Issues in Anthropology **3 s.h.**

In-depth exploration of methodological and theoretical issues in contemporary anthropology; emphasis on critical reading of primary texts.

ANTH:1040 Language Rights **3 s.h.**

Language minorities and linguistic human rights in the United States and worldwide; language and identity, culture, power; case studies of language rights deprivation. GE: International and Global Issues. Same as LING:1040.

ANTH:1046 Big Ideas: People and the Environment - Technology, Culture, and Social Justice **3 s.h.**

How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as GEOG:1046, GWSS:1046.

ANTH:1061 Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe **4 s.h.**

How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe? These fundamental questions revolve around understanding the origins of life from different perspectives—astronomy and physics, geoscience, biology, chemistry, and anthropology; students will work together with faculty from across four different departments to investigate these questions using inquiry-based activities to build success in critical thinking, teamwork, and effective written and oral communication; second half of the origins sequence (though either course also may be taken alone). GE: Natural Sciences with Lab. Same as ASTR:1061, BIOL:1061, EES:1061.

ANTH:1101 Cultural Anthropology **3 s.h.**

Comparative study of culture, social organization. GE: Social Sciences; Values and Culture. Same as IS:1101.

ANTH:1201 World Archaeology **3 s.h.**

Data, theories of evolution of human cultures from end of Pleistocene to emergence of complex societies; emphasis on prehistoric cultural information from world areas from which relatively complete sequences are available. GE: Historical Perspectives.

ANTH:1301 Human Origins 3 s.h.

Processes, products of human evolution from perspectives of heredity and genetics; evolutionary theory, human biological characteristics, fossil record, artifactual evidence, biocultural behaviors. GE: Natural Sciences without Lab.

ANTH:1310 Human Genetics in the Twenty-First Century 3 s.h.

Organization and inheritance of human genes and genomes; genetic basis of simple and complex traits; genetic aspects of cancer; paleogenomics and tracing human migrations with DNA. GE: Natural Sciences without Lab. Same as BIOL:1311.

ANTH:1401 Language, Culture, and Communication 3 s.h.

Human language in context of animal communication; development, acquisition of language; biological base; language as a linguistic system in cultural social context. GE: Social Sciences.

ANTH:2009 Individual Study 1-3 s.h.

Readings in area or subdivision of anthropology in which student has had basic course work.

ANTH:2100 Anthropology and Contemporary World Problems 3 s.h.

Selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. GE: International and Global Issues; Social Sciences.

ANTH:2102 Anthropology of Marriage and Family 3 s.h.

Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as GWSS:2102.

ANTH:2103 Introduction to Global Health Studies 3 s.h.

Global health as a study of the dynamic relationship between human health and social, biological, and environmental factors that drive the spread of disease; core areas of global health research that may include health inequalities, maternal and child health, infectious diseases, nutrition, environmental health, and health interventions. Same as GHS:2000.

ANTH:2108 Gendering India 3 s.h.

Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as GWSS:2108.

ANTH:2120 Gender and Technology 3 s.h.

Study of the technology field as it relates to gender in global perspective; core topics may include gender and STEM fields, gender in technology workplaces, and gender in the design and use of technological products such as mobile technology, artificial intelligence, and video games. Same as GWSS:2120.

ANTH:2136 Urban Anthropology 3 s.h.

Cross-cultural approach to urban anthropology; urbanizing processes, migration and adaptation, aspects of class and ethnicity in urban settings, urban economic relations. GE: International and Global Issues; Social Sciences.

ANTH:2140 Food, Drink, and Culture 3 s.h.

Passion of food, eating, and drinking in our lives; students are challenged to study eating and drinking in all its variety and importance in different contemporary cultures of the world; exploration of how and why food and drink hold the power to bind people together or to set groups apart, how national cuisines are made, and how people connect food and drink to ritual and health care systems; these topics and many more linked with the study of food and drink production and consumption to examine societal processes, such as the construction of identities and symbolic meanings attached to eating and drinking.

ANTH:2151 Global Migration in the Contemporary World 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as GWSS:2151, IS:2151.

ANTH:2164 Culture and Healing for Future Health Professionals 3 s.h.

Health professions increasingly focused on how to best provide health care to culturally diverse populations; introduction to key cultural and social influences on sickness and healing; worldwide examples. Same as GHS:2164.

ANTH:2165 Native Peoples of North America 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as AMST:2165, NAIS:2165.

ANTH:2175 Japanese Society and Culture 3 s.h.

Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Values and Culture. Same as JPNS:2175.

ANTH:2181 The Anthropology of Aging 3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ASP:2181, GHS:2181.

ANTH:2182 Africa: Health and Society 3 s.h.

Cultural, political, and economic diversity of African societies from precolonial period to present day; relationship between lived experiences of African people and understanding of their societies from afar; why Africa, more than any other region, is associated with warfare, hunger, and disease; idea of "Africa" in the world today; shared misunderstanding of life on continent contrasted with everyday lives of people who are not so different from ourselves. Same as GHS:2182.

ANTH:2190 Love Rules: Law and the Family Across Cultures 3 s.h.

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept; it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as GWSS:2190, IS:2190.

ANTH:2191 Love, Sex, and Money: Sexuality and Exchange Across Cultures 3 s.h.

Everything from pop songs to advertisements warn us of the evils of gold diggers, “blingsexuals,” or “buyfriends”; in America, money is seen to corrupt the purity and authenticity of love and desire, but money also is an inevitable part of sex, love, and intimacy; cross-cultural examination of how relationships between love, money, and sexuality are organized in different places; different ways people form relationships with lovers, spouses, and persons who enable childbearing; rethinking gender roles, work, value, and power. Same as GWSS:2900.

ANTH:2216 Foodways and Cuisine in the Past 3 s.h.

Anthropological and archaeological perspective on cuisine; present-day links between food and culture; past cuisines viewed through written documents and archaeological data; histories of different foods.

ANTH:2220 The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica 3 s.h.

Archaeological data related to the evolution of civilization in Mesoamerica; sequence from hunter-gatherers to A.D. 1519; emphasis on Central Mexico, Maya area, Oaxaca.

ANTH:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

ANTH:2261 Human Impacts on the Environment 3 s.h.

Long-term patterns of human-environment interactions surveyed through archaeological case studies; varied scales of human impacts, including animal extinction, habitat destruction, agricultural practices, urban growth, state-level societies. GE: International and Global Issues; Social Sciences.

ANTH:2265 Tools, Treasures, and Trash: Archaeology of the Material World 3 s.h.

Different ways that archaeologists study material culture to gain insights into human lifeways and beliefs; consideration given to ways that people make objects and objects make people.

ANTH:2290 Practicum in Archaeology arr.

Intensive, hands-on examination of a wide range of materials recently recovered from archaeological sites; pottery, lithics (stone tools and related items), plant remains, animal bones; for students with strong archaeological interests or archaeological field experience.

ANTH:2320 Origins of Human Infectious Disease 3 s.h.

Origin and evolution of important infectious diseases in human history; biological evolution of infectious agents and biocultural responses to emerging infectious diseases; primary focus on viruses and bacteria; selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. Same as GHS:2320.

ANTH:2390 Laboratory Methods in Biological Anthropology arr.

Specimen preparation, cataloging, moulding and casting, photography, computer analyses, library research.

ANTH:3001 Introduction to Museum Studies 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as EDTL:3001, MUSM:3001, SIED:3001.

ANTH:3005 Special Topics in Anthropology 2-3 s.h.

Problems, concepts involved in comparing and contrasting behavior and ideas of different cultures.

ANTH:3010 Special Topics in Anthropology 2-3 s.h.

Problems, concepts involved in comparing and contrasting behavior and ideas of different cultures.

ANTH:3015 Independent Study arr.**ANTH:3016 Career Paths in Anthropology** 1 s.h.

Exploration of careers and best ways to pursue career goals; students identify careers related to their skills and interests, and learn to create job application materials; activity-based. Requirements: anthropology major or minor.

ANTH:3101 Anthropology of Sexuality 3 s.h.

Practice, definition, and regulation of sex in different cultures and times; use of anthropological tools, including cross-cultural comparison and social constructionist analysis; how social and historical forces shape sex; how a range of topics relate to sexuality, including science, love, work, globalization, ethnicity, health, aging, pornography, and deviance; focus on ways that dynamics (i.e., class, race, gender norms) shape people's culturally and historically specific ways of having and thinking about sex. Same as GWSS:3101.

ANTH:3102 Medical Anthropology 3 s.h.

Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: ANTH:1101 or ANTH:2100. Same as CBH:3102, GHS:3102.

ANTH:3103 Environment and Culture 3 s.h.

Individual and group responses to scarcities of natural resources such as land, water, food.

ANTH:3107 Literature and Anthropology 3 s.h.

Topics vary. Same as CL:3107, ENGL:3107.

ANTH:3109 Culture, Mind, and Mental Health 3 s.h.

Cultural diversity in constructions of self, mind, and emotion; religious experience, altered states of consciousness, behavioral disorders. Prerequisites: ANTH:1101.

ANTH:3110 Health of Indigenous Peoples 3 s.h.

Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101. Same as GHS:3110, NAIS:3110.

ANTH:3111 Health in Mexico 3 s.h.

Use of anthropological perspectives to examine disease, healing systems, and ideas about health and the body in Mexico and its diaspora; relationships between structural conditions and historical and political transformations; ideas about gender and race; chronic and acute disease in Mexico; conquest and disease; racialized bodies; sexual health; biomedicine; shamanism; immigration and health; pollution and narcoviolence; readings in English. Same as GHS:3040, LAS:3111.

ANTH:3113 Religion and Healing 3 s.h.

Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ASIA:3561, GHS:3113, RELS:3580.

ANTH:3114 Anthropology of Religion 3 s.h.

Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as RELS:3714.

ANTH:3116 Fictionalized Ethnography in Literature and Film 3 s.h.

Evaluation of fictional narratives as sources of ethnographic information, instructive and revealing depictions of other societies and cultures; culturally specific themes through storylines, creative works as cultural artifacts in presentations of differing perspectives and concerns from the authors' personal experiences.

ANTH:3117 Using Ethnographic Methods 3 s.h.

Ethnography, holistic, qualitative research in cultural context for anthropological and related research and careers involving interpersonal interaction; multiple ethnographic methods and their rationales. Recommendations: desire to interact with others, and prior course work in fields that employ ethnographic or qualitative research (social sciences, social work, nursing, public health).

ANTH:3118 Politics of Reproduction 3 s.h.

Debates over women's reproductive experience, including its medicalization. Same as GWSS:3118.

ANTH:3121 Love, Marriage, and Family in India 3 s.h.

Anthropological understandings of love in India and the region of South Asia more broadly; emphasis on contemporary society; filial and motherly love, arranged marriage and romantic love, devotional and artistic expressions, love between siblings. Same as GWSS:3121.

ANTH:3123 Making a Living: Perspectives on Economic Anthropology 3 s.h.

How different cultures and societies have organized allocation of work and goods; critical reflection of ongoing integration of world's societies into global market system; how it has become commonplace in the U.S. to believe that unemployment and debt are natural, inevitable aspects of human social organization during contemporary era; different approaches to division of work and resources among various groups of people in other societies; different approaches to dividing up society or world resources based on existing socioeconomic models.

ANTH:3125 Transnational Feminism 3 s.h.

Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as GWSS:3350, IS:3350.

ANTH:3127 Anthropology of Death 3 s.h.

How anthropologists and archaeologists study death, dying, mortuary rituals, and notions of the afterlife in contemporary North America and in different places and times. Prerequisites: ANTH:1201 or ANTH:1101. Requirements: ANTH:1101 or ANTH:1201 or graduate standing.

ANTH:3131 Anthropology and Human Rights 3 s.h.

Complex history and evolving relationship of anthropology and international human rights discourses; concept deployment of culture and rights in human rights ideas, practice, discourse, and as a form of global law. Prerequisites: ANTH:1101 or ANTH:1301 or ANTH:1401 or ANTH:1201.

ANTH:3133 Anthropology of Race 3 s.h.

Anthropological perspectives on race: history of race in anthropology; social, cultural, and political dimensions of race; intersections with gender; biology of human diversity. Recommendations: introductory course in social sciences.

ANTH:3142 American Cultures 3 s.h.

How anthropology has understood the diversity of non-indigenous cultures in the United States; history of anthropological engagement with the United States; racial/ethnic formations, immigration, class variations, health, sexuality, and gender. Prerequisites: ANTH:1101.

ANTH:3151 The Anthropology of the Beginnings and Ends of Life 3 s.h.

Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ASP:3151, GHS:3151.

ANTH:3152 Anthropology of Caregiving and Health 3 s.h.

Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ASP:3152, GHS:3152.

ANTH:3170 Peoples and Cultures of Southeast Asia 3 s.h.

Introduction to the study of the peoples and cultures of contemporary Southeast Asia, including Indonesia, Thailand, Malaysia, Singapore, Vietnam, the Philippines, Brunei, Cambodia, Laos, Burma/Myanmar, and East Timor.

ANTH:3171 Voices of Islam in Southeast Asia 3 s.h.

Islam and being Muslim in Southeast Asia; exploration of how different national cultures and sociopolitical trajectories in the region have produced different perceptions and practices of Islam.

ANTH:3180 Applied Anthropology 3 s.h.

Applied anthropology as a way to apply training in anthropology to careers outside academia; careers and methods may include archaeology, museum studies, biological anthropology and forensics, foreign language expertise, government, nonprofit and nongovernmental organization (NGO), business, design, and technology.

ANTH:3204 Food in Ancient Mediterranean Society**3 s.h.**

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as CLSA:3836, HIST:3436.

ANTH:3207 Animal Bones in Archaeology**3 s.h.**

Use of faunal material in interpretation of archaeological remains, including skeletal anatomy, identification, taphonomy, determination of age and sex, seasonality, quantification, sampling, breakage and cutmarks, interpretations; laboratory sessions. Prerequisites: ANTH:1201.

ANTH:3208 Archaeological Methods**3 s.h.**

Current theoretical approaches, methods used to investigate the past; site formation processes, taphonomy, sampling and research design, typology and seriation, subsistence-settlement reconstruction, cultural evolution. Prerequisites: ANTH:1201.

ANTH:3237 Politics of the Archaeological Past**3 s.h.**

How control over management of material remains of the ancient past, and representations of that past, intersect with the identity of diverse groups, including archaeologists, indigenous peoples, national governments, collectors, ethnic minorities and majorities, museum curators; struggles for control of the archaeological past at different scales (artifacts, skeletal remains, sites, imagery, narratives) and in different regions of the world. Same as MUSM:3237.

ANTH:3238 Archaeology of the Iberian Peninsula**3 s.h.**

Introduction to archaeology of the Iberian Peninsula, from earliest human occupation through period of Romanization.

ANTH:3239 The Archaeology of the First Europeans**3 s.h.**

Archaeology of European societies between the Mesolithic and Iron Age; how ideas about Europe's prehistoric past have been used for political purposes.

ANTH:3240 Cultural Resources Management Archaeology: Practice and Practicalities**3 s.h.**

Cultural Resources Management (CRM) archaeology as the largest sector of archaeological research in the United States in terms of employment, funding, field- and lab-related activity; students investigate the past and navigate complexities of compliance requirements from federal, state, and local regulations concerning historic preservation; introduction to legal, procedural, and practical foundations of CRM archaeology; preparation for employment by acquisition of skills from project planning through dissemination of results. Prerequisites: ANTH:1201. Recommendations: completion of other anthropology, geography, history, or Native American studies courses.

ANTH:3241 Lithic Analysis in Archaeology**3 s.h.**

Archaeological issues examined and addressed with lithic data; use of lithic data to study the past, specific techniques applied. Prerequisites: ANTH:1201.

ANTH:3243 Archaeology of the American Midcontinent**3 s.h.**

Survey of the archaeology of the American midcontinent for students interested in the past beyond what historical documents reveal; exploration of Late Pleistocene and Archaic hunter-gatherer adaptations, Woodland and Late Prehistoric horticulturalists, Middle and Upper Mississippian emergent chiefdoms, and historic period first contact, fur trade, and fort sites; how archaeologists utilize regional archaeological data in addressing culture change issues to develop the essential grounding for understanding how people lived in different times and places in the past, and how prehistoric peoples relate to their modern descendants across the midcontinent. Recommendations: ANTH:1201.

ANTH:3255 Introduction to Archaeological Ceramics**3 s.h.**

Basic analytical techniques for archaeological ceramics, applied primarily to ceramics from midwestern and western North America; raw materials, manufacture, decoration and style, craft specialization, use, and discard. Prerequisites: ANTH:1201.

ANTH:3257 North American Archaeology**3 s.h.**

Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as NAIS:3257.

ANTH:3258 Southwestern Archaeology**3 s.h.**

Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as NAIS:3258.

ANTH:3260 Pleistocene Peopling of the Americas**3 s.h.**

Major themes in earliest human settlement of the Americas, including human mobility, subsistence, technology, human impacts on the environment.

ANTH:3261 Our Life With Dogs: The Anthropological Study of Animals in Human Societies**3 s.h.**

Intricate connections between dogs and our social, economic, political, and spiritual lives; human relationships with dogs that extend back at least 16,000 years; process of dog domestication; roles dogs play in human ideology and past economies; modern interactions with dogs.

ANTH:3265 Archaeology of the Great Plains**3 s.h.**

Contrasting lifeways, diets, and technologies that humans used to survive on North America's Great Plains, from Ice Age hunter-gatherers to Euroamerican homesteaders.

ANTH:3275 The Archaeology of Ancient Egypt**3 s.h.**

Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Same as CLSA:3596.

ANTH:3276 Greek Archaeology and Ethnohistory**3 s.h.**

Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Same as CLSA:3235.

ANTH:3277 Roman Archaeology**3 s.h.**

Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman empire in the West, A.D. 476. Same as CLSA:3240.

ANTH:3278 Archaeology of Ancient Cities 3 s.h.

Archaeological exploration of ancient world cities; physical plant, social institutions, regional context, cultural influence; major cities considered include Uruk, Luxor, Athens, Rome, Alexandria, Kyongju, Loyang, Teotihuacan, and Tenochtitlan.

ANTH:3295 Field Research in Archaeology arr.

Beginning skills in site surveying and excavation, lab work, record keeping at nearby prehistoric sites.

ANTH:3300 Mothers and Motherhood 3 s.h.

Treatment of motherhood; role of motherhood and devaluation of social status. Same as GWSS:3300.

ANTH:3305 Human Osteology 3 s.h.

The human skeletal system; normal and pathologic variation; skeletal measurement and analysis with application to paleoanthropology, forensic, and archaeological investigations.

ANTH:3306 The Neanderthal Enigma 3 s.h.

Survey of Neanderthals as the most widely known, yet enigmatic, fossil human lineage; history of discoveries; current interpretations of Neanderthal's origins, anatomy and behavior, relationship to today's people, extinction.

ANTH:3307 Modern Human Origins 3 s.h.

Current data and theories regarding the emergence of Homo sapiens; how human anatomical modernity is defined and recognized in the fossil record; competing models for modern humans' emergence—multiregional evolution, out of Africa, the assimilation model; interpretation of recent developments and discoveries in the human fossil record; contemporary contributions from genetics, developmental biology, evolutionary ecology, paleodemography.

ANTH:3308 Human Variation 3 s.h.

Range and patterning of biological diversity in contemporary human populations; past and present attempts to organize and explain human genetic, morphological variation in light of recent data, theory.

ANTH:3310 Primate Behavior: Sex Lives of Apes and Monkeys 3 s.h.

Behavior, mating systems, sexual selection, and systematics of living nonhuman primates; emphasis on sexual strategies and interactions of free-ranging primates as related to ecological constraints and conservation policies.

ANTH:3325 Human Evolutionary Genetics 3 s.h.

Application of molecular methods and theory to biological anthropology; how recent advances in genetics have provided insight into the evolution of human and nonhuman primates. Prerequisites: ANTH:1301.

ANTH:3327 Genes, Culture, and Human Diversity 3 s.h.

New perspectives in evolutionary theory on the origin of human biology and cultural diversity; principles borrowed from evolutionary thinking that provide insight into how cultures change, basis of human institutions, and gene-culture coevolution.

ANTH:3328 Molecular Genetics of Human Disease 3 s.h.

Disease as an unfortunate, but unavoidable, aspect of human condition; genetic nature of disease that reveals origins of inherited disease; variation of disease across the globe. Recommendations: biology or genetics course to provide substantial background knowledge.

ANTH:4130 Religion and Environmental Ethics 3 s.h.

How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as RELS:4730.

ANTH:4140 Feminist Activism and Global Health 3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101. Same as CBH:4140, GHS:4140, GWSS:4140.

ANTH:4315 Human Evolutionary Anatomy 3 s.h.

Interpretation of skeletal remains as the basis for reconstructing forms, adaptations, lifestyles of prehistoric humans; body size, musculature, stance, activity patterns, brain size, and sexual dimorphism. Prerequisites: ANTH:3305.

ANTH:4620 Approaches to Geoarchaeology 3 s.h.

Geoarchaeology as multidisciplinary contextual framework for human paleoecology; natural processes that create the archaeological record, approaches to reconstructing landscapes of the past as a context for archaeological deposits; weekend field trip. Prerequisites: EES:3360 or EES:4720. Same as EES:4620.

ANTH:4700 Latin American Studies Seminar 3 s.h.

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as CL:4700, HIST:4504, LAS:4700, PORT:4700, SPAN:4900.

ANTH:4995 Honors Research Seminar 2-4 s.h.

Preparation for writing honors thesis, including project conception and research, proposal writing, oral and written presentations of student research. Corequisites: ANTH:4996, if not taken as a prerequisite. Requirements: honors standing in anthropology.

ANTH:4996 Honors Research 2-4 s.h.

Project chosen in consultation with honors advisor.

ANTH:5001 Graduate Teaching Proseminar 1 s.h.

Graduate student teaching skills: developing course guidelines, leading discussion, grading, review sessions, dealing with problem students and complaints; development of syllabi and teaching portfolios; mentoring of less-experienced teaching assistants.

ANTH:5101 Seminar Sociocultural Anthropology 3 s.h.

Social institutions in the world's societies; problems in theory, method, interpretation. Requirements: graduate standing or undergraduate anthropology honors standing.

ANTH:5110 Anthropological Data Analysis 3 s.h.

Applied statistics for quantitative analysis of anthropological data, including field notes, library materials, and archaeological information; introduction to elementary statistics and computational methods; discussion of hypothesis testing and correlation; emphasis on proper use and interpretation of statistical methods in anthropological research.

ANTH:5120 Reading Transnational Feminist Theory 3 s.h.

Issues in transnational feminist scholarship, including colonialism, globalization, the nation-state, religion, cultural traditions, and human rights, in global and U.S. domestic contexts; interdisciplinary readings with focus on anthropology, other social sciences. Same as GWSS:5120.

ANTH:5130 Food, Culture, and Social Theory 3 s.h.
Comparative and ethnographic approach to study of food and eating; intersections between social roles and meanings of food, political economies of food, and impact of food on bodies and well-being.

ANTH:5135 Space, Place, and Identity 3 s.h.
Draws on insights from ethnographic inquiry to challenge accepted definitions of space, place, and identity to broaden our understanding of how we are shaping our world.

ANTH:5201 Seminar: Archaeological Theory and Method 3 s.h.
Development, current status of theory, method in Americanist archaeology. Requirements: graduate standing or undergraduate anthropology honors standing.

ANTH:5301 Seminar: Biological Anthropology 3 s.h.
Physical anthropology, including heredity and genetics, evolutionary theory, human biological characteristics, primate and human fossil record, primate behavior and ecology, human adaptations. Requirements: graduate standing or undergraduate anthropology honors standing.

ANTH:5401 Seminar: Linguistic Anthropology 3 s.h.
Fundamental concepts and methods employed in the anthropological study of language; principal areas of current research. Requirements: graduate standing or undergraduate anthropology honors standing.

ANTH:6005 Independent Study: Anthropology arr.

ANTH:6010 Research: Anthropology arr.

ANTH:6015 Thesis arr.

ANTH:6020 Seminar: Advanced Theory in Anthropology 3 s.h.
Opportunity to engage with advanced readings in anthropology; students enrich their theoretical training beyond the level provided in core/introductory graduate seminars in each subfield; topics and subfields vary. Recommendations: M.A. or Ph.D. standing, and previous graduate-level course work in anthropology.

ANTH:6115 Ethnographic Field Methods 3 s.h.
Basic data-gathering techniques for field research in sociocultural anthropology. Same as CBH:6115.

ANTH:6125 Seminar: Feminist Ethnography 3 s.h.
Feminist critiques of traditional ethnographies; informed by contemporary feminisms. Same as GWSS:6125.

ANTH:6410 Seminar: Semiotics 3 s.h.
Piercian semiotic and Saussurean semiological conceptual frameworks; focus on anthropological, linguistic issues.

ANTH:6415 Seminar: Language, Gender, and Sexuality 3 s.h.
Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as GWSS:6415, LING:6415.

ANTH:6625 Seminar: Religion and Health 3 s.h.
Examination of global perspectives on relationships between religion, health, disease, living well, and dying. Same as GHS:6625, RELS:6625.

ANTH:6635 Crossing Borders Seminar 2-3 s.h.
Same as AFAM:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

ANTH:7110 Research Design and Proposal Writing 3 s.h.
Anthropological research design; preparation of proposals for fieldwork or laboratory analysis.

ANTH:7270 Responsible Conduct of Research in Anthropology 1 s.h.
Up-to-date documents in all subfields of anthropology regarding ethical research; CITI certification (which also qualifies as part of IRB application); key debates and current problems faced by anthropology in area of ethical and responsible research.

ANTH:7501 Dissertation Writing Seminar 1 s.h.
Organization of dissertation, setting and meeting deadlines, writing a chapter, and workshopping drafts; seminar group work and consultation with advisors; completion and revision of at least one dissertation chapter; for anthropology graduate students who are beginning, or about to begin, their dissertation writing process. Requirements: anthropology graduate student who passed comprehensive exams (prospectus and essays).

Anthropology, B.A.

Learning Outcomes

Students should be able to:

- describe a broad range of changing and diverse human experiences and activities across time and space;
- relate one's cultural background, including the social constructs of race, gender and other categories of inequality, to one's perceptions and experiences;
- understand the evolutionary perspective as it applies to primates, including human origins, behavior, ecology, and biocultural variation;
- apply anthropological research tools from the four fields of anthropology—linguistic anthropology, biological anthropology, archaeology, and sociocultural anthropology—to collect and interpret data; and
- effectively communicate anthropological concepts and findings in speech and writing.

Requirements

The Bachelor of Arts with a major in anthropology requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major.

Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Anthropology courses that fulfill GE CLAS Core requirements are located under "Anthropology GE CLAS Core Courses" in the Department of Anthropology [p. 56] section of the Catalog.

The B.A. is designed to offer a comprehensive overview of anthropology's four main subfields and the broadest possible cross-cultural background.

Students may choose to complete one of four specialized tracks: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. See "Optional Undergraduate Tracks" below.

Undergraduates majoring in anthropology, including transfer students, must earn a minimum of 15 s.h. for the major at the University of Iowa. Students may apply credit earned at approved field schools offered by other institutions toward the major, with Department of Anthropology approval.

Students who declare anthropology as their major when they are admitted to the College of Liberal Arts and Sciences are advised at the Academic Advising Center until they have earned 24 s.h. Students who have earned more than 24 s.h. are advised by the departmental undergraduate advisor.

The B.A. with a major in anthropology requires the following course work.

Code	Title	Hours
	Common Requirements	24
	Electives	9
	Optional Track	
	Total Hours	33

Common Requirements

Students must complete 11 courses from the lists below: five introductory courses, one course in archaeology or biological anthropology, one course in sociocultural or linguistic

anthropology, one course in area studies, and a minimum of 9 s.h. in elective anthropology (prefix ANTH) courses numbered 2000 or above. Several courses are listed in more than one of these categories; students may not select the same course to fulfill requirements in more than one category.

Introductory Courses

Code	Title	Hours
All of these:		
ANTH:1001	Issues in Anthropology	3
ANTH:1101	Cultural Anthropology	3
ANTH:1201	World Archaeology	3
ANTH:1301	Human Origins	3
ANTH:1401	Language, Culture, and Communication	3

Archaeology or Biological Anthropology (Area or Topical)

Code	Title	Hours
One of these:		
ANTH:2216	Foodways and Cuisine in the Past	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:2390	Laboratory Methods in Biological Anthropology	arr.
ANTH:3204	Food in Ancient Mediterranean Society	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3

ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:3295	Field Research in Archaeology	arr.
ANTH:3305	Human Osteology	3
ANTH:3306	The Neanderthal Enigma	3
ANTH:3307	Modern Human Origins	3
ANTH:3308	Human Variation	3
ANTH:3310	Primate Behavior: Sex Lives of Apes and Monkeys	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4315	Human Evolutionary Anatomy	3
ANTH:4620	Approaches to Geoarchaeology	3

Sociocultural or Linguistic Anthropology

Code	Title	Hours
One of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2136	Urban Anthropology	3
ANTH:2140	Food, Drink, and Culture	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2164	Culture and Healing for Future Health Professionals	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3102	Medical Anthropology	3
ANTH:3103	Environment and Culture	3
ANTH:3107	Literature and Anthropology	3

ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Health of Indigenous Peoples	3
ANTH:3111	Health in Mexico	3
ANTH:3113	Religion and Healing	3
ANTH:3114	Anthropology of Religion	3
ANTH:3116	Fictionalized Ethnography in Literature and Film	3
ANTH:3117	Using Ethnographic Methods	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3125	Transnational Feminism	3
ANTH:3127	Anthropology of Death	3
ANTH:3131	Anthropology and Human Rights	3
ANTH:3133	Anthropology of Race	3
ANTH:3142	American Cultures	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3170	Peoples and Cultures of Southeast Asia	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3180	Applied Anthropology	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4130	Religion and Environmental Ethics	3
ANTH:4140	Feminist Activism and Global Health	3

Area Studies

Code	Title	Hours
One of these:		
ANTH:2108	Gendering India	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2182	Africa: Health and Society	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3111	Health in Mexico	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3142	American Cultures	3
ANTH:3170	Peoples and Cultures of Southeast Asia	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3

ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3277	Roman Archaeology	3
ANTH:3306	The Neanderthal Enigma	3
ANTH:4700	Latin American Studies Seminar	3

Electives

Anthropology electives offer many options, including courses dealing with environment and culture, expressive culture (art, verbal arts, literature, music, and dance), gender and sexuality, human evolution, human osteology, human prehistory, identity, language and culture, medical anthropology, molecular genetics, primatology, psychological anthropology, religion and ritual, and urban anthropology. Department faculty members offer area studies courses that focus on Latin America, Europe, Japan, South Asia, and Native North America.

Code	Title	Hours
A minimum of 9 s.h. in elective anthropology courses (prefix ANTH) numbered 2000 or above		

Additional Requirements

Students are strongly encouraged to take courses and participate in archaeological field and laboratory research, biological anthropology laboratory research, ethnographic research methods in sociocultural anthropology, and multimedia research in linguistic anthropology.

Optional Undergraduate Tracks

Students have the option of adding a particular focus to their study plan by completing a specialized track. They may choose one of four options: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology.

The optional tracks reflect broad issues bridging subfields in and outside of anthropology. Completion of a track indicates the acquisition of considerable expertise and is noted on a student's transcript.

The optional tracks each require 15 s.h. (five courses). By selecting courses carefully, students majoring in anthropology can complete a specialization track without adding to the semester hours required for graduation.

Gender and Culture Track

Anthropological research regarding gender and sexuality has grown dramatically in recent years, enhancing and drawing from other theoretical and methodological approaches in anthropology. This research contributes a cross-cultural perspective to discussion surrounding these fundamental aspects of human experience, both in academia and in public life.

The gender and culture track requires 15 s.h. (five courses) chosen from the following list. Each course provides an integrated overview of essential theoretical and topical issues in the field.

Code	Title	Hours
Five of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3125	Transnational Feminism	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4140	Feminist Activism and Global Health	3

Cultural Resource and Heritage Management Track

In North America and throughout much of the rest of the world, modern land use continually threatens evidence of past land use. Most archaeological excavations are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who choose this emphasis learn about the field and about how to address related ethical issues as well as technical and theoretical challenges.

The cultural resource and heritage management track requires 15 s.h. (five courses): a fundamental overview course, two area electives, a technical/practical elective, and a field school course. Students may use some of these courses to satisfy requirements for the major, such as the course in archaeology and the electives.

Overview

Code	Title	Hours
This course:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3

Area Electives

Code	Title	Hours
Two of these (or one of these and one other Department of Anthropology area course):		
ANTH:2165	Native Peoples of North America	3
ANTH:3243	Archaeology of the American Midcontinent	3

ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

Technical/Practical Elective

Code	Title	Hours
One of these:		
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3305	Human Osteology	3
ANTH:4620	Approaches to Geoarchaeology	3

Field School

Code	Title	Hours
One of these:		
ANTH:3295	Field Research in Archaeology	arr.

An equivalent course from another university

Environmental Anthropology Track

The interaction between humans and the environments they inhabit has long been a central issue in anthropology, and environmental degradation is a worldwide concern today. Pollution, loss of biodiversity, and global warming recognize no political boundaries, but attitudes and behaviors involving the natural environment vary widely from culture to culture. The understanding and incorporation of these varied perspectives are vital to the development and successful use of workable solutions.

The environmental anthropology track requires 15 s.h. (five courses): two theory courses, which deal primarily with human-environmental interactions; and three area or topical electives, which deal in part with environment, ecology, and subsistence technologies. The following are sample courses in each area (courses must be numbered 2000 or above).

Theory Courses

Code	Title	Hours
Two of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130	Religion and Environmental Ethics	3

Area or Topical Electives

Code	Title	Hours
Three of these:		
ANTH:2140	Food, Drink, and Culture	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2216	Foodways and Cuisine in the Past	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:4130	Religion and Environmental Ethics	3
ANTH:4620	Approaches to Geoarchaeology	3

Medical Anthropology Track

Human experiences of sickness and suffering are universal yet profoundly shaped by cultural and historical contexts. Medical anthropology explores cultural and biological diversity in sickness, health, and healing through approaches that include examining individual experiences of disrupted well-being, considering how biological and cultural factors interact to promote health or produce sickness, analyzing political-economic causes of health inequalities, and applying research to improve health research and services in an increasingly global world. Course work in medical anthropology helps students prepare for a range of health professions and social services careers and for work in diverse settings that increasingly include nongovernmental organizations devoted to improving health.

The medical anthropology track requires 15 s.h. (five courses): one overview course and four electives that focus on particular topics.

Overview

Code	Title	Hours
This course:		
ANTH:3102	Medical Anthropology	3

Electives

Code	Title	Hours
Four of these:		
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2164	Culture and Healing for Future Health Professionals	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Health of Indigenous Peoples	3
ANTH:3111	Health in Mexico	3
ANTH:3113	Religion and Healing	3
ANTH:3118	Politics of Reproduction	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4140	Feminist Activism and Global Health	3

Teacher Licensure

Anthropology majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students majoring in anthropology have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 in anthropology course work. They must conduct an independent research project that culminates in a 30-50 page thesis. The project includes completion of 6 s.h. divided between ANTH:4995 Honors Research Seminar (offered only in fall semesters) and ANTH:4996 Honors Research, typically taken the next

semester. Honors students also must take one of their anthropology courses at the graduate level.

Contact the department's director of undergraduate studies to learn more about honors in anthropology.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the anthropology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least two courses in the major

Before the seventh semester begins: at least seven courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least eight courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Anthropology, B.A.

Course	Title	Hours
First Year		
Fall		
ANTH:1101	Cultural Anthropology ^{a, b}	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
CSI:1600	Success at Iowa	2
Hours		15-17

Spring

ANTH:1301	Human Origins ^{a, b}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5

Elective course ^d	3
Hours	16-18

Second Year**Fall**

ANTH:1201	World Archaeology ^{a, b}	3
ANTH:1401	Language, Culture, and Communication ^{a, b}	3
GE CLAS Core: Natural Sciences with Lab ^e		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2
Hours		16-17

Spring

ANTH:1001	Issues in Anthropology	3
Major: upper-level anthropology course/track course ^f		3
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-17

Third Year**Fall**

Major: upper-level anthropology course/track course ^f		3
GE CLAS Core: International and Global Issues ^e		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: upper-level anthropology course/track course ^f		3
GE CLAS Core: Values and Culture ^e		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Fourth Year**Fall**

Major: upper-level anthropology course/track course ^f		3
Major: upper-level anthropology course/track course ^f		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: upper-level anthropology course/track course ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Elective course ^d		3
Elective course ^d		3

Elective course ^d	3
Hours	15
Total Hours	123-129

- a Students may only use three ANTH courses to satisfy GE CLAS Core requirements.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students have the option to choose one of four tracks in the major: medical anthropology; cultural resource and heritage management; gender and culture; or environmental anthropology. Courses must be numbered 2000 or above.

Career Advancement

The major in anthropology prepares individuals for advanced training or careers in anthropology, allied fields, and professional programs. Students who complete an anthropology major gain special understanding of human relations and expertise for jobs involving international or cross-cultural work, cultural resource management, and in responding to social and ethnic diversity, whether in the United States or globally.

Upon graduation, anthropology majors embark on careers in government, international affairs, conservation, economic development, public health, cultural resource management, urban and regional planning, social work, museum work, and education. Many go on to help resolve contemporary world problems by working with international or domestic organizations such as AmeriCorps, the Peace Corps, and Teach for America. Some pursue graduate study in anthropology or related social and natural sciences, while others earn degrees in business, law, or the health professions.

Students may enroll in ANTH:3016 Career Paths in Anthropology to learn about working in a variety of anthropology-related fields.

The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

Anthropology, B.S.

Learning Outcomes

Students should be able to:

- describe a broad range of changing and diverse human experiences and activities across time and space;
- relate one's cultural background, including the social constructs of race, gender and other categories of inequality, to one's perceptions and experiences;
- understand the evolutionary perspective as it applies to primates, including human origins, behavior, ecology, and biocultural variation;
- apply anthropological research tools from the four fields of anthropology—linguistic anthropology, biological anthropology, archaeology, and sociocultural anthropology—to collect and interpret data; and
- effectively communicate anthropological concepts and findings in speech and writing.

Requirements

The Bachelor of Science with a major in anthropology requires a minimum of 120 s.h., including a minimum of 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major.

Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Anthropology courses that fulfill GE CLAS Core requirements are located under "Anthropology GE CLAS Core Courses" in the Department of Anthropology [p. 56] section of the Catalog.

The B.S. is appropriate for students with interests in any of anthropology's subfields; it offers enhanced opportunities to gain experience and develop skills in research methods and scientific reasoning.

Students may choose to complete one of four specialized tracks: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. Students also have the option of completing a track in anthropology for the health professions. See "Optional Undergraduate Tracks" below.

Undergraduates majoring in anthropology, including transfer students, must earn a minimum of 15 s.h. for the major at the University of Iowa. Students may apply credit earned at approved field schools offered by other institutions toward the major, with Department of Anthropology approval.

Students who declare anthropology as their major when they are admitted to the College of Liberal Arts and Sciences are advised at the Academic Advising Center until they have earned 24 s.h. Students who have earned more than 24 s.h. are advised by the departmental undergraduate advisor.

The B.S. with a major in anthropology requires the following course work.

Code	Title	Hours
	Common Requirements	24
	Electives	9
	Quantitative, Mathematical, or Formal Reasoning Tool	3-4
	Directed Laboratory or Field Research	3
	Allied Topical Field	

Optional Track

Total Hours

39-40

Common Requirements

Students must complete 11 courses from the lists below: five introductory courses, one course in archaeology or biological anthropology, one course in sociocultural or linguistic anthropology, one course in area studies, and a minimum of 9 s.h. of elective anthropology courses (prefix ANTH) numbered 2000 or above. Several courses are listed in more than one of these categories; students may not select the same course to fulfill requirements in more than one category.

Introductory Courses

Code	Title	Hours
All of these:		
ANTH:1001	Issues in Anthropology	3
ANTH:1101	Cultural Anthropology	3
ANTH:1201	World Archaeology	3
ANTH:1301	Human Origins	3
ANTH:1401	Language, Culture, and Communication	3

Archaeology or Biological Anthropology (Area or Topical)

Code	Title	Hours
One of these:		
ANTH:2216	Foodways and Cuisine in the Past	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:2390	Laboratory Methods in Biological Anthropology	arr.
ANTH:3204	Food in Ancient Mediterranean Society	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3243	Archaeology of the American Midcontinent	3

ANTH:3255	Introduction to Archaeological Ceramics	3	ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:3257	North American Archaeology	3	ANTH:3101	Anthropology of Sexuality	3
ANTH:3258	Southwestern Archaeology	3	ANTH:3102	Medical Anthropology	3
ANTH:3260	Pleistocene Peopling of the Americas	3	ANTH:3103	Environment and Culture	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3	ANTH:3107	Literature and Anthropology	3
ANTH:3265	Archaeology of the Great Plains	3	ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3275	The Archaeology of Ancient Egypt	3	ANTH:3110	Health of Indigenous Peoples	3
ANTH:3276	Greek Archaeology and Ethnohistory	3	ANTH:3111	Health in Mexico	3
ANTH:3277	Roman Archaeology	3	ANTH:3113	Religion and Healing	3
ANTH:3278	Archaeology of Ancient Cities	3	ANTH:3114	Anthropology of Religion	3
ANTH:3295	Field Research in Archaeology	arr.	ANTH:3116	Fictionalized Ethnography in Literature and Film	3
ANTH:3305	Human Osteology	3	ANTH:3117	Using Ethnographic Methods	3
ANTH:3306	The Neanderthal Enigma	3	ANTH:3118	Politics of Reproduction	3
ANTH:3307	Modern Human Origins	3	ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3308	Human Variation	3	ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3310	Primate Behavior: Sex Lives of Apes and Monkeys	3	ANTH:3125	Transnational Feminism	3
ANTH:3325	Human Evolutionary Genetics	3	ANTH:3127	Anthropology of Death	3
ANTH:3327	Genes, Culture, and Human Diversity	3	ANTH:3131	Anthropology and Human Rights	3
ANTH:3328	Molecular Genetics of Human Disease	3	ANTH:3133	Anthropology of Race	3
ANTH:4315	Human Evolutionary Anatomy	3	ANTH:3142	American Cultures	3
ANTH:4620	Approaches to Geoarchaeology	3	ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
			ANTH:3152	Anthropology of Caregiving and Health	3
			ANTH:3170	Peoples and Cultures of Southeast Asia	3
			ANTH:3171	Voices of Islam in Southeast Asia	3
			ANTH:3180	Applied Anthropology	3
			ANTH:3300	Mothers and Motherhood	3
			ANTH:4130	Religion and Environmental Ethics	3
			ANTH:4140	Feminist Activism and Global Health	3

Sociocultural or Linguistic Anthropology

Code	Title	Hours
One of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2136	Urban Anthropology	3
ANTH:2140	Food, Drink, and Culture	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2164	Culture and Healing for Future Health Professionals	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3

Area Studies

Code	Title	Hours
One of these:		
ANTH:2108	Gendering India	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2182	Africa: Health and Society	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3111	Health in Mexico	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3142	American Cultures	3
ANTH:3170	Peoples and Cultures of Southeast Asia	3

ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3277	Roman Archaeology	3
ANTH:3306	The Neanderthal Enigma	3
ANTH:4700	Latin American Studies Seminar	3

Electives

Anthropology electives offer many options, including courses dealing with environment and culture, expressive culture (art, verbal arts, literature, music, and dance), gender and sexuality, human evolution, human osteology, human prehistory, identity, language and culture, medical anthropology, molecular genetics, primatology, psychological anthropology, religion and ritual, and urban anthropology. Department faculty members offer area studies courses that focus on Latin America, Europe, Japan, South Asia, and Native North America.

Code	Title	Hours
A minimum of 9 s.h. in elective anthropology courses (prefix ANTH) numbered 2000 or above		

Additional Requirements

Students must fulfill additional requirements in the following three areas:

- Quantitative, mathematical, or formal reasoning tool
- Directed laboratory or field research
- Allied topical course work

Quantitative, Mathematical, or Formal Reasoning Tool

Students must complete one course (a minimum of 3 s.h.) in statistics, computing, logic, and/or mathematics in addition to the course they take to fulfill the GE CLAS Core [p. 459] Quantitative and Formal Reasoning requirement. The department accepts the following courses to fulfill the tool requirement. Students who would like to use other courses should consult their advisors.

Code	Title	Hours
One of these:		
COMM:1117	Theory and Practice of Argument	4
CS:1110	Introduction to Computer Science	3

CS:1210	Computer Science I: Fundamentals	4
LING:1050	Language and Formal Reasoning	3
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PHIL:1636	Principles of Reasoning: Argument and Debate	3
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:2010	Statistical Methods and Computing	3
STAT:3510	Biostatistics	3

Directed Laboratory or Field Research

Students complete an approved directed research requirement (minimum of 3 s.h.) consisting of one of the following:

Laboratory research: a laboratory practicum in anthropology research labs or independent, faculty-guided, laboratory research, including use of the collections of the Office of the State Archaeologist.

Field research project: faculty-advised projects involving the collection of primary archaeological, biological, ethnographic, and/or linguistic data in a fieldwork setting.

A University of Iowa field archaeological school program or approved equivalent.

An approved internship: internships typically involve work in cultural resource management firms, museums, and public health research or education projects. To receive research credit for an internship, students must make a final report to their faculty advisor, summarizing the work accomplished or presenting materials that document the nature of the work.

Allied Topical Field

Students complete a topical concentration in one of the following allied fields: biology, chemistry, computer science, earth and environmental sciences, economics, geographical and sustainability sciences, global health studies, health and human physiology, linguistics, mathematics, psychology, science education, sport studies, or statistics and actuarial science. Minors (or at least five courses) in other fields, chosen in consultation with a student's advisor, also may be applied toward this requirement.

Optional Undergraduate Tracks

Students have the option of adding a particular focus to their study plan by completing a specialized track. They may choose one of four options: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology; or an additional track in anthropology for the health professions.

The optional tracks reflect broad issues bridging subfields in and outside of anthropology. Completion of a track indicates the acquisition of considerable expertise and is noted on a student's transcript.

The optional tracks each require 15 s.h. (five courses). By selecting courses carefully, students majoring in anthropology can complete a specialization track without adding to the semester hours required for graduation.

Gender and Culture Track

Anthropological research regarding gender and sexuality has grown dramatically in recent years, enhancing and drawing from other theoretical and methodological approaches in anthropology. This research contributes a cross-cultural perspective to discussion surrounding these fundamental aspects of human experience, both in academia and in public life.

The gender and culture track requires 15 s.h. (five courses) chosen from the following list. Each course provides an integrated overview of essential theoretical and topical issues in the field.

Code	Title	Hours
Five of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3125	Transnational Feminism	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4140	Feminist Activism and Global Health	3

Cultural Resource and Heritage Management Track

In North America and throughout much of the rest of the world, modern land use continually threatens evidence of past land use. Most archaeological excavations are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who choose this emphasis learn about the field and about how to address related ethical issues as well as technical and theoretical challenges.

The cultural resource and heritage management emphasis requires 15 s.h. (five courses): a fundamental overview course, two area electives, a technical/practical elective, and a field school course. Students may use some of these courses to satisfy requirements for the major, such as the course in archaeology and the electives.

Overview

Code	Title	Hours
This course:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3

Area Electives

Code	Title	Hours
Two of these (or one of these and one other Department of Anthropology area course):		
ANTH:2165	Native Peoples of North America	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

Technical/Practical Elective

Code	Title	Hours
One of these:		
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3305	Human Osteology	3
ANTH:4620	Approaches to Geoarchaeology	3

Field School

Code	Title	Hours
One of these:		
ANTH:3295	Field Research in Archaeology	arr.
An equivalent course from another university		

Environmental Anthropology Track

The interaction between humans and the environments they inhabit has long been a central issue in anthropology, and environmental degradation is a worldwide concern today. Pollution, loss of biodiversity, and global warming recognize no political boundaries, but attitudes and behaviors involving the natural environment vary widely from culture to culture. The understanding and incorporation of these varied perspectives are vital to the development and successful use of workable solutions.

The environmental anthropology track requires 15 s.h. (five courses): two theory courses, which deal primarily with

human-environmental interactions; and three area or topical electives, which deal in part with environment, ecology, and subsistence technologies. The following are sample courses in each area (courses must be numbered 2000 or above).

Theory Courses

Code	Title	Hours
Two of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130	Religion and Environmental Ethics	3

Area or Topical Electives

Code	Title	Hours
Three of these:		
ANTH:2140	Food, Drink, and Culture	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2216	Foodways and Cuisine in the Past	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:4130	Religion and Environmental Ethics	3
ANTH:4620	Approaches to Geoarchaeology	3

Medical Anthropology Track

Human experiences of sickness and suffering are universal yet profoundly shaped by cultural and historical contexts. Medical anthropology explores cultural and biological diversity in sickness, health, and healing through approaches that include examining individual experiences of disrupted well-being, considering how biological and cultural factors interact to promote health or produce sickness, analyzing political-

economic causes of health inequalities, and applying research to improve health research and services in an increasingly global world. Course work in medical anthropology helps students prepare for a range of health professions and social services careers and for work in diverse settings that increasingly include nongovernmental organizations devoted to improving health.

The medical anthropology track requires 15 s.h. (five courses): one overview course and four electives that focus on particular topics.

Overview

Code	Title	Hours
This course:		
ANTH:3102	Medical Anthropology	3

Electives

Code	Title	Hours
Four of these:		
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2164	Culture and Healing for Future Health Professionals	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Health of Indigenous Peoples	3
ANTH:3111	Health in Mexico	3
ANTH:3113	Religion and Healing	3
ANTH:3118	Politics of Reproduction	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4140	Feminist Activism and Global Health	3

Anthropology for the Health Professions Track

Health professionals are increasingly called upon to recognize how sociocultural and biological factors intersect to produce experiences of health, sickness, and healing. The anthropology for the health professions track is rooted in anthropology's holistic approach to understanding the human condition. It provides a comprehensive education in the biological and social bases for human health. Students develop understanding of cultural and biological variation in health and sickness. They also examine how and why particular therapeutic interventions may be more or less

effective when translated into different cultural settings and disease ecologies.

This track enables students entering the health professions to distinguish themselves when they apply to graduate and professional programs. It also may help them prepare for the Medical College Admission Test (MCAT). Learn more by visiting Optional Undergraduate Tracks on the Department of Anthropology website.

The anthropology for the health professions track requires 15 s.h. (five courses), including a required overview course and four additional track courses chosen from the list below. Most courses in the list fulfill the anthropology major's common requirements for courses in archaeology or biological anthropology, in sociocultural or linguistic anthropology, and electives; and ANTH:3111 Health in Mexico counts toward the major's area studies requirement. By choosing courses carefully, students may complete this track without adding to the semester hours required for graduation.

Overview

Code	Title	Hours
This course:		
ANTH:2164	Culture and Healing for Future Health Professionals	3

Electives

Code	Title	Hours
Four of these (12 s.h.):		
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3102	Medical Anthropology	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Health of Indigenous Peoples	3
ANTH:3111	Health in Mexico	3
ANTH:3118	Politics of Reproduction	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3305	Human Osteology	3
ANTH:3308	Human Variation	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:4140	Feminist Activism and Global Health	3

Teacher Licensure

Anthropology majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Honors

Honors in the Major

Students majoring in anthropology have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 in anthropology. To graduate with honors in the major, they must conduct an independent research project that culminates in a 30-50 page thesis. The project includes completion of 6 s.h. divided between ANTH:4995 Honors Research Seminar (offered only in fall semesters) and ANTH:4996 Honors Research, typically taken the next semester. Honors students also must take one of their anthropology courses at the graduate level.

Students may count their directed research project or laboratory practicum toward the requirements for graduation with honors, but fulfilling the research requirement for the B.S. degree does not by itself fulfill the honors research requirement. Students must work with their honors thesis advisor to structure their research so that it meets the added requirements of honors work.

Contact the department's director of undergraduate studies to learn more about honors in anthropology.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the anthropology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: at least one anthropology course or other course in the major

Before the fifth semester begins: at least four anthropology courses or other courses in the major, one course in the topical field, and one course for the quantitative or formal reasoning tool requirement

Before the seventh semester begins: at least seven courses in the major, three courses in the topical field, the second quantitative or formal reasoning tool course, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least nine courses in the major, including the directed research requirement, and four courses in the topical field

During the eighth semester: enrollment in all remaining course work in the major (including the topical field), all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

- Anthropology, B.S. [p. 76]
- Anthropology for the Health Professions Track [p. 76]

Anthropology, B.S.

Course	Title	Hours
First Year		
Fall		
ANTH:1101	Cultural Anthropology ^{a, b}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
ANTH:1201	World Archaeology ^{a, b}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		13-15
Second Year		
Fall		
ANTH:1301	Human Origins ^{a, b}	3
ANTH:1401	Language, Culture, and Communication ^{a, b}	3
Major: upper-level quantitative or formal reasoning course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-17
Spring		
ANTH:1001	Issues in Anthropology	3
GE CLAS Core: Natural Sciences with Lab ^e		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Elective course ^d		2
Hours		16-17
Third Year		
Fall		
GE CLAS Core: Diversity and Inclusion ^e		3
Major: topical specialization ^f		3
Major: upper-level anthropology course/track course ^g		3
GE CLAS Core: International and Global Issues ^e		3
Elective course ^d		3
Hours		15
Spring		
Major: topical specialization ^f		3
Major: upper-level anthropology course/track course ^g		3

Major: upper-level anthropology course/track course ^g	3
GE CLAS Core: Values and Culture ^e	3
Elective course ^d	3
Hours	15
Summer	
Major: direct lab/research or field school	3
Hours	3
Fourth Year	
Fall	
Major: topical specialization ^f	3
Major: upper-level anthropology course/track course ^g	3
Major: upper-level anthropology course/track course ^g	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Spring	
Major: topical specialization ^f	3
Major: topical specialization ^f	3
Major: upper-level anthropology course/track course ^g	3
GE CLAS Core: Literary, Visual, and Performing Arts ^e	3
Elective course ^d	3
Hours	15
Total Hours	123-129

- a Students may only use three ANTH courses to satisfy GE CLAS Core requirements.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students must complete 15 s.h. in one area of study.
- g Students have the option to choose one of four tracks in the major: medical anthropology, cultural resource and heritage management, gender and culture, or environmental anthropology. Courses must be numbered 2000 or above.

Anthropology for the Health Professions Track

Course	Title	Hours
First Year		
Any Semester		
ANTH:2164	Culture and Healing for Future Health Professionals	3
Hours		3
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b, c}	4
MATH:1460	Calculus for the Biological Sciences ^{b, d}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

CSI:1600	Success at Iowa	2
	Hours	13-14
Spring		
ANTH:1101	Cultural Anthropology ^b	3
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II ^{a, b}	4
STAT:3510	Biostatistics	3
	Hours	14
Second Year		
Fall		
ANTH:1201	World Archaeology ^b	3
ANTH:1401	Language, Culture, and Communication ^b	3
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
	Hours	16-17
Spring		
ANTH:1001	Issues in Anthropology	3
ANTH:1301	Human Origins	3
CHEM:2220	Organic Chemistry II ^a	3
CHEM:2410	Organic Chemistry Laboratory ^a	3
Major: health professions track elective		3
	Hours	15
Summer		
Major: Anthropology lab/field course		3
	Hours	3
Third Year		
Fall		
BIOC:3120	Biochemistry and Molecular Biology I	3
PHYS:1511	College Physics I	4
PSY:1001	Elementary Psychology	3
Major: health professions track elective		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
	Hours	17-18
Spring		
BIOC:3130	Biochemistry and Molecular Biology II	3
PHYS:1512	College Physics II	4
PSY:2130	Advanced Psychology for Pre-Medical Track	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-15
Fourth Year		
Fall		
Major: health professions track elective		3
Major: health professions track elective		3
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^g		3
	Hours	16-17
Spring		
Major: health professions track elective		3

GE CLAS Core: International and Global Issues ^f	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
GE CLAS Core: Diversity and Inclusion ^f	3
Elective course ^g	3
Hours	16-17
Total Hours	127-133

- a Chemistry topical specialization recommended for students interested in pre-medicine.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in chemistry courses requires completion of a placement exam.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

The major in anthropology prepares individuals for advanced training or careers in anthropology, allied fields, and professional programs. Students who complete an anthropology major gain special understanding of human relations and expertise for jobs involving international or cross-cultural work, cultural resource management, and in responding to social and ethnic diversity, whether in the United States or globally.

Upon graduation, anthropology majors embark on careers in government, international affairs, conservation, economic development, public health, cultural resource management, urban and regional planning, social work, museum work, and education. Many go on to help resolve contemporary world problems by working with international or domestic organizations such as AmeriCorps, the Peace Corps, and Teach for America. Some pursue graduate study in anthropology or related social and natural sciences, while others earn degrees in business, law, or the health professions.

Students may enroll in ANTH:3016 Career Paths in Anthropology to learn about working in a variety of anthropology-related fields.

The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

Anthropology, Minor

The undergraduate minor in anthropology requires a minimum of 15 s.h. in anthropology courses, including 12 s.h. in University of Iowa Department of Anthropology courses numbered 2000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Courses for the minor may not be taken pass/nonpass.

Students may create a focus for the minor by completing a specialization area; see "Optional Undergraduate Tracks" under the B.A. or B.S. anthropology requirements.

Anthropology, M.A.

Graduate study in anthropology is open to individuals with varied undergraduate majors and training backgrounds.

Graduate students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. The department also offers a terminal M.A. degree, with a focus on cultural resource management—archaeology (CRM), which provides academic preparation for a professional career in that field.

Ph.D. students who enter the program with a bachelor's degree are typically awarded a master's degree upon fulfilling program requirements at the end of their second year. The M.A. portion of the Ph.D. program features course work across all four subfields of anthropology. Students also are strongly encouraged to conduct independent summer research, which is normally supported by departmental and other university-based funding sources.

For additional information, view the Graduate Program web page and the current Graduate Student Guidebook on the Department of Anthropology website.

Requirements

The Master of Arts program in anthropology requires 30-36 s.h. of graduate credit, depending on a student's previous anthropological training. Students may count a maximum of 9 s.h. earned in courses outside anthropology toward the M.A. in anthropology. It is expected that a full-time student will complete all M.A. requirements by the end of the second year in the program.

Master's degree students who choose to focus on cultural resource management—archaeology (CRM) normally do not go on to earn a Ph.D. in anthropology.

By the end of their first semester, each student must select an M.A. committee, consisting of an advisor and two additional professors. Each year, students compile, in consultation with their advisor, the three strongest papers written for anthropology courses, conferences, or journals; an annotated bibliography; their current curriculum vitae; and a three-page narrative to describe their intellectual trajectory in the M.A. program to date.

Students must maintain an overall g.p.a. of at least 3.00.

Master's degree students who intend to earn a doctorate should consider taking ANTH:5110 Anthropological Data Analysis or another statistics course during their M.A. study.

General Course Work

M.A. students not pursuing the cultural resource management—archaeology focus must complete core seminars in all four subfields (total of 12 s.h.).

Code	Title	Hours
All of these:		
ANTH:5101	Seminar Sociocultural Anthropology	3
ANTH:5201	Seminar: Archaeological Theory and Method	3
ANTH:5301	Seminar: Biological Anthropology	3
ANTH:5401	Seminar: Linguistic Anthropology	3

Electives

In consultation with the advisor and committee members, a student selects a minimum of 18 s.h. of additional course work to complete the remaining semester hours required for the M.A. Elective work may include courses in other disciplines, directed study, and up to 6 s.h. of M.A. thesis credit for students who choose the thesis option.

Cultural Resource Management—Archaeology Focus

Most archaeological excavations and surveys are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who select this focus area learn about the field and how to address related ethical issues as well as technical and theoretical challenges.

Students must complete the archaeological core graduate seminar. They also must complete a research paper, which is an archaeological study with a substantive data analysis directed toward an explicit archaeological research problem, suitable to meet the section three requirement for the Registry of Professional Archaeologist application form.

The cultural resource management—archaeology focus requires a total of 30 s.h., including 24 s.h. of course work and 6 s.h. of independent research or thesis credit.

Required Course Work

Code	Title	Hours
Both of these:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:5201	Seminar: Archaeological Theory and Method	3

Area Electives

Code	Title	Hours
Two of these:		
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

Technical Electives

Code	Title	Hours
Four of these:		
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3

ANTH:3295	Field Research in Archaeology	3
ANTH:3305	Human Osteology	3
ANTH:4620	Approaches to Geoarchaeology	3

Independent Research or Thesis

Code	Title	Hours
6 s.h. from these:		
ANTH:6005	Independent Study: Anthropology	arr.
ANTH:6010	Research: Anthropology	arr.
ANTH:6015	Thesis	arr.

Admission

Applicants for admission to the graduate program in anthropology are considered regardless of their previous field of training. Students without previous training in anthropology are expected to perform additional work as necessary to achieve competence expected for their degree objective.

Students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. Students without an M.A. in anthropology devote the first two years fulfilling the M.A. requirements. After those requirements are completed, the student's committee may award the M.A. with admittance to the Ph.D. program.

Students with an M.A. in anthropology from another institution may proceed directly into a Ph.D. program organized around their special research interests. If they lack any of the requirements of the graduate program at the University of Iowa, they are informed of those requirements when admitted. Acceptance of credit hours from other institutions will follow UI regulations.

Applicants for admission to the graduate program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Anthropology graduate program applicants are required to upload the following documentation to the University of Iowa Graduate Admissions online application:

- official academic records/transcripts from previous institutions attended;
- a brief statement of interest or intent regarding why graduate study in the Department of Anthropology is desired;
- three letters of recommendation;
- a writing sample (preferably a research paper);
- an application for graduate funding; and
- official Graduate Record Examination (GRE) General Test scores taken within the past five years from the Educational Testing Service (University of Iowa institution code 6681).

For more information about these elements of an application, see Admission on the Department of Anthropology website.

International students must send their official Test of English as a Foreign Language (TOEFL) scores from the Educational Testing Service (University of Iowa institution code 6681). Once recommended for admission, international students also must complete several additional requirements.

When completing the online Graduate College Application for Admission for Degree, applicants currently without a M.A. or M.S. in anthropology should enter "M.A." regardless of whether they intend to continue on to the doctoral program. Students at the M.A. level do not write a thesis, so "M.A. (thesis)" is not an option. This designation refers to the initial program students enter upon admission and in no way limits prospects for continuing on to the Ph.D. program. For questions about which degree option to choose, contact the Department of Anthropology.

Financial Support

Financial assistance, usually in the form of teaching and research assistantships, may be offered to doctoral and potential doctoral students in good standing for up to four years. Students making satisfactory and timely progress through the graduate program are in good standing. Eligibility for financial aid is reduced after two years in the M.A. program. The amount and types of aid depend on departmental needs.

Students are notified in writing of a provisional financial award before the semester or summer session for which the award has been granted. Although awards are made before the end of the previous semester, each award is contingent upon satisfactory completion of that semester's work by the awardee.

Career Advancement

Graduates establish careers at universities, colleges, museums, health care institutions, and a diverse range of governmental and non-governmental agencies. For more information, see Graduate Placement on the Department of Anthropology website.

Anthropology, Ph.D.

Requirements

The Ph.D. degree leads to the accomplishment of professional-level skills in conducting independent research, and normally features specialized training in one or two of the discipline's subfields. Doctoral education is guided by a Ph.D. committee composed of members of the faculty competent in the particular areas and topics chosen by a student.

The doctoral program includes an integrated process of progressively developing and completing reading lists, developing and submitting research proposals to funding agencies, developing and defending a dissertation prospectus, and writing two comprehensive exam essays. Upon successful completion of the comprehensive examination and the dissertation prospectus, a student advances to candidacy for the Ph.D. To complete the Ph.D. degree, all doctoral candidates are required to conduct independent anthropological research, write a dissertation, and defend it.

For students who enter the doctoral program with an existing M.A. (in anthropology or a related field), the faculty develop an individualized program of study based on a student's existing course work and goals.

Ph.D. students also may elect to pursue an optional concentration in either feminist anthropology or paleoanthropology.

For program requirements, refer to the current Graduate Student Guidebook on the Department of Anthropology website.

Admission

Applicants for admission to the graduate program in anthropology are considered regardless of their previous field of training. Students without previous training in anthropology are expected to perform additional work as necessary to achieve competence expected for their degree objective.

Students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. Students without an M.A. in anthropology devote the first two years fulfilling the M.A. requirements. After those requirements are completed, the student's committee may award the M.A. with admittance to the Ph.D. program.

Students with an M.A. in anthropology from another institution may proceed directly into a Ph.D. program organized around their special research interests. If they lack any of the requirements of the graduate program at the University of Iowa, they are informed of those requirements when admitted. Acceptance of credit hours from other institutions will follow UI regulations.

Applicants for admission to the graduate program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Anthropology graduate program applicants are required to upload the following documentation to the University of Iowa Graduate Admissions online application:

- official academic records/transcripts from previous institutions attended;

- a brief statement of interest or intent regarding why graduate study in the Department of Anthropology is desired;

- three letters of recommendation;

- a writing sample (preferably a research paper or M.A. thesis);

- an application for graduate funding; and

- official Graduate Record Examination (GRE) General Test scores taken within the past five years from the Educational Testing Service (University of Iowa institution code 6681).

For more information concerning the required application elements, see Admission on the Department of Anthropology website.

International students must send their official Test of English as a Foreign Language (TOEFL) scores from the Educational Testing Service (University of Iowa institution code 6681). Once recommended for admission, international students also must complete additional requirements.

Financial Support

Financial assistance, usually in the form of teaching and research assistantships, may be offered to doctoral and potential doctoral students in good standing for up to four years. Students making satisfactory and timely progress through the graduate program are in good standing. The amount and types of aid depend on departmental needs.

Students are notified in writing of a provisional financial award before the semester or summer session for which the award has been granted. Although awards are made before the end of the previous semester, each award is contingent upon satisfactory completion of that semester's work by the awardee.

Career Advancement

Graduates establish careers at universities, colleges, museums, health care institutions, and a diverse range of governmental and nongovernmental agencies. For more information, see Graduate Placement on the Department of Anthropology website.

Art and Art History

Director

- Steve McGuire

Undergraduate majors: art (B.A., B.F.A.); art history (B.A.)

Undergraduate minors: art; art history

Graduate degrees: M.A. in art; M.F.A. in art; M.A. in art history; Ph.D. in art history

Faculty: <https://art.uiowa.edu/people/faculty>

Website: <https://art.uiowa.edu/>

The School of Art and Art History provides a creative, multidisciplinary environment for students of the studio arts and the history of art. Established in 1936, the school is firmly grounded in the College of Liberal Arts and Sciences. It encourages interaction among its diverse faculty as well as collaboration with related disciplines across campus.

Iowa's art and art history graduates enjoy success as practicing professional artists, professors of art history, teachers, museum directors and curators, theater designers, commercial designers, and art administrators.

The School of Art and Art History has a new facility. The Visual Arts Building opened in fall 2016 and is identified by architectural publications as one of the best designed new buildings in the world. The Visual Arts Building is adjacent to the second School of Art and Art History building, Art Building West (2003). Visit the School of Art and Art History website and MyUI for information about studio, office, and classroom sites.

Studio Art

The School of Art and Art History is committed to students' professional futures. The studio laboratories, some of the finest facilities nationally, are updated annually with leading edge production equipment. Students have the opportunity to develop the visual vocabulary and cross-media literacies required by the rapidly changing contemporary world. The visiting artist series introduces students to national and international leaders in the field, while a varied, diverse, and professionally active faculty ensures that the area is contemporary in its approach and pluralistic in its scope.

Undergraduate and graduate students select their major and minor studio art disciplines from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

Art History

Art history, a broad intellectual discipline, is central to the humanities. Diverse approaches characterize the school's art history faculty, who have interdisciplinary ties within and beyond the University. Their primary mission is to help students develop skills for exploring issues and problems central to the history of art as a whole as well as to its specialized areas. Because the major in art history stresses the development of critical visual thinking and writing, it prepares students for graduate work in art history and for other professional fields as well.

Student Organizations

The undergraduate Art History Society and the graduate Art History Society sponsor activities for students. The Faculty/Graduate Student Art History Colloquium meets five times

each semester to focus on professional development and issues of broad interest in art.

Interdisciplinary Resources

Colloquia, visiting artists and lecturer programs, and graduate workshops bring visitors to the School of Art and Art History and provide open forums for discussion of issues in art and scholarship.

Among the school's major assets is the Project for the Advanced Study of Art and Life in Africa (PASALA), an interdisciplinary program that brings together faculty with international reputations in art history, anthropology, film, history, and literature to offer courses and independent study of art in West, Central, East, and South Africa. The result is a program of unusual breadth and depth of expertise. PASALA offers scholarships and support for research in Africa and dissertation preparation to outstanding students. A major resource for PASALA is the UI Museum of Art's Stanley Collection of African Art. Visit the Art & Life in Africa website to learn more.

The School of Art and Art History affiliates with the Department of American Studies [p. 40], giving students opportunities to study not only the history of American art but a variety of interdisciplinary programs in American history, literature, and politics. The school also is linked to the Medieval Studies [p. 743] Program, which offers an undergraduate certificate and courses in the history, literature, and culture of the Middle Ages.

Related Certificate

Arts Entrepreneurship

The School of Art and Art History participates in offering the Certificate in Arts Entrepreneurship [p. 118]. The program is designed for students of art, art history, cinema, dance, music, and theatre arts who wish to learn about the business of the arts and entertainment fields and who want to develop the entrepreneurial skills necessary for promoting their artistic work.

Programs

Undergraduate Programs of Study

Majors

- Major in Art (Bachelor of Arts) [p. 98]
- Major in Art History (Bachelor of Arts) [p. 101]
- Major in Art (Bachelor of Fine Arts) [p. 104]

Minors

- Minor in Art [p. 106]
- Minor in Art History [p. 107]

Graduate Programs of Study

Majors

- Master of Arts in Art [p. 108]
- Master of Arts in Art History [p. 110]
- Master of Fine Arts in Art [p. 112]
- Doctor of Philosophy in Art History [p. 114]

Facilities

Reference Collections

The art library contains 100,000 volumes, an outstanding periodical collection, and an extensive microfilm and microfiche archive.

The school's Office of Visual Materials contains a rapidly growing collection of 325,000 slides, 30,000 digital images, 350,000 35mm slides, 30,000 mounted photographs, and a video collection.

Museum of Art

The University of Iowa Museum of Art has a significant permanent collection that includes major holdings of 20th-century and contemporary art, African and pre-Columbian art, English and American silver, European and American prints, drawings and photographs, and Etruscan, Iranian, and contemporary American ceramics. As well as serving as a resource for research in a wide variety of art history areas, the museum offers a program of exhibitions, lectures, and recitals.

Due to the Iowa River flooding during summer 2008, the museum's collections are being displayed and its events are being held in a variety of other facilities. Learn about current exhibitions and events, and their locations, by visiting the University of Iowa Museum of Art website.

Art Buildings

The University of Iowa has restored the School of Art and Art History facilities that were damaged or destroyed by Iowa River flooding during summer 2008. The school's administrative center, Art Building West, is home to the school's main office as well as the Office of Visual Materials, the Art Library, an auditorium, art history classrooms, a gallery, a café, and studios for graphic design, painting, animation, and digital photography. Designed by architect Steven Holl, Art Building West has won numerous awards for its innovative design, including the 2007 American Institute of Architects Honor Award for Architecture.

The Visual Arts Building has been identified by a number of publications as one of the top new buildings in the world. It also was designed by architect Steven Holl and sits adjacent to Art Building West.

Courses

- Art History Courses [p. 83]
- Studio Art Courses [p. 89]
 - Animation Courses [p. 89]
 - General Art Courses [p. 89]
 - Ceramics Courses [p. 91]
 - Design Courses [p. 91]
 - Three-Dimensional Design Courses [p. 92]
 - Drawing Courses [p. 93]
 - Intermedia Courses [p. 93]
 - Jewelry and Metal Arts Courses [p. 94]
 - Painting Courses [p. 95]
 - Papermaking Courses [p. 95]
 - Photography Courses [p. 96]

- Printmaking Courses [p. 96]
- Sculpture Courses [p. 97]
- Art Education Courses [p. 97]

Art History Courses

An introductory course in the appropriate art history area or consent of instructor is prerequisite for some courses numbered above 3000. Courses titled "Themes in ..." consider topics of current interest in the field, organized thematically rather than chronologically.

ARTH:1000 First-Year Seminar **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ARTH:1010 Art and Visual Culture **3 s.h.**

Visual analysis, media and techniques, artistic subject matter and aesthetic issues; historical periods and movements from ancient times to present; provides strong orientation to visual aspects of humanities, background for other art history courses, and introduction to visual arts for personal enrichment; for students new to art history. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

ARTH:1020 Masterpieces: Art in Historical and Cultural Perspectives **3 s.h.**

Masterpieces of Western art—how to look at, think about, and understand some of the worlds' most exciting works of architecture, painting, and sculpture; their construction, hidden meanings, historical content, and their meanings today. GE: Literary, Visual, and Performing Arts.

ARTH:1030 Themes in Global Art **3 s.h.**

Key themes in art from a global perspective; propaganda and power, social functions of art, word and image, ritual and body decoration, artistic exchange, religion. GE: Literary, Visual, and Performing Arts; Values and Culture.

ARTH:1040 Arts of Africa **3 s.h.**

Arts, artists, and cultures of Africa; sculpture, paintings, pottery, textiles, architecture, human adornment. GE: International and Global Issues; Literary, Visual, and Performing Arts.

ARTH:1045 Race and Art in America **3 s.h.**

Chronological development and critical themes of African American visual culture; material culture of slave artists, history of racist imagery in the U.S., most important African American fine artists; slave dwellings, quilts, paintings, sculpture, photography; W.E.B. Du Bois' claim to Egyptian artistic patrimony, controversial work of Kara Walker, hip-hop aesthetic of Kehinde Wiley; previous art history experience not required. GE: Values and Culture.

ARTH:1050 From Cave Paintings to Cathedrals: Survey of Western Art I **3 s.h.**

Survey to foster development of critical skills in thinking and writing about visual culture, and to familiarize students with broad outlines of artistic development in the Western tradition, from prehistory through later Middle Ages; aesthetic qualities of artworks, relationship between style, function, and meaning. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

ARTH:1060 From Mona Lisa to Modernism: Survey of Western Art II 3 s.h.

Survey of the Western world's visual arts from Renaissance (ca. 1400) to present; major movements and principal masters of Western Europe and the United States in their social and historical contexts; focus on stimulation of visual literacy and familiarity with outstanding cultural monuments. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

ARTH:1070 Asian Art and Culture 3 s.h.

Art from India, China, and Japan in many media and forms, in their cultural and historical contexts; cultural distinctions of these Asian civilizations as seen through the visual arts; chronology used to highlight historical processes and provide perspectives on continuity and change. GE: Historical Perspectives; Literary, Visual, and Performing Arts. Same as CHIN:1070.

ARTH:1080 Writing About the Visual Arts 3 s.h.

Opportunity to develop understanding of and skill in using visual-arts writing conventions and linguistic competencies that are necessary for academic and professional success; formats such as exhibition reviews, art criticism, research writing, artist's statements; experience through exercises, formal essays, revision, workshops. Requirements: fulfillment of GE CLAS Core Rhetoric.

ARTH:1090 Earthly Paradises: A Global History of Gardens 3 s.h.

Fundamental and universal question—what is the relationship between humanity and nature; how ornamental garden has functioned as a metaphor for paradise across time and among diverse cultures; basic tools to analyze any landscape design; how artful manipulation of nature has served to express various political, religious, and social ideals across the globe; comprehensive and chronological survey of garden design development. GE: Historical Perspectives.

ARTH:1095 American Indian Art 3 s.h.

Sculpture, painting, architecture, crafts, arts of personal adornment of native peoples of North America. GE: Literary, Visual, and Performing Arts; Values and Culture.

ARTH:2020 Introduction to Western Architecture 3 s.h.

Overview of monuments, Neolithic period to present; aesthetic and structural principles, major styles, architects.

ARTH:2030 Introduction to American Architecture 3 s.h.

Characteristics of American public, domestic, and industrial architecture as evolved from Native American contact period to present; visual features of American-built environment and social, political, and economic factors that shaped development; design contributions of individual architects, impact of new technology, and growth of architectural profession.

ARTH:2220 Introduction to the Art of China 3 s.h.

Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as ASIA:2231.

ARTH:2250 Introduction to the Art of Japan 3 s.h.

Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Same as JPNS:2250.

ARTH:2320 Introduction to Ancient Art 3 s.h.

Art and architecture of the Mediterranean world (ca. 3500 B.C.E.) to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. Same as CLSA:2226.

ARTH:2330 Introduction to Egyptian and Ancient Near Eastern Art 3 s.h.

Art and architecture of Egypt and the Near East (ca. 3500 B.C.E.) to advent of Islam; Egyptian, Sumerian, Assyrian, Babylonian, and Persian cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as CLSA:2330.

ARTH:2340 Introduction to Greek and Roman Art 3 s.h.

Art and architecture of Greece and Rome (ca. 3000 B.C.E.) to death of Constantine (337 C.E.); Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as CLSA:2340.

ARTH:2420 Introduction to Medieval Art 3 s.h.

Comprehensive survey of artistic traditions of Western Europe and Mediterranean Basin from roughly 300 to 1500; reign of Roman Emperor Constantine to lifetime of Christopher Columbus; complexity and diversity of cultural and artistic traditions that flourished in these so-called Middle Ages, where blending of Roman and northern legacies created European cultures from which we belong.

ARTH:2520 Introduction to Italian Renaissance Art 3 s.h.

Italian art, architecture from early Renaissance to 1600.

ARTH:2620 Introduction to Baroque Visual Culture 3 s.h.

Art, architecture in Europe from 1600 to 1700.

ARTH:2730 Introduction to Nineteenth-Century Art 3 s.h.

Major European artists, works, movements, aesthetic theories from late 18th century to 1900; works in their aesthetic, cultural, intellectual, political contexts; boundaries, definitions of movements (i.e., Neo-Classicism, Romanticism, Realism, Impressionism, Post-Impressionism, Symbolism).

ARTH:2740 Introduction to Northern Renaissance Art 3 s.h.

Northern European art between 1350 and 1600; the transition between the late Middle Ages and the Renaissance; artistic output of this period; development of critical thinking skills by exploring ways in which the Northern Renaissance has been defined with respect to Italian Renaissance and northern medieval traditions.

ARTH:2820 Introduction to Twentieth-Century Art 3 s.h.

Modern European and American painting, sculpture, and architecture from 1880 to present; major art movements of modern art history.

ARTH:2920 Introduction to American Art 3 s.h.

Survey of painting, sculpture, architecture, and photography in the United States from colonial era to mid-20th century; how the new country grappled with creating a visual culture unique to its own character and development; portraits, landscape paintings, sculpture, and architecture in an array of styles and media; circumstances of their creation, aspirations and preconceptions of their makers, perspectives of their audiences. Recommendations: ARTH:1060. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

ARTH:2975 Undergraduate Seminar in the History of Art 3 s.h.

Characteristic problems, methodological issues, critical thinking and writing. Offered fall semesters. Requirements: art history major.

ARTH:3000 Digital Approaches to the Study of Art 3 s.h.

Digital approaches to study of art history; emphasis on cultural identity.

ARTH:3010 Fakes, Frauds, and Forgeries: The Dark Side of Art History 3 s.h.

How fraudulent artworks have been accepted as genuine and incorporated into the art historical canon, from the famous gold and ivory Minoan snake goddess to paintings purportedly by Rembrandt; issues considered include the dangers frauds pose to our understanding of cultural heritage and the historical past, how fakes have impacted the art market, and the value of forgeries as indices of contemporary taste and preconceptions about art.

ARTH:3020 Paris and the Art of Urban Life 3 s.h.

City of Paris examined in varied historical, artistic, and cultural contexts; interdisciplinary. Taught in English. Same as FREN:3030.

ARTH:3030 History of Prints 3 s.h.

Printmaking as important art form, influential carrier of styles and iconography from area to area; focus on Europe; history of prints from prehistoric times to present.

ARTH:3040 History of Design 3 s.h.

History of modern design, beginning in early modern period and forward as near as possible to present day; discussions focus on architecture, urban design, the decorative arts, industrial design, and graphic design; major currents of modern and contemporary design practice.

ARTH:3056 Italian Baroque Visual Culture 3 s.h.

Visual culture of 17th-century Italy contextualized; major media (painting, sculpture, architecture) by leading artists (Bernini, Borromini, Caravaggio, Cortona); full range of material culture, including minor and decorative arts; use of imagery by individual and institutional patrons for the persuasive purpose of political and social advancement; ideological utility of art as a recurring theme, underscoring the Baroque antecedents of media manipulation of our own time.

ARTH:3070 Themes in Baroque-Era Art 3 s.h.

Topics and themes in baroque-era art.

ARTH:3090 Contemporary Architecture 3 s.h.

Quality of contemporary-built environments in America, Western Europe, Asia, and Middle East from 1970 to present; stylistic evolution of postmodern design, new urbanism, sustainable architecture; impact of literary and cultural theory on contemporary practitioners such as Daniel Libeskind, Steven Holl.

ARTH:3100 Themes in 18th- and 19th-Century European Art 3 s.h.

Themes and topics in 18th- and 19th-century European art.

ARTH:3103 Art of the Pacific Islands 3 s.h.

Visual arts of peoples of the Pacific islands (Polynesia, Micronesia, Melanesia); Hawaii, Tahiti, the Marquesas Islands, New Guinea, New Ireland, New Britain, Fiji, Tonga, and Marshall, Marianas, and Gilbert islands in Micronesia; focus on art in social context; history of human occupation on these islands dating back to 2500 B.C.; architecture, figurative sculpture, pottery, textiles, canoe building; results of encounters between Europeans and Pacific Islanders.

ARTH:3120 The Art of Ancient Mexico 3 s.h.

Art and architecture of Mexico and Peru before Cortéz. Same as LAS:3120.

ARTH:3150 Art of West Africa 3 s.h.

How art is used to solve problems and mark important passages in life.

ARTH:3151 Art of Central Africa 3 s.h.

Visual arts of Africa from the mouth of the Congo River to the Mountains of the Moon: Igbo people of Nigeria and eastward through the Niger River Delta and the Highlands of Cameroon; south of the equator to Kingdom of the Kongo, Royal arts with the Kuba people, and detailed and in-depth discussion of the devastating impact of colonialism in the late 19th and early 20th centuries; Luba people, the mountains above Lake Tanganyika among the Lega people, and farther north in the kingdom of the Mangbetu.

ARTH:3160 Themes in African Art 3 s.h.

Survey of African architecture; structures throughout continent ranging from rock-cut churches of Ethiopia to elaborately painted Ndebele homes of South Africa; four areas of African architecture (ancient, traditional, Islamic, contemporary); function, materials, aesthetic choices of architecture and how they reflect social, religious, political, and economic situations of people who constructed it.

ARTH:3161 Themes in Ancient Art 3 s.h.

Themes and topics in ancient art.

ARTH:3197 Themes in Modern and Contemporary Art 3 s.h.

Topics and themes in modern and contemporary art.

ARTH:3220 Chinese Art and Culture 3 s.h.

Archaeological discoveries, sculpture, painting, architecture, calligraphy, other arts of Greater China area in historical and cultural contexts of past 5,000 years. Same as ASIA:3219.

ARTH:3225 Contemporary Art and Culture in China 3 s.h.

Introduction to art and culture of contemporary China, covering the period from 1960s up to the present day; focus on art objects, performances, propagandas, and exhibitions produced by the government, business sector, curators, and avant-garde artists and groups in mainland China; China's Olympic stadiums, the Three Gorges Dam, skyscrapers; discussion of readings and investigation of artworks, films, and events that speak to China's political ideologies, society, and economy, as well as its place in globalization and international conflicts.

ARTH:3230 Chinese Painting I: Pagodas and Palaces 3 s.h.

Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Same as ASIA:3220.

ARTH:3250 Brushwork in Chinese Art 3 s.h.

In-depth study of history, aesthetics, and techniques of brushwork on multiple forms of material culture; hands-on practical experience in Chinese brushwork; analysis of visual elements of brushwork in Chinese paintings, calligraphy, ceramics, and other artistic forms; synthesis of studio art experience and art historical analysis to provide a deeper practical and aesthetic understanding of Chinese fine art techniques.

ARTH:3260 Japanese Painting 3 s.h.

Japanese painting in its historical, cultural contexts; focus on developments of successive eras—religious art; narrative, other literary connections; Zen; decorative traditions; popular arts; Japan and the modern world. Same as JPNS:3260.

ARTH:3270 Themes in Asian Art History 3 s.h.

Same as ASIA:3270.

ARTH:3280 The Materialization of Sexuality in China and Beyond 3 s.h.

Human sexuality is expressed in art objects and approaches sexuality as stereotypes of and expectations for genders as well as dynamics between androgyny, femininity, and masculinity; how painting, calligraphy, illustrated novels, clothing, and art collections help to enact, modify, and conceal one's sexuality from traditional to contemporary China; examples from Asian and Euro-American traditions are considered to achieve a cross-cultural understanding; topics include erotic art, representations of skin, and global fashion obsessions; students who read Chinese are encouraged to read scholarship in Chinese. Taught in English.

ARTH:3310 Celtic and Viking Art 3 s.h.

Art and architecture of Celts and Vikings from prehistory to Middle Ages.

ARTH:3320 Egyptian Art 3 s.h.

Sculpture, painting, architecture, and luxury arts from Pyramid Age to Death of Cleopatra. Same as RELS:3704.

ARTH:3325 Kings, Gods, and Heroes: Art of the Ancient Near East 3 s.h.

Arts, kings, and cultures of Mesopotamia, Syria, and Iran; sculpture, seals, pottery, metalworking, architecture.

ARTH:3330 Classical Greek Art 3 s.h.

Art, sacred architecture from early Classical through late fourth century B.C.E.; Athens in the Golden Age. Same as CLSA:3227.

ARTH:3340 Greek Vase Painting 3 s.h.

Greek ceramics as documents of religious beliefs, mythology, and daily life 1000-300 B.C.E. Same as CLSA:3250.

ARTH:3350 Art of Early Rome: Patrons and Politics 3 s.h.

Examination of architecture, sculpture, and painting in central Italy from c. 800 B.C. to the end of the Roman Republic in 27 B.C.; art in the service of social ideology and political propaganda; funerary art and its relationship to the living; artistic interactions between Etruria, Greece, and Rome. Same as CLSA:3232.

ARTH:3360 Art of the Ancient Roman Empire 3 s.h.

Major developments in architecture, sculpture, and painting from the ascension of Augustus to sole ruler in 31 B.C. to the death of Constantine in A.D. 337; influence of individual emperors on the development of artistic forms; relationship between public and private art; interdependency of Rome and the provinces. Same as CLSA:3233.

ARTH:3370 Houses, Brothels, and Tombs: Life and Death in Ancient Pompeii 3 s.h.

Art and architecture, as documents of ancient society and religion in towns destroyed by Mount Vesuvius in C.E. 79. Same as CLSA:3234.

ARTH:3375 Birth of the Holy Land: Art and Architecture in the Ancient Middle East 3 s.h.

Major developments in architecture, sculpture, ceramics, and mosaics in Israel, Palestine, Syria, and Arabia from death of Alexander the Great to rise of Islam (4 B.C.E. to 8 C.E.); Greek and Roman influences versus local traditions; Roman Empire; growth of churches, synagogues, and mosques; identity and religion. Same as RELS:3375.

ARTH:3380 City of Rome: Image and Ideology 3 s.h.

Myth of the city of Rome as seen in paintings, sculpture, architecture, urbanism, and cinema from early Renaissance to Mussolini; focus on urban topography and mythic origins; the divinely ordained destiny of Rome in God's providential plan for humanity; raw imperialism of Italian fascism as manifested in the visual legacy of the city; ideological underpinnings of the city's major institutions (the papacy, municipal government, Italian monarchy) and the fascist state as supported through the appropriation of the myth of Rome.

ARTH:3385 Baroque Rome: Caravaggio, Bernini, Borromini 3 s.h.

Rome and its institutions as reflected in the careers of its three most revolutionary artists.

ARTH:3390 Early Medieval Art 3 s.h.

Complex artistic traditions that developed roughly between 300 and 1000 in territories once governed by the Roman Empire and in areas of northern Europe directly influenced by Western Christian tradition; period as not simply a "Dark Age," but a pivotal chapter in history of Western art and culture; group discussion, individual research topics.

ARTH:3391 Themes in Medieval Art 3 s.h.

Themes and topics in medieval art.

ARTH:3400 Romanesque and Gothic Art 3 s.h.

Art and architecture produced in Western Europe from the year 1000 to the Renaissance, a period when works of boldly original character that continue to define the landscape of Europe were created; histories of Romanesque and Gothic styles; shift from monastic to episcopal, civic, and courtly patronage; intersection between art and devotional practice; flowering of medieval urbanism and building technology; intersection between artistic traditions of later Gothic and emerging Renaissance.

ARTH:3410 Who Killed Gothic Architecture? 3 s.h.

Demise of Gothic architecture around 1500, a dramatic stylistic pivot that has too often been misleadingly presented or taken for granted in art-historical literature; topics include development of late Gothic architecture, emergence of Renaissance mode, appropriation of that mode by powerful patrons for propagandistic purposes, impact of Protestant Reformation, and the way that the history of this period has subsequently been written by the winners, which has obscured the complexity and contingency of the historical forces causing this stylistic transition.

ARTH:3420 Gothic Architecture 3 s.h.

Gothic architecture and its history, from varied perspectives (e.g., formal structural, symbolic, geometric, socioeconomic).

ARTH:3520 The Sculptural Origins of Michelangelo**3 s.h.**

Visual and cultural origins of Michelangelo's sculpture, painting, and architectural designs; role that Michelangelo and his work played as a visual artist, poet, and religious reformer in culture of Florence and Rome in the 16th century; reasons for Michelangelo being a dynamic influence in all of the arts through the contemporary period.

ARTH:3550 Leonardo, Raphael, Michelangelo: Rivalry and the Rise of the Artist in the Italian Renaissance**3 s.h.**

The arts in Italy 1485-1550.

ARTH:3560 Art in Renaissance Venice**3 s.h.**

As a center of trade, Venice became a melting pot of artistic exchange and innovation, and home to many of the greatest artists in Europe; exploration of workshops of the Bellini, Carpaccio, Giorgione, Titian, Palladio, Veronese, and Tintoretto, among others, from multiple perspectives; investigation of the revolution of art in Venice as it transformed from depictions of medieval orthodox religious imagery to Renaissance subjects and concepts that are associated with modernity—such as the reclining nude, the psychological portrait, the poetic allegory—and the very idea that a visual medium might express an artist's internal feeling or state of mind.

ARTH:3630 Themes in Renaissance Art**3 s.h.**

Themes and topics in Renaissance art.

ARTH:3640 The Artist in the Studio: Allegory and Reality from Renaissance**3 s.h.**

Changing needs of a growing modern secular leisure class, demonstrated in works of art that depict artists at work in their own environment and the popularity of artist's self-portraits; significance of subject category in understanding changes in perception of social, economic, and political roles of visual artists and visual arts traced from Leonardo, Michelangelo, and Raphael to Velasquez, Rubens, Rembrandt, Vermeer, Picasso, and Matisse and others; literary, musical, and theatrical arts.

ARTH:3650 Painting in the Dutch Golden Age**3 s.h.**

Painting in the age of Rubens, Rembrandt, Vermeer; rise of landscape, still life, genre.

ARTH:3700 David to Delacroix: Art in the Age of Revolutions**3 s.h.**

Developments in French art and culture in a period of artistic, cultural, and political upheavals from French Revolution through Napoleonic Empire to founding of Second Empire in mid-19th century; intersections of art with aesthetics, culture, and politics; role of psychology, biology, natural sciences in art; use of myth; rise of modernism; changes in patronage; new role of museums and galleries; innovations in printmaking, book illustration, caricature; artists include David, Girodet, Gros, Ingres, Gericault, and Delacroix, among others.

ARTH:3720 The Romantic Revolution**3 s.h.**

Transformations in European art and culture 1750-1850, an age of artistic, political, cultural, intellectual crisis and revolutions; major artists, including David, Ingres, Gericault, Delacroix, Goya, Freidrich, Constable, Turner.

ARTH:3730 Impressionism and the Visual Revolution**3 s.h.**

Naturalism, Realism, the Impressionist landscape, painting of modern life, new trends in subjectivity and exoticism mid- to late-19th-century European art and culture; Courbet, Manet, Degas, Monet, Renoir, Seurat, Cezanne, Van Gogh, Gauguin, Ensor, Munch.

ARTH:3740 Manet to Matisse**3 s.h.**

Development of modernism and the avant-garde in late 19th- and early 20th-century Paris; intersection of innovation and tradition, literature and art; role of theory and criticism in works of Manet, Degas, Seurat, Cezanne, Gauguin, Rodin, Matisse, and Picasso.

ARTH:3750 Muses, Models, Artists, and Patrons: Women in the Visual Arts**3 s.h.**

Women in the visual arts from various perspectives: women as subject and inspiration, as patrons and as artists; role of women in the arts from the late 18th through the early 20th centuries, primarily in Europe, a period that witnessed significant female patronage of the arts, the first modern feminist movements that gave impetus to newly independent women artists, and the transformation of ways in which women were represented in art across genres, including history, myth, portraiture, orientalism, and images of contemporary life; impact of the role of women in art and culture will be critically examined.

ARTH:3820 Modern Art**3 s.h.**

Development of modern art from early years of 20th century through 1960s; focus on painting, sculpture, architecture, photography; traces progress of Modernism; exploration of major movements including Fauvism, Cubism, Surrealism, Abstract Expressionism, Pop Art, Minimalism.

ARTH:3830 Late Modern Art**3 s.h.**

American and European art 1960-1980.

ARTH:3840 Contemporary Art**3 s.h.**

Painting, sculpture, architecture, and photography; developments during late 1960s to present; conceptual art, performance art, neo-abstraction, and picture/theory art with each approached from a global perspective.

ARTH:3850 Pop Art**3 s.h.**

Survey of pop art in America, Britain, Europe; focus on developments in painting and sculpture 1950s to early 1960s; continuing influence of Pop Art.

ARTH:3860 Minimalism**3 s.h.**

Survey of Minimalism; focus on developments in painting and sculpture during 1960s; continuing influence.

ARTH:3864 Nazi and Stalinist Art: Aesthetics of Power**3 s.h.**

Manipulative power of art, architecture, urbanism, and film in 20th-century totalitarian regimes—Italy, Germany, and Stalinist Soviet Union as well as Madrid, Warsaw, Beijing, Pyongyang, Baghdad; dark side of art and its transnational character, particularly in architecture and urban planning; nature of propaganda and state-sponsored art, responses to modernism and industrialization, allure of militarism and empire, uses of historicism, role of public ritual and mass spectacle in totalitarianism; common currency of totalitarian art across national groups, cultures, ideologies; how aesthetics function as tools of modern autocracies, with lessons for ailing 21st-century democracies.

ARTH:3870 History of Photography**3 s.h.**

Survey of photography 1839 to present.

- ARTH:3880 Modern Architecture** 3 s.h.
Impact of new technology, artistic theory, and social practices on modern European and American architecture, 1890 to 1977.
- ARTH:3910 The Architecture of Frank Lloyd Wright** 3 s.h.
Why is Frank Lloyd Wright arguably the most famous American architect? Students address this question by examining his architecture, life, and influence on the American and international built environment.
- ARTH:3920 National Images: American Art to 1865** 3 s.h.
Painting, sculpture, and architecture from colonial times to Civil War.
- ARTH:3930 American Renaissance and the Gilded Age** 3 s.h.
Architecture, painting, and sculpture, 1865-1913.
- ARTH:3940 American Western Art** 3 s.h.
Painting and sculpture of western United States, primarily from Euro-American perspective.
- ARTH:3950 Modernism and Early Twentieth-Century American Art** 3 s.h.
American responses to European Modernism in painting, sculpture, architecture, and photography.
- ARTH:3955 Art and American National Parks** 3 s.h.
Artistic history of American national parks; beginning with painter George Catlin's idea of a nation's park in the 1840s; how art has played a major role in development of and attitudes toward these special places; magazine engravings, tourist guidebooks, government reports, monumental oil paintings, photographs, and recent photomontages; focus on Yellowstone, Niagara, Yosemite, and the Grand Canyon, as well as less well-known sites such as Acadia National Park and the Pictured Rocks National Lakeshore.
- ARTH:3980 American Print Culture** 3 s.h.
Exploration of a wide range of imagery printed and published in the United States during 19th century (1776-1900); fine art original prints, popular imagery in periodicals and illustrated books, scholarly literature, history of evolving technologies, variety of printed work; shifting reputation of printed art and its makers.
- ARTH:3985 Honors Research in Art History** arr.
Research and preparation of thesis. Requirements: honors standing.
- ARTH:3990 Topics in Art History** 3 s.h.
Varied topics.
- ARTH:3995 Independent Study in Art History** arr.
Advanced work in art history.
- ARTH:4010 Critical Theory** 3 s.h.
Influence of art theory on recent art practice; critics and philosophers whose ideas have been particularly important to the process of putting art and its histories into greater social and political context—Theodor Adorno, Walter Benjamin, Roland Barthes, Jacques Derrida, Michel Foucault, Jean-Francois Lyotard, Jurgen Habermas, Jean Baudrillard, Terry Eagleton, Michael Fried, T.J. Clark, Rosalind Krauss, and Homi Bhabha; general influence of feminism, poststructuralism, postcolonialism, and postmodernism.
- ARTH:4081 The Art Museum: Theory and Practice** 3 s.h.
Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Museum of Art collections. Same as MUSM:4081.
- ARTH:4891 Big-Shouldered City: Chicago Architecture** 3 s.h.
Architectural and urban development of Chicago; how changing visions of this most-American of cities has been influenced by aesthetic, social, political, economic factors; early settlement patterns, impact of the Great Fire of 1871, skyscraper technology, Daniel Burnham's 1909 Plan, Bungalow Belt, park system; larger history of American city in terms of its architectural, urban, and landscape development.
- ARTH:4900 Advanced Writing About the Visual Arts** 3 s.h.
Skill in using visual arts writing conventions and linguistic competencies necessary for professional success; exhibition reviews, art criticism, and research writing; students compose an artist's statement or personal statement that can be used for future art exhibitions or applications for internships and scholarships; assignments designed to be of interest to students in any field.
- ARTH:4941 American Landscape Art** 3 s.h.
Landscape from 1750 to present, emphasis on 19th century; land and its use fundamental to the history and culture of the United States as American art subjects, American art in the period of territorial expansion in 19th century; major movements of landscape aesthetics, artistic treatments, historiography.
- ARTH:4999 History and Methods** 3 s.h.
Critical thinking and research; readings in historical development of the discipline, from Renaissance to present; methodological issues. Offered fall semesters.
- ARTH:6000 History and Methods** 3 s.h.
Critical thinking and research; readings in historical development of the discipline, from Renaissance to present; methodological paradigms and trends.
- ARTH:6020 Art History Colloquium** 1 s.h.
Current topics and research in art history. Requirements: art history graduate standing.
- ARTH:6040 Directed Studies** arr.
- ARTH:6080 M.A. Written Thesis** arr.
- ARTH:6085 Seminar: Problems in Architectural History** 3 s.h.
Key themes, architects, and literature that informs the history of the built environment in varied cultural contexts.
- ARTH:6110 Seminar: Problems in African Art** 2-3 s.h.
- ARTH:6300 Seminar: Problems in Ancient Art** 3 s.h.
Key themes and issues in ancient art. Same as CLSA:6200.
- ARTH:6440 Seminar: Problems in Medieval Art** 3 s.h.
Major issues, methodologies.
- ARTH:6640 Seminar: Problems in Baroque Art** 3 s.h.
- ARTH:6740 Graduate Seminar: Nineteenth-Century Art** 3 s.h.
- ARTH:6840 Seminar: Modern/Contemporary Art** 3 s.h.
Major issues, methodologies.
- ARTH:6940 Seminar: Problems in American Art** 3 s.h.
- ARTH:7010 Ph.D. Readings** arr.

ARTH:7020 Ph.D. Thesis**Studio Art Courses**

Courses numbered below 3000 are primarily for undergraduates and may not be repeated unless noted on MyUI. Some courses numbered 2000-3000 are repeatable. Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all studio courses for art majors.

Animation Courses**ANIM:2125 Introduction to Animation 3 s.h.**

Introduction to animation and its role in contemporary creative practice; focus on historical and technical principles of traditional 2-D animation, 2-D digital animation, and 3-D computer animation; creative, conceptual, and technical facets of animation practice; conceptualize and execute animations using processes and methods currently integrated into contemporary time-based art practice. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

ANIM:3125 Animation I 4 s.h.

Continuation of ANIM:2125; focus on technology of 3-D animation; 3-D modeling, texturing, animation, rendering and lighting; projects cover creative, conceptual, and technical facets of 3-D animation pipeline; conceptualize and execute projects using processes and methods currently integrated into 3-D animation industry through lectures, critiques, computer software, screenings, and labs. Prerequisites: ANIM:2125.

ANIM:3130 Professional Practices in Animation and Gaming Studios 2 s.h.

Experiential learning experience through immersion in professional animation and gaming studios that blend technology, art, and design; behind-the-scenes meetings with professionals, equipment, and processes involved in creating major animated and video game works; studio and museum visits to gain understanding of technology and art, professional studio culture, and innovative design; animation history, studio culture, entertainment artistry, art technology, and contemporary art. Prerequisites: ARTS:1520 and ARTS:1510.

ANIM:3135 Animation II 4 s.h.

Continuation of ANIM:3125; focus on technology of 3-D animation; 3-D modeling, texturing, animation, rendering and lighting; projects cover creative, conceptual, and technical facets of 3-D animation pipeline; students conceptualize and execute projects using processes and methods currently integrated into 3-D animation industry through lectures, critiques, computer software, screenings, and labs. Prerequisites: ANIM:3125.

General Art Courses**ARTS:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ARTS:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as BIOC:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

arr. ARTS:1010 Elements of Art 3 s.h.

Drawing, composition; selected reading. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

ARTS:1020 Elements of 3-D Design 3 s.h.

Introduction to 3-D design using drafting, modeling, and virtual reality software; basic concepts of drafting, planning, and color theory; basic Auto CAD, 3ds Max Studio, Vizard, InDesign software; students design an object to be printed 2-D and 3-D and a conceptual space to be printed 2-D and experienced virtually; student journal and portfolio. Requirements: non-art major.

ARTS:1030 Elements of Jewelry and Metal Arts 3 s.h.

Fundamental 3-D design principles and appreciation of contemporary jewelry and metal artworks; techniques and materials in jewelry and metal arts; experimentation with diverse media. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

ARTS:1040 Elements of Media Art 3 s.h.

Introduction to production, history, and aesthetics of video and moving-image art; demonstrations, workshops, screenings, critiques; shooting and editing two production projects. Requirements: non-art major.

ARTS:1050 Elements of Printmaking 3 s.h.

Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

ARTS:1055 Elements of Foil Imaging 3 s.h.

Printmaking experience using the Iowa Foil Printer; aesthetic and technical research, documentation in *Foil Imaging...A New Art Form*; hands-on opportunity to explore new dimensions of visual expression. Requirements: non-art major.

ARTS:1060 Elements of Digital Photography 3 s.h.

Introduction to history, aesthetics, and practice of photography as a fine art; includes demonstrations, workshops, critiques, final portfolio; photography time outside of class; digital camera required. Requirements: non-art major.

ARTS:1070 Elements of Graphic Design 3 s.h.

Introduction to concepts and principles of graphic design and contemporary approaches to effective visual communication; demonstrations, workshops, critiques, final portfolio.

ARTS:1080 Elements of Sculpture 3 s.h.

Possibilities and definition of 3-D form, including time-based, performance, structural, installation, and kinetic sculpture. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

ARTS:1090 Elements of Animation 3 s.h.

Introduction to principles of two-dimensional digital animation; topics and projects will cover elements of conceptual, software, and technical facets of animation mechanics; application of skills to commercial purposes.

ARTS:1400 The Passport Project: Exploring Iowa and Iowa City 1 s.h.

Attendance and discussion at 12 events of student's choice, selected from the University and Iowa City's rich cultural offerings. Same as CSI:1400.

ARTS:1450 Exploring Iowa and Iowa City: Passport Project Colloquium 3 s.h.

Opportunities for peer mentors involved in ARTS:1400 and CSI:1400; activities including short readings and media screenings related to innovative and best practices in learning and teaching; emphasis on multi-modal writing online for peers; informal presentations and reflections; may include work with Passport Projects students, collaboration on development of guidelines and handouts for best practices in writing, and supplemental writing reflections. Same as CSI:1450.

ARTS:1500 Media, Social Practice, and Design Studio Foundations 3 s.h.

Introduction to key principles and skills in graphic design, photography, and video.

ARTS:1510 Basic Drawing 3 s.h.

Two-dimensional visual language, media; space, form; color. Requirements: art major or art minor. GE: Engineering Be Creative.

ARTS:1520 Design Fundamentals 3 s.h.

Two- and three-dimensional concepts and their relations; working with basic drawing instruments; problems in visual arts; artists' philosophies and techniques. Requirements: art major. GE: Engineering Be Creative.

ARTS:1560 Art Student Ambassador Seminar 0-1 s.h.

Ambassadors provide information about the School of Art and Art History to incoming and visiting students, University community, and broader community; conduct tours; meet with students and parents; review curriculum; provide information on opportunities; coordinate events; and develop materials for incoming students. Requirements: art major.

ARTS:2000 Big Ideas: Creativity for a Lifetime 3 s.h.

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; integration of teamwork and opportunities for individual growth that allow for personal development; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ASP:2000, EDTL:2000, RHET:2000.

ARTS:2100 Printmaking and Politics of Protest 3 s.h.

Examination of historical populace roots of the print. GE: Diversity and Inclusion.

ARTS:2800 Digital Arts: An Introduction 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as CINE:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.

ARTS:2900 Book Design for Publishing 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ENGL:2900, UICB:2900, WRIT:2900.

ARTS:3230 Scene Design I 3 s.h.

Development of theatre scenery; how to research, conceptualize, and express ideas in 3-D models, simple sketches, and drafting. GE: Engineering Be Creative. Same as THTR:3230.

ARTS:3320 Introduction to Sequential Art: Comics/Graphic Novels 3 s.h.

Overview of contemporary American comic artists, history of comics and graphic novels in the United States; genres and structures in sequential art; students create works that combine design, images, texts, story. Requirements: satisfaction of GE CLAS Core Rhetoric.

ARTS:3400 Grant Writing in the Arts 3 s.h.**ARTS:4190 Honors in Studio Art 0-3 s.h.**

Research, preparation, and exhibition of an honors project in studio art. Requirements: studio art major, UI g.p.a. of at least 3.33, and art g.p.a. of at least 3.50.

ARTS:4195 B.F.A. Exhibition 0 s.h.

B.F.A. students present a show of their work in final semester; use of flyers and other media to advertise show; meetings with faculty and academic advisors to complete required documentation; students planning to graduate with honors in the art major may combine honors project and B.F.A. show; variations require approval by B.F.A. faculty advisor and academic advisors. Requirements: B.F.A. standing in final semester.

ARTS:4200 Topics in Studio Arts 1-3 s.h.

Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or TDSN:2210 or MTL:2910).

ARTS:4300 Letterpress I 3 s.h.

Mechanics of letterpress printing, typography, and design as applied to hand set metal type and edition printing; printing on a Vandercook proof press; introduction to photopolymer plates and methods of illustration related to edition printing, historical aspects of printing technology, typesetting, type classification; role of letterpress in modern private press and contemporary artist books. Same as UICB:4300.

ARTS:4340 Digital Design for Artists' Books 3 s.h.

Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. GE: Engineering Be Creative. Same as UICB:4340.

ARTS:4390 Book and Publication Design 3 s.h.

Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: DSGN:2600 or UICB:4300. Same as UICB:4390.

ARTS:4400 History of Western Letterforms 3 s.h.

History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as UICB:4400.

ARTS:4415 Calligraphy I: Foundational Hands 3 s.h.

Hands-on instruction in italic and pressure pen scripts; historical relationships, effects on modern letterforms. GE: Engineering Be Creative. Same as UICB:4415.

ARTS:4490 Advanced Studies in Letter Arts 3 s.h.
Special topics and advanced projects in calligraphy and letter arts. Prerequisites: UICB:4400 or UICB:4415 or UICB:4420. Same as UICB:4490.

ARTS:5330 Letterpress III: Imagemaking arr.
Advanced work in alternative and innovative letterpress technologies as they apply to imagemaking processes for fine press printing; topics include pressure printing, photopolymer from nondigital negatives, explorations of type-high surfaces, monoprints on the Vandercook, and applying hand work to editioned prints; students complete a series of print exercises for each process, a small printed book sketch, and a longer format editioned artist book. Prerequisites: UICB:4380. Same as UICB:5330.

ARTS:5340 Letterpress III: The Handprinted Book 3 s.h.
Advanced work in fine press book design; exploration of problems in hand-printing books, choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature; issues of book design and production related to letterpress printing. Prerequisites: UICB:4380. Same as UICB:5340.

ARTS:6000 M.A. Written Thesis 1 s.h.

ARTS:6190 Graduate Independent Study arr.
Individual instruction by a faculty member.

ARTS:7000 M.F.A. Written Thesis 1 s.h.

Ceramics Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all ceramics courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

CERM:2010 Exploring Forms in Clay I 3 s.h.
Basic handbuilding methods of forming, firing, glazing clay. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

CERM:2020 Exploring Thrown Forms in Clay II 3 s.h.
Basic wheel-throwing techniques; clay, glaze formulation and preparation in kiln firing. Prerequisites: CERM:2010.

CERM:3010 Advanced Clay Forming III 4 s.h.
Advanced throwing techniques; larger scale, more professional goals; projects may be more sculptural or one of a kind. Offered fall semesters. Prerequisites: CERM:2010 and CERM:2020.

CERM:4010 Advanced Clay Forming IV 4 s.h.
Advanced individual projects. Offered spring semesters. Prerequisites: CERM:2020 or CERM:3010.

CERM:4020 Ceramic Materials and Effects 4 s.h.
Empirical, practical methods of glaze and body formulation; effects of various types of kilns and firing atmospheres on glaze materials, clay bodies; digital imaging used for testing and documenting results. Offered fall semesters of even years. Prerequisites: CERM:3010.

CERM:4030 Undergraduate Ceramics Workshop 3-4 s.h.
Advanced undergraduate studio; critiques of student work and electronic portfolio development, visiting artist participation; may include field trips. Prerequisites: CERM:3010.

CERM:4050 Concepts: Materials and Installation 4 s.h.
Exposure to contemporary methods of working in clay, develop critical thinking skills that move clay into the realm of conceptual work, develop a personal direction in the medium; conceptual development and material exploration; set clay side by side with other materials and mediums; demonstrate dedication to the work and to the development of mature ideas and forms of expression. Prerequisites: CERM:3010.

CERM:4099 Undergraduate Individual Instruction 1-3 s.h.
Individual instruction in ceramics for advanced students.

CERM:6075 Ceramics Workshop 3-4 s.h.
Advanced graduate studio; critique of student work; visiting artists, field trips. Prerequisites: CERM:4010.

CERM:6099 Graduate Individual Instruction in Ceramics arr.
Requirements: knowledge of clay and glaze computation, and ability to fire kilns.

Design Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all design courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

DSGN:2500 Graphic Design I 3 s.h.
Basic concepts and principles that can be applied to all modes of contemporary visual communication. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2600. GE: Engineering Be Creative.

DSGN:2600 Graphic Design II 3 s.h.
Fundamentals of typography as a core element in visual communication; introduction to historical typographic practices as well as modern modes of designing with type. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2500. Same as UICB:2600.

DSGN:3500 Graphic Design III 4 s.h.
Focus on browser-based user interfaces and user experiences; builds basic HTML and CSS knowledge base; skills. Prerequisites: ARTS:1510 and ARTS:1520 and DSGN:2500 and DSGN:2600.

DSGN:3600 Graphic Design IV 4 s.h.
Implementing the fundamental knowledge and skills gained in previous design courses to explore the interaction of typography and visual image. Prerequisites: DSGN:2500 and DSGN:2600. Corequisites: DSGN:3500.

DSGN:4000 Graphic Design V 4 s.h.
Critical theory and professional practice of branding and identity design; topics range from icon development to packaging design and prototyping. Prerequisites: DSGN:3500 and DSGN:3600. Corequisites: DSGN:4700.

DSGN:4199 Undergraduate Individual Instruction 1-3 s.h.
Individual instruction in design for advanced students.

DSGN:4700 Graphic Design VI 4 s.h.
Advanced exploration of contemporary and experimental user interface and user experience design methodology; topics include design for mobile devices and wearables, as well as immersive environments. Prerequisites: DSGN:3500 and DSGN:3600. Corequisites: DSGN:4000.

DSGN:4800 Graphic Design VII 4 s.h.

Concentrated semester-long opportunity for students to investigate a design project driven by their own personal research interests; projects closely guided by faculty and are critiqued throughout the semester; critical theory readings and discussion. Prerequisites: DSGN:4000 or DSGN:4700.

DSGN:6175 Graphic Design VIII 4 s.h.

Introduction to complex problems in graphic design; planning, development, and organization of integrated design programs; activities include research and studio assignments, individual presentations, discussions, demonstrations, and critiques.

Three-Dimensional Design Courses

TDSN:2205 Art and Engineering 3 s.h.

Collaborative, interdisciplinary, cutting-edge opportunity to gain real world engineering experience while learning to think creatively and analytically to create engaging works of art; interdisciplinary collaboration and creative methodologies that enhance life-long creative practice of artists and engineers; basic electronics and Arduino prototyping platform to create programmable, sensor-driven, responsive circuits. Prerequisites: MTLs:2910 or CERM:2010 or SCLP:2810 or TDSN:2210. Same as ECE:2120.

TDSN:2210 Problems in 3-D Design 3 s.h.

Materials, their formal and structural possibilities. Prerequisites: ARTS:1510 and ARTS:1520.

TDSN:2240 Digital Drafting with AutoCAD 3 s.h.

Basic principles of 2-D and 3-D computer-aided drafting; use of AutoCAD software to draw plans, elevations, and sections for objects and interior spaces. Prerequisites: CERM:2010 or SCLP:2810 or TDSN:2210 or MTLs:2910. Same as CEE:2240.

TDSN:2250 Computer Modeling with 3ds Max 3 s.h.

Basic knowledge and practical technical skills using 3ds Max studio software; experience creating and manipulating basic forms and working with texture, background, light, and camera viewpoints; basic animation. Prerequisites: TDSN:2210.

TDSN:2270 Digital Forming 3 s.h.

Introduction to process of design; work with 3-D virtual digital tools to create objects and forms printed with rapid prototyping technology; use of Leonar3Do software, 3-D glasses, and a bird device that functions as a mouse to create forms in space; virtual modeling techniques that allow creation and manipulation of shapes in the air; design development on Leonar3Do, improved with 3ds Max, and saved for 3-D printing. Prerequisites: CERM:2010 or SCLP:2810 or MTLs:2910 or TDSN:2210.

TDSN:3200 Product Design 4 s.h.

How objects are designed and structured; modeling, graphic skills necessary for basic project development. Prerequisites: TDSN:2250.

TDSN:3201 Advanced Computer Modeling with 3ds Max 3 s.h.

Creation of rendered and animated environments using advanced modeling techniques. Prerequisites: TDSN:2250.

TDSN:3205 Advanced Robotics 3 s.h.

Advanced peripheral integration and control, including stepper motors, solar power, audio playback, and live data manipulation through physical sensors; advanced fabrication (e.g., printed circuit boards and wiring harness design); for students with previous experience in robotics and electronics. Prerequisites: SCLP:3840.

TDSN:3210 Furniture Design I 4 s.h.

Human interaction with interior and exterior environment. Prerequisites: TDSN:3200.

TDSN:3215 Furniture Design II 4 s.h.

Continuation of TDSN:3210; design of virtual environments. Prerequisites: TDSN:3210.

TDSN:3220 Interior Design 4 s.h.

Relationship of interior space to its architecture, environment, human element; color, materials, furnishings, lighting; projects. Prerequisites: TDSN:2250.

TDSN:3230 Color for Interior Design 4 s.h.

Use of color for interior spaces; principles of color theory reviewed and applied to 3-D environments; color as a compositional element and psychological tool. Prerequisites: TDSN:2250.

TDSN:3240 3-D Computer-Aided Design arr.

Three-dimensional computer-aided drafting; use of AutoCAD software. Prerequisites: MTLs:2910 or SCLP:2810 or CERM:2010 or TDSN:2210.

TDSN:3250 Bicycle Design 4 s.h.

Drafting software, bicycle design, and history of bicycle from velocipede to mountain bikes; development of bicycle design as new materials, fabrication techniques, and ergonomics were applied; use of BikeCad, a parametric software, to design bicycles and bicycle components. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

TDSN:4210 Digital Animation and Visual Art 3 s.h.

Assimilation of digital animation into realm of traditional fine art mediums; exploration of fundamental skills (storyboarding, rotoscoping, stop motion, motion graphics, 3-D animation); Adobe Photoshop, After Effects, and 3ds Max techniques and software that are industry standards in the careers of animators, storyboard artists, roto artists, digital compositors, and motion graphic artists; production of a show reel of student work for group showing and final critique. Prerequisites: ARTS:1510 and ARTS:1520.

TDSN:4250 Fabrication and Design: Hand-Built Bicycle 4 s.h.

Building a bicycle frame by hand; use of CAD modeling and development of fabrication skills to create a modern-day work of art. Prerequisites: TDSN:2240.

TDSN:4255 Hand-Built Bicycles in the Rockies 1 s.h.

Building a titanium hand-built bike; use of hand-built fabrication techniques and tools; translation of CAD design into first full-suspension titanium fat bike; aspects of metal technology, concept development, fabrication geometry and design, metal properties and selection, tool selection, brazing and TIG welding, jig setup and use, and mitering; travel to Fort Collins, Colorado to work for one week at Black Sheep Bikes (two-time winner of the North American Hand Built Bike Show). Prerequisites: ARTS:1510 and ARTS:1520.

TDSN:4260 3-D Computer Graphic Art 3 s.h.

Three-dimensional modeling; emphasis on movement in form and function; advanced modeling techniques in polygonal and NURBS modeling to generate fundamentally sound models used for rapid prototyping, visualization, and animation; Box modeling, NURBS modeling, rigging, materials, bump maps, normal maps, and rendering; fundamental skills of computer graphic artists working in the fields of animation, architectural visualization, video game modeling, industrial design, and engineering design. Prerequisites: TDSN:2250.

TDSN:4270 Problems in 3-D Design: Locative Art Practice 4 s.h.

How our relationship to Earth has changed with new forms of locating place in it; new forms of representation used to express exploration of that relationship; designing a locative research project; exploration of four major course concepts (geo-annotation, locative inscription, GPS drawing, alternative cartography) using portable, networked, and location-aware computing for mapping relationships. Prerequisites: ARTS:1520 and ARTS:1510.

TDSN:4299 Undergraduate Individual Instruction arr.
Individual instruction in 3-D design for advanced students.**TDSN:6295 Design for Production and Business** 4 s.h.
Special issues and topics in design. Prerequisites: TDSN:3200.**TDSN:6299 Individual Instruction in 3-D Design** arr.
Individual instruction in 3-D design for advanced students.

Drawing Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all drawing courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

DRAW:2310 Life Drawing I 3 s.h.
Observational drawing of form in its spatial contexts; drawing in varied media; figural as well as nonfigural content. Prerequisites: ARTS:1510 and ARTS:1520.**DRAW:3310 Concepts in Drawing** 3-4 s.h.
Intermediate-level topics; observation, theory, media, form, content; emphasis on personal direction. Prerequisites: DRAW:2310. Same as THTR:3205.**DRAW:4310 Advanced Concepts in Drawing** 3-4 s.h.
Advanced-level topics. Prerequisites: DRAW:3310. Requirements: DRAW:3310 taken two times.**DRAW:4320 Seminar in Painting and Drawing** 3-4 s.h.
Contemporary issues, practical and professional skills, interdisciplinary concerns, education and career goals. Offered fall semesters. Prerequisites: DRAW:3310 and PNTG:2420. Requirements: for undergraduate students—DRAW:3310; PNTG:2420 taken twice, or PNTG:2420 and PNTG:2430; and B.F.A. clearance.**DRAW:4399 Undergraduate Individual Instruction** 1-3 s.h.
Individual instruction in drawing for advanced students.**DRAW:6310 Graduate Drawing** 3-4 s.h.
Compositional and conceptual drawing as related to the student's major interest; varied media. Requirements: 6 s.h. of DRAW:3310.**DRAW:6399 Individual Instruction in Drawing** arr.

Intermedia Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all intermedia courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

INTM:2710 Introduction to Intermedia 3 s.h.
Interdisciplinary focus; emphasis on conceptual, installation, video, time-based media, performance art. Prerequisites: (ARTS:1510 and ARTS:1520) or CINE:1834. Requirements: for CINE:2869—grade of C or higher in CINE:1834. Same as CINE:2869.**INTM:2720 Concepts in Contemporary Art Practice** 3 s.h.
Interdisciplinary investigation of materials and concepts in relation to time-based media, performance, video, installation; individual and collaborative projects. Prerequisites: INTM:2710.**INTM:2864 Film/Video Production: Alternative Forms** 3 s.h.
Alternative or innovative video/film practices and technologies; varied topics. Prerequisites: INTM:2710 with a minimum grade of C or CINE:1834 with a minimum grade of C. Same as CINE:2864.**INTM:3050 Body/Image: Dance and Media in Discourse and Practice** 3 s.h.
Intersection of body, image, and sound in analog and digital media; relationship to critical and practical texts; written and performative assignments that address fundamental concepts of corporeality in related fields including dance for camera, stage and film performance, and artistic, documentary, and publicity filmmaking and photography. Same as DANC:3050.**INTM:3720 Media Art Lab** 4 s.h.
Study and production in the media arts—digital video, sound, installation/performance, internet, new media art; conceptual development through readings, screenings; hands-on workshops using a range of media production equipment and platforms; in-class, short-term projects. Requirements: INTM:2710 or CINE:1834 or graduate standing. Recommendations: experience with media technologies.**INTM:3730 Advanced Intermedia Topics** 3 s.h.
Areas of intermedia practice, including installation, video, internet-based production, sound design, image and text, new media. Prerequisites: INTM:2710.**INTM:3750 Art and Ecology** 4 s.h.
Collaborative, creative research group; artistic responses to environmental sustainability and related social issues; critical approaches rooted in humanities, other disciplines. Prerequisites: INTM:2710.**INTM:3799 Undergraduate Individual Instruction** 1-3 s.h.
Individual instruction in intermedia for advanced students.**INTM:3876 Video for Performance** 3 s.h.
Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:3890 or CINE:1834 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, THTR:3876.

INTM:3880 Installations and Interactive Performance 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DANC:3880, THTR:3880.

INTM:3890 Producing and Directing Digital Video 3 s.h.

Introduction to the basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with a focus on aesthetic and technical principles; focus on developing proficiency in contemporary approaches to digital media production by understanding the production pipeline, from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:3890, THTR:3890.

INTM:3895 Performance, Art, and New Technologies in Society 3 s.h.

Survey of major technological innovations that have deeply impacted society and live performance in the late 20th and early 21st century, and the future of the rapidly evolving technological world; students examine theoretical texts and performances that address the impact of technology on the human condition, as well as create original applied live performances and installations; a variety of technologies are explored and adapted for live performance as they relate to the following five categories of original human experience—telepresence, liveness, artificial intelligence, augmented and virtual reality, and transhumanism. Same as DANC:3895, DIGA:3895, THTR:3895.

INTM:4210 Museum Without Walls: Museum, Art Education, and Community Engagement in the Digital Age 3 s.h.

Collaborative work to recreate one exhibition from the University of Iowa Museum of Art that took place before the flood of 2008; creation of content that contributes to a virtual museum experience; introduction to digital tools commonly used in design of exhibitions; recreation of historical exhibitions based on documentary photographs in museum and University archives and research on the premise of the exhibition and objects on view; how digital artifacts might be used in different contexts; use of museum and digital environments as labs for lifelong and distance learning. Same as EDTL:4210, MUSM:4210.

INTM:4775 Intermedia Workshop 3-4 s.h.

Visual practice/visual theory; projects, critiques, visiting artists and scholars. Requirements: INTM:2720 or graduate standing in intermedia.

INTM:4780 Women's Lives in Alternative Texts 3 s.h.

Work of contemporary comics creators; how they craft memoir-based texts that explore intersections of aging, sexuality, race, gender, and relationships. Same as GWSS:4180.

INTM:6780 Art, Engagement, and Activism 4 s.h.

Role of artists in our communities; how to build a rewarding studio practice and influence social, political, and cultural decisions within the community; work of artists, designers, creative scholars, performers, and writers whose work is socially engaged, collaborative, labeled as radical or activist in nature; students produce a small body of written, visual, and performed work influenced by events and needs within their communities; examination and discussion of various theories of art, activism, performance, and engagement.

INTM:6799 Individual Instruction in Intermedia and Video Art arr.**Jewelry and Metal Arts Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all jewelry and metal arts courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

MTLS:2910 Introduction to Jewelry and Metal Arts 3 s.h.

Fabrication, hammer forming, hydraulic die forming, soldering, riveting, etching, texturing, anodization of aluminum and titanium, stone setting, and patination techniques; creation of jewelry, flatware, and other functional and nonfunctional sculptural objects using varied metals and other materials; emphasis on creativity, learning, and basic metalworking techniques. Prerequisites: ARTS:1520 and ARTS:1510. GE: Engineering Be Creative.

MTLS:3910 Intermediate Jewelry and Metal Arts 4 s.h.

Exploration of different applications with casting (mostly gold, silver, and bronze), enameling, and stone setting; combining all three processes to create artwork; may include introduction to other processes (e.g., photo-etching, 3-D computer modeling); historical and current trends in craft. Prerequisites: MTLS:2910.

MTLS:3920 Advanced Jewelry and Metal Arts 4 s.h.

Electroforming; production of hollow copper structures through prolonged electroplating on a nonmetallic form (typically wax) with a conductive coating; metal-forming techniques (e.g., raising and fold forming); emphasis on development of personal aesthetics, learning, and refining technical skills in metalworking and jewelry techniques. Prerequisites: MTLS:2910.

MTLS:4910 Mixed Media Workshop 3-4 s.h.

Free exploration of all media and materials, including found objects; creation of conceptual and/or functional mixed media objects, jewelry, sculptures, installation pieces; pioneering use of new materials, development of new techniques, creation of diverse innovative artworks. Prerequisites: MTLS:2910. Recommendations: MTLS:2910 and MTLS:3920.

MTLS:4920 Mold Making 4 s.h.

All aspects of mold making, including plaster, rubber, and silicone. Prerequisites: CERM:2010 or TDSN:2210 or MTLS:2910 or SCLP:2810.

MTLS:4960 Form and Fabrication: The Hand-Built Bicycle Frame II 4 s.h.

Building on TDSN:4250; advanced concepts of bicycle frame design and fabrication; concept development, fabrication geometry and design, metal properties and selection, tool selection, brazing and welding, including titanium-milling and how to build a frame jig; emphasis on applying fabrication skills while situating frame building project within context of a design problem. Prerequisites: TDSN:4250.

MTLS:4970 Hand-Built Bicycle III 4 s.h.

Building on MTLS:4960; advanced concepts of bicycle frame design and fabrication; concept development, fabrication geometry and design, metal properties and selection, tool selection; brazing and welding including titanium-milling and how to build a frame jig; emphasis on application of fabrication skills while situating frame building project within context of a design problem. Prerequisites: MTLS:4960.

MTLS:4975 Graduate Workshop 4 s.h.

Independent studio work; personal aesthetics, conceptual and technical skills developed and refined; creation of work without boundaries of media; portfolios, exhibitions, professional goals. Prerequisites: MTLS:3920 and MTLS:4910 and MTLS:3910.

MTLS:4999 Undergraduate Individual Instruction 1-3 s.h.

Individual instruction in metalsmithing and jewelry for advanced students.

MTLS:6999 Individual Instruction in Metalsmithing and Jewelry arr.

Painting Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all painting courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

PNTG:2410 Painting I 3 s.h.

Emphasis on observational painting, theory and development of pictorial ideas and skills. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

PNTG:2420 Painting II 4 s.h.

Materials, techniques, beginning of a personal painting language through observation and imagination. Prerequisites: PNTG:2410.

PNTG:2430 Painting III 4 s.h.

Painting, with contemporary issues overlying study in materials and techniques; language and direction of personal painting. Prerequisites: PNTG:2420.

PNTG:4100 Advanced Painting 4 s.h.

Individual projects as they aid the realization of a personal vision. Prerequisites: PNTG:2420. Requirements: PNTG:2420 taken two times.

PNTG:4499 Undergraduate Individual Instruction 1-3 s.h.

Individual instruction in painting for advanced students.

PNTG:6475 Graduate Drawing and Painting Workshop 3-4 s.h.

Group and individual criticism, team-taught.

PNTG:6480 Graduate Drawing and Painting Forum 1 s.h.

Problems and issues of contemporary artists.

PNTG:6495 Graduate Painting: Topics 3-4 s.h.

Individual painting projects in desired medium; topics vary.

PNTG:6499 Individual Instruction in Painting arr.

Papermaking Courses

BKAT:2110 Introduction to Book Arts 3 s.h.

Topics related to artist books, hand bookbinding, letterpress printing, papermaking, and lettering arts. GE: Engineering Be Creative. Same as UICB:2110.

BKAT:3280 Elements of Book Art 3 s.h.

Overview of book art process and techniques for nonmajors; introduction to traditional bookbinding skills, nontraditional book structures, and content development for artist books. GE: Engineering Be Creative. Same as UICB:3280.

BKAT:3380 Elements of Letterpress 3 s.h.

Introduction to letterpress printing; metal type, relief printing, page layout, and basic typography; basic use of Vandercook Proof Press; experimentation with diverse letterpress techniques; for non-book art majors. GE: Engineering Be Creative. Same as UICB:3380.

BKAT:3400 Calligraphy: Foundational Hands 3 s.h.

Fundamental calligraphic skills using Roman majuscule, Humanistic minuscule, Italic; basic layout and color theory incorporated into letter practice. Same as UICB:3400.

BKAT:4100 Paperworks 3 s.h.

Conceptual and methodological approaches to 2-D and 3-D paper works; creation of works that couple unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp, medium's relationship to larger art and craft contexts. GE: Engineering Be Creative. Same as UICB:4100.

BKAT:4205 Bookbinding I: Materials and Techniques 3 s.h.

Hands-on introduction to materials and techniques commonly used in bookbinding. Same as UICB:4205.

BKAT:4210 Boxes and Enclosures 3 s.h.

Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: UICB:4205. Same as UICB:4210.

BKAT:4270 Bookbinding II 3 s.h.

Builds on skills acquired in UICB:4205; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: UICB:4205. Same as UICB:4270.

BKAT:4280 Artists' Books 3 s.h.

Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: UICB:4205 or UICB:4205. Same as UICB:4280.

BKAT:5110 Islamic/Asian Papermaking History and Technique 3 s.h.

History, technique, and aesthetics of traditional Islamic and Asian hand papermaking. Same as UICB:5110.

BKAT:5120 European Papermaking History and Technique 3 s.h.

History and technique of traditional European hand papermaking and related aesthetics; students gain confidence in pursuing independent production of handmade papers or undertaking related research in their own particular areas of interest; fiber preparation, sheet forming, and drying/finishing methods; concurrent readings and discussions of related history and aesthetics; special projects selected by student with instructor approval. Same as UICB:5130.

BKAT:5170 Advanced Papermaking Production 3 s.h.

Independent Western- or Japanese-style projects undertaken at UICB Research and Production Paper Facility at Oakdale Campus under faculty guidance; plan, implement, and evaluate professional scale production runs using full-scale equipment. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as UICB:5170.

BKAT:5180 Advanced Projects in Paper 3 s.h.

Advanced independent projects undertaken in a classroom setting; collaborative group discussions to plan, implement, troubleshoot, and evaluate student projects. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as UICB:5180.

BKAT:5210 Bookbinding III 3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Prerequisites: (UICB:4205 or BKAT:4205) and (UICB:4270 or BKAT:4270). Requirements: for UICB:5210—UICB:4205 and UICB:4270; for BKAT:5210—BKAT:4205 or BKAT:4270 or UICB:4205 or UICB:4270. Same as UICB:5210.

BKAT:5260 Studies in Bookbinding 3 s.h.

Topics related to hand bookbinding. Same as UICB:5260.

Photography Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all photography courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

PHTO:2510 Beginning Digital Photography 3 s.h.

How to use digital technology to make high-quality color and black-and-white photographs from scanned film and digital files; basic photography skills, including exposure, bracketing, composition; how to use raw files to make large digital prints; color profiles for fine digital printing. Prerequisites: ARTS:1520 and ARTS:1510.

PHTO:3510 Black and White Darkroom 3-4 s.h.

Darkroom techniques, including film developing and printing; theory and practice of photography as fine art and cultural phenomenon; development of visual literacy, students' critical awareness of their work. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: PHTO:2510.

PHTO:3520 Intermediate Photography Digital 3-4 s.h.

Digital photography including landscape, portrait, collage, still life, manipulated images; black-and-white and color printing; computer technology; history of photography in political and social issues. Prerequisites: PHTO:2510.

PHTO:4510 Advanced Photography 3-4 s.h.

Individual projects; development of personal vision. Prerequisites: PHTO:3520 or PHTO:3510.

PHTO:4545 Materials and Techniques 4 s.h.

Concepts and techniques, from reading contemporary topics to understanding and applying nontraditional photographic processes and digital imaging. Prerequisites: PHTO:3520 or PHTO:3510.

PHTO:4599 Undergraduate Individual Instruction 1-3 s.h.

Individual instruction in photography for advanced students.

PHTO:4665 Introduction to 4x5 4 s.h.

Use of a 4x5 camera to correct perspective, depth of field; large format printing, negative processes. Prerequisites: PHTO:3510.

PHTO:6575 Graduate Photography Workshop 4 s.h.

Projects; group critiques; readings.

Printmaking Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all printmaking courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

PRNT:2610 Introduction to Printmaking 3 s.h.

Introduction to methods, materials, and concepts of printmaking. Prerequisites: ARTS:1510 and ARTS:1520. Requirements: art major. GE: Engineering Be Creative.

PRNT:3610 New Media for Printmaking 4 s.h.

New concepts and techniques for contemporary print media, including digital and less toxic applications in relief, intaglio, lithography, and screenprinting. Prerequisites: PRNT:2610.

PRNT:3620 Intaglio 4 s.h.

Concepts, techniques; traditional through contemporary ideas, methods; emphasis on metal plate printing, including etching, drypoint, engraving, softground, aquatint. Prerequisites: PRNT:2610. Requirements: PRNT:2610 or B.F.A. candidacy in any area or graduate standing.

PRNT:3630 Relief 3-4 s.h.

Concepts and techniques of relief printmaking, including woodcut, linocut, relief etching, black-and-white and color printing methods; traditional and contemporary approaches. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1510 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

PRNT:3640 Lithography 4 s.h.

Technical, aesthetic characteristics; basic direct drawing, processing, printing of stone and plate images in black and white. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1510 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

PRNT:3660 Monoprint 3-4 s.h.

Concepts, techniques in use of traditional and alternative printmaking media to produce unique, matrix-generated prints. Prerequisites: PRNT:2610.

PRNT:3670 Foil Imaging I 3 s.h.

Participation in development of a new art form involving creation of original prints and other works of art using hot stamped foil and Iowa Foil Printer. Prerequisites: ARTS:1510 and ARTS:1520. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1510 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

PRNT:3675 Foil Workshop in Printmaking 2 s.h.

Hands-on experience creating foil prints; workshop format. One or two weeks. Offered summer session.

PRNT:3680 Silkscreen 4 s.h.

Photographic, nonphotographic stencil techniques for silkscreen printing. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1010 and ARTS:1050 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

PRNT:4610 Advanced Printmaking 4 s.h.

Print media (i.e., intaglio, lithography, relief, screenprint); emphasis on individual technical and conceptual growth and development of independent studio practices. Prerequisites: PRNT:2610 and (PRNT:3620 or PRNT:3630 or PRNT:3640 or PRNT:3680).

PRNT:4640 Advanced Lithography 3-4 s.h.

Technical, aesthetic aspects; emphasis on color printing, indirect image-forming and photo-mechanical processes. Prerequisites: PRNT:3640 and PRNT:2610.

PRNT:4670 Foil Imaging II 4 s.h.

Advanced aesthetic and technical research for creation of original prints and other works of fine art using hot stamped foil and other printmaking techniques; individual instruction. Prerequisites: PRNT:3670.

PRNT:6675 Graduate Print Workshop 3-4 s.h.

Contemporary issues in printmaking; emphasis on development of personal work and independent studio practice through group critiques, special research projects, work in all print media.

PRNT:6699 Individual Instruction in Printmaking arr.

Sculpture Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all sculpture courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

SCLP:2810 Undergraduate Sculpture I 3 s.h.

Basic sculptural concepts, processes, investigation of materials such as plaster, clay, wood; emphasis on developing formal language, acquiring basic skills; spatial, conceptual, technical issues. Prerequisites: ARTS:1520 and ARTS:1510. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

SCLP:2820 Undergraduate Sculpture II 3 s.h.

Continuation of SCLP:2810; form, materials, processes, woodcarving, welding, concrete carving and direct application; expanding concept development; contemporary sculptural formats, collaborative process. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or TDSN:2210 or MTLs:2910).

SCLP:3840 Robotic Art Studio 4 s.h.

Exploration, design, and creation of interactive artworks, kinetic sculpture, robotic art, sound works, light art, and performance environments; application of basic electronics and mechanical techniques; use of programmable micro-controller Arduino. Prerequisites: ARTS:1520 and ARTS:1510 and (SCLP:2810 or CERM:2010 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative.

SCLP:3895 Topics in Sculpture 4 s.h.

Projects, reading; specialized conceptual forms and issues in contemporary sculpture, such as public art, installation. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or TDSN:2210 or MTLs:2910).

SCLP:4825 Casting in Hot Metal 4 s.h.

Foundry work, wax working, mold making, and processes. Prerequisites: SCLP:2810 or MTLs:2910.

SCLP:4830 Motion and Mechanisms 4 s.h.

Inherent properties of kinetic art and challenges of integrating motion into object and installation; artists who work with motion-based artwork; mechanical fabrication, basic electricity, switching, control, and various types of motors and mechanisms that can add motion to art-making process; projects engaging conceptual and technical aspects of kinetic sculpture, may include custom fabricated and recycled components. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or TDSN:2210 or MTLs:2910).

SCLP:4835 Electronic Objects and Spaces 4 s.h.

Aesthetic use of electronics to sequence and control motion, light, and sound; introduction to basic electronics through hands-on workshops and discussions; demonstrations on how to build an Arduino, integrated circuits, power supplies, soldering, prototyping, motors, sensors; projects integrating electronics with objects and spaces; artist screenings and critiques. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative.

SCLP:4840 Air, Actuators, and Motors 4 s.h.

Introduction to wide range of motors, actuators, and air devices available for integration in art projects; various forms of motor control and necessary means to power these devices; DC and AC motors, stepper motors, solenoids, electro magnets, relays, pneumatics, inflatables, and other air-driven devices; development of a project utilizing one or more systems; examples and media demonstrations to show how artists and scientists employ these systems. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative.

SCLP:4899 Undergraduate Individual Instruction 1-3 s.h.

Individual instruction in sculpture for advanced students.

SCLP:6264 Graduate Sculpture Workshop 3-4 s.h.

Critique seminar with readings for graduate sculptors and nonsculpture graduate students.

SCLP:6899 Individual Instruction in Sculpture arr.

Art Education Courses

ARTE:3143 Methods of Elementary Art and Field Experiences 3 s.h.

Application of studio methods to teaching children in Saturday Children's Art Class Program. Same as EDTL:3143.

ARTE:6267 Seminar: Current Issues in Art Education 3-4 s.h.

Analysis of literature in art education and related disciplines. Same as EDTL:6267.

Art, B.A.

Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through course work in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and writing; and
- develop and apply research skills.

Requirements

The Bachelor of Arts with a major in art requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major provides a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art. Students take courses in the school's studio art programs, including animation, ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

Students may count a maximum of 56 s.h. earned in art and art history courses toward the degree; they must earn at least 64 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

B.A. students with a double major in the school (e.g., a major in art and a major in art history) or a major and a minor in the school (e.g., a major in art and a minor in art history) must earn at least 56 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

Students majoring in art begin their study in the Bachelor of Arts program. Those interested in pursuing concentrated work in a specific studio art discipline may apply for admission to the Bachelor of Fine Arts program through a process called "clearance," in which the faculty evaluates a student's readiness for B.F.A. study. Clearance usually takes place during the third year, but it may be conducted earlier or later, depending on the student's readiness.

Students interested in teaching art in elementary and/or secondary schools may apply to the art education program; see "Teacher Licensure" below.

Students who complete an elements course and decide to pursue either major or minor work in the area of studio art may elect to substitute the elements course for the corresponding discipline beginning or introductory studio arts course, such as ARTS:1080 Elements of Sculpture for SCLP:2810 Undergraduate Sculpture I.

The B.A. with a major in art requires the following course work. Not all courses are offered every semester, including required courses. When planning their course work, students should consult their advisors and MyUI to determine when specific courses will be offered.

Code	Title	Hours
Four Art History Courses		12
Two Foundational Studio Art Courses		6
Two Studio Art 3-D Courses		6
Two Studio Art 2-D Courses		6
Two Upper-Level Studio Art Courses		6
Required Electives		3
Total Hours		39

Art History

Code	Title	Hours
Two of these:		
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	American Indian Art	3
And:		
Two art history courses not in the list above, excluding ARTH:1000, ARTH:1080, ARTH:2975, ARTH:3985, ARTH:3995, and ARTH:4999		6

Foundational Studio Art

Studio art majors are required to complete ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals by the end of their first academic year. Majors can enroll in one beginning or introductory studio arts course during the same semester they are enrolled in either ARTS:1510 or ARTS:1520.

Students may take introductory 3-D and 2-D courses while taking the foundational courses.

Code	Title	Hours
Both of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3

Studio Art 3-D Courses

Code	Title	Hours
Two of these:		
CERM:2010	Exploring Forms in Clay I	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Problems in 3-D Design	3

Studio Art 2-D Courses

Code	Title	Hours
Two of these:		
ANIM:2125	Introduction to Animation	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
PHTO:2510	Beginning Digital Photography	3

PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

Upper-Level Studio Art Courses

Students must take two upper-level studio art courses. They may take both upper-level courses in the same studio art discipline or one upper-level course in each of two disciplines. Any course beyond the introductory course in the discipline is considered upper level.

Introductory courses include the following and do not count toward the upper-level studio arts courses requirement.

Code	Title	Hours
ANIM:2125	Introduction to Animation	3
CERM:2010	Exploring Forms in Clay I	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
PHTO:2510	Beginning Digital Photography	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Problems in 3-D Design	3

Required Electives

School of Art and Art History elective courses must bring the total credit for the major in art to a minimum of 39 s.h.

Transfer Students

Transfer students should contact the undergraduate academic advisors for information about transfer portfolio review and specific course work that satisfies the requirements for the major in art. Students may count a maximum of 12 s.h. of approved transfer credit toward their major.

Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take studio art courses abroad must bring their artwork back to campus and must present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Students who plan to take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once the course is completed with a passing grade.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the art major and all requirements

for graduation with a B.A. degree. The TEP requires several College of Education courses and student teaching. Students must satisfy all degree requirements and complete TEP licensure before degree conferral. Contact the Office of Student Services in the College of Education for details.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They also must complete an application to graduate with honors in the major.

Students must complete a studio art project during the semester in which they plan to graduate. They must select a studio art faculty member willing to supervise their honors project; must display the completed project in a show; and must complete a title page, abstract, and CD of images for their project. They earn credit for the project by enrolling in ARTS:4190 Honors in Studio Art.

University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: at least four courses in the major

Before the seventh semester begins: at least four more courses in the major (total of eight) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least three more courses in the major (total of 11)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Art, B.A.

Course	Title	Hours
First Year		
Fall		
ARTS:1510	Basic Drawing ^a	3
ARTS:1520	Design Fundamentals ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
CSL:1600	Success at Iowa	2
Hours		14-15
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: art history survey course ^c		3
Major: introductory-level studio 2-D course ^d		3
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^e		2
Hours		15-16
Second Year		
Fall		
Major: art history survey course ^c		3
Major: introductory-level studio 3-D course ^f		3
Major: non-art elective course		1 - 2
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^g		4 - 5
Elective course ^e		2
Hours		16-18
Spring		
Major: art history non-survey course ^h		3
Major: introductory-level studio 2-D course ^d		3
Major: introductory-level studio 3-D course ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective ^g		4 - 5
Elective course ^e		3
Hours		16-17
Third Year		
Fall		
Major: art history non-survey course ^h		3
Major: elective art course ⁱ		3 - 4
Major: upper-level studio art course ^j		3 - 4
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g		4 - 5
Hours		16-19
Spring		
Major: elective art course ⁱ		3
Major: upper-level studio art course ^j		3
GE CLAS Core: International and Global Issues or elective ^b		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^g		4 - 5
Elective course ^e		3
Hours		16-17

Fourth Year

Fall

Major: elective art course ⁱ	3
GE CLAS Core: Literary, Visual, and Performing Arts or elective course ^{b, k}	3
GE CLAS Core: Values and Culture ^b	3
Elective course ^e	3
Elective course ^e	3
Hours	15

Spring

Major: elective art and art history course ⁱ	3
GE CLAS Core: Historical Perspectives ^b	3
GE CLAS Core: Social Sciences ^b	3
Elective course ^e	3
Elective course ^e	3
Hours	15
Total Hours	123-132

- a Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE requirements; students should consult with their advisor.
- d Select introductory-level studio 2-D course from PNTG:2410, DSGN:2500, DRAW:2310, PHTO:2510, PRNT:2610, and ANIM:2125.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Select introductory-level studio 3-D course from CERM:2010, INTM:2710, MTLN:2910, TDSN:2210, and SCLP:2810.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:2975, ARTH:3985, ARTH:3995, and ARTH:4999.
- i Students may select an elective art course until they complete a maximum of 56 s.h. of art courses, or select a non-art elective course.
- j The following introductory courses do not count toward the upper-level studio arts courses requirement: ANIM:2125, CERM:2010, DRAW:2310, DSGN:2500, INTM:2710, MTLN:2910, PHTO:2510, PNTG:2410, PRNT:2610, SCLP:2810, TDSN:2210.
- k Students may fulfill this general education requirement while also fulfilling major requirements.

Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor. Others go on to graduate study in areas such as art history, art therapy, architecture, design, medical illustration, studio art, or disciplines outside of art.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Art History, B.A.

Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through course work in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and writing; and
- develop and apply research skills.

Overview

The program in art history engages in problems of historical analysis and in interpretation of culture. The major provides students with a strong liberal arts background and prepares them for competitive placement in graduate schools across the country. As students progress through the major, they become familiar with historical relationships between art objects and society, learn techniques of visual analysis, study patterns of patronage, and apply methods for interpreting the meanings of art, architecture, and other forms of visual culture. In the course of their studies, art history majors develop their research abilities and writing skills.

Requirements

The Bachelor of Arts with a major in art history requires a minimum of 120 s.h., including 45 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students may count a maximum of 56 s.h. earned in art and art history courses toward the degree; they must earn at least 64 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

B.A. students with a double major in the school (e.g., a major in art history and a major in art) or a major and a minor in the school (e.g., a major in art history and a minor in art) must earn at least 56 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

Students interested in teaching art in elementary and/or secondary schools may apply to the art education program; see "Teacher Licensure" below.

The B.A. with a major in art history requires the following course work.

Code	Title	Hours
Thirteen Art History Courses		39
Two Studio Art Courses		6
Total Hours		45

Art History

Code	Title	Hours
These three courses, taken before enrollment in courses numbered ARTH:2975 and above:		
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3

ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1080	Writing About the Visual Arts	3
One of these:		
ARTH:1040	Arts of Africa	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	American Indian Art	3
All of these:		
ARTH:4999	History and Methods	3
Three courses chosen from those numbered ARTH:2020 through ARTH:2920		9
Five upper-level courses chosen from those numbered ARTH:3000 through ARTH:4941		15

Studio Art

Code	Title	Hours
This course:		
ARTS:1510	Basic Drawing	3
One of these:		
ARTS:1520	Design Fundamentals	3
CERM:2010	Exploring Forms in Clay I	3
DRAW:2310	Life Drawing I	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3
SCLP:2810	Undergraduate Sculpture I	3

Transfer Students

Transfer students should meet with the undergraduate advisor to discuss the requirements they may fulfill with transfer courses. Art history transfer courses must be reviewed by the head of the art history area to determine a student's placement in or exemption from required art history courses. Students may count a maximum of 15 s.h. of approved transfer credit toward their major.

Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once the course is completed with a passing grade.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the art history major and all

requirements for graduation with a B.A. degree. The TEP requires several College of Education courses and student teaching. Students must satisfy all degree requirements and complete TEP licensure before degree conferral. Contact the Office of Student Services in the College of Education for details.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They also must complete an application to graduate with honors in the major.

Students must complete an honors project that includes an honors thesis during the semester in which they plan to graduate. Students have two options for completing the honors project.

Option 1: Students take two upper-division courses with an honors contract and complete an extra project, such as an annotated bibliography, a supplemental paper or presentation, or a comparable project endorsed by the professor. Students then enroll in a third upper-division course, with or without honors contract, appropriate to their honors paper topic and ARTH:3985 Honors Research in Art History for 1 s.h. credit with the same instructor. Through enrollment in ARTH:3985, students write an honors paper of 3,000 to 5,000 words.

Option 2: Students research and write an honors paper of 5,000 to 7,500 words under the direction of an art history professor, who agrees to act as their honors advisor. Students earn up to 3 s.h. credit in ARTH:3985 Honors Research in Art History. They must have the approval of their honors advisor before they begin work on their honors paper.

The honors paper should conform to the Graduate College format for theses; see the Manual of Rules and Regulations of the Graduate College.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art history major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: at least four courses in the major

Before the seventh semester begins: at least four more courses in the major (total of eight) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least three more courses in the major (total of 11)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Art History, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: art history survey course	^{a, b}	3
Major: art history survey course	^{a, b}	3
GE CLAS Core: Natural Sciences without Lab	^c	3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
ARTH:1080	Writing About the Visual Arts ^d	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: art history survey course	^{b, e}	3
GE CLAS Core: Diversity and Inclusion	^c	3
GE CLAS Core: International and Global Issues	^c	3
Hours		15-16
Second Year		
Fall		
ARTS:1510	Basic Drawing	3
Major: introductory-level art history course	^f	3
Major: introductory-level art history course	^f	3
GE CLAS Core: World Languages First Level Proficiency or elective course	^g	4 - 5
Elective course	^h	3
Hours		16-17
Spring		
Major: introductory-level art history course	^f	3
Major: introductory-level studio art course	ⁱ	3
GE CLAS Core: Quantitative or Formal Reasoning	^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course	^g	4 - 5
Elective course	^h	3
Hours		16-17
Third Year		
Fall		
Major: elective non-art course		3
Major: upper-level art history course	^j	3
Major: upper-level art history course	^j	3

GE CLAS Core: Values and Culture ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g	4 - 5
Hours	16-17

Spring

Major: elective non-art course	3
Major: upper-level art history course ^j	3
Major: upper-level art history course ^j	3
GE CLAS Core: Social Sciences ^c	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^g	4 - 5
Hours	16-17

Fourth Year**Fall**

ARTH:4999 History and Methods	3
Major: elective non-art course	3
GE CLAS Core: Natural Sciences with Lab ^c	4
Elective course ^h	3
Elective course ^h	2
Hours	15

Spring

Major: elective non-art course	3
Major: elective non-art course	3
Major: elective non-art course	3
Major: elective non-art course	3
Major: upper-level art history course ^j	3
Hours	15
Total Hours	123-129

- a Choose from ARTH:1050 or ARTH:1060.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d This course should be taken after completing Rhetoric and before enrollment in courses ARTH:2975 and above.
- e Choose from ARTH:1040, ARTH:1070, or ARTH:1095
- f Students complete three courses (9 s.h.) chosen from those numbered ARTH:2020 through ARTH:2920.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i Students complete this requirement by choosing one of these courses: ARTS:1520, CERM:2010, DRAW:2310, MTLs:2910, PNTG:2410, PRNT:2610, SCLP:2810.
- j Students complete five upper-level courses (15 s.h.) chosen from those numbered ARTH:3000 through ARTH:4941.

Career Advancement

Many graduates pursue careers that match their degree specializations, such as commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, gallery and museum administration, art appraisal, and restoration, or community art center coordinator or instructor. Others go on to graduate study in areas such as art history, art therapy, architecture, design, medical illustration, studio art, or disciplines outside of art.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Art, B.F.A.

Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through course work in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and writing; and
- develop and apply research skills.

Requirements

The Bachelor of Fine Arts with a major in art requires a minimum of 120 s.h., including 62 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Bachelor of Fine Arts students majoring in art may count a maximum of 62 s.h. earned in art and art history courses toward the degree; they must earn at least 58 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

The major provides a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art. It also includes a concentration in studio art.

Students select one studio art discipline, choosing from ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture. They may not select bookbinding, calligraphy, or papermaking as their studio art discipline. Although students may choose only one B.F.A. discipline, they gain exposure to other studio areas through the B.F.A. program of study.

Students who complete an elements course and decide to pursue either major or minor work in the area of studio art may elect to substitute the elements course for the corresponding discipline beginning or introductory studio arts course, such as ARTS:1080 Elements of Sculpture for SCLP:2810 Undergraduate Sculpture I.

Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice. Students are admitted to the B.F.A. program through a process called "clearance," which is conducted once each semester; they must be admitted to the B.F.A. program at least one semester before they graduate. Students who wish to enter the B.F.A. program should consult the faculty in their major studio art discipline for information about the required portfolio review.

In order to sit for B.F.A. clearance, students must have completed:

- the two studio art foundation courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals;
- one introductory course in the B.F.A. studio art discipline; and

two upper-level courses in the B.F.A. studio art discipline (students may be enrolled in the two upper-level courses when they sit for clearance).

B.F.A. students complete all requirements for the B.A. major in art (required courses) plus additional studio work. They also must present a show of their work through ARTS:4195 B.F.A. Exhibition before they graduate.

Students interested in teaching art in elementary and/or secondary schools may apply to the art education program; see "Teacher Licensure" below.

The B.F.A. with a major in art requires the following work.

Code	Title	Hours
Required Courses		39
Additional Studio Art Courses		23
B.F.A. Exhibition		
Total Hours		62

Required Courses

The following course work is required (39 s.h.).

Art History

Code	Title	Hours
Two of these:		
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	American Indian Art	3
And:		
Two art history courses not in the list above, excluding ARTH:1000, ARTH:1080, ARTH:2975, ARTH:3985, ARTH:3995, and ARTH:4999		6

Foundational Studio Art

Studio art majors are required to complete ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals by the end of their first academic year. Majors can enroll in one beginning or introductory studio arts course during the same semester they are enrolled in either ARTS:1510 or ARTS:1520.

Students may take introductory level 2-D and 3-D courses while taking the foundational studio art courses.

Code	Title	Hours
Both of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3

Studio Art 3-D Courses

Code	Title	Hours
Two of these:		
CERM:2010	Exploring Forms in Clay I	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3

SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Problems in 3-D Design	3

Studio Art 2-D Courses

Code	Title	Hours
Two of these:		
ANIM:2125	Introduction to Animation	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
PHTO:2510	Beginning Digital Photography	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

Required Electives

School of Art and Art History elective courses must bring the total credit for the major to a minimum of 62 s.h.

Additional Studio Art Courses

Code	Title	Hours
All of these:		
One introductory course and three upper-level courses in the student's studio art discipline		
One introductory course and one upper-level course in a second studio art discipline		
One introductory course and one upper-level course in a third studio art discipline		

B.F.A. Exhibition

Students must present a show of their work in ARTS:4195 B.F.A. Exhibition during the semester in which they graduate. Variations must be approved by the B.F.A. faculty advisor and academic advisors. The show must be advertised using flyers and other media. Students planning to graduate with honors in the major may combine their honors project and their B.F.A. show. Students must meet with faculty and academic advisors to complete the required documentation before they present their show.

Transfer Students

Transfer students should contact the undergraduate academic advisors for information about transfer portfolio review and specific course work that satisfies the requirements for the major in art. Students may count a maximum of 21 s.h. of approved transfer credit toward their major.

Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Students who plan to take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited

with fulfilling the requirement once the course is completed with a passing grade.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation with a B.F.A. degree. The TEP requires several College of Education courses and student teaching. Students must satisfy all degree requirements and complete TEP licensure before degree conferral. Contact the Office of Student Services in the College of Education for details.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They also must complete an application to graduate with honors in the major.

Students must complete a studio art project during the semester in which they plan to graduate. They must select a studio art faculty member willing to supervise their honors project; must display the completed project in a show; and must complete a title page, abstract, and CD of images for their project. They earn credit for the project by enrolling in ARTS:4190 Honors in Studio Art.

University of Iowa Honors Program

In addition to honors in the major, undergraduate students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the B.F.A. major in art. Students should work with their advisors to develop individual graduation plans.

Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor. Others go on to graduate study in areas such as art history, art therapy, architecture, design, medical illustration, studio art, or disciplines outside of art.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Art, Minor

The undergraduate minor in art requires a minimum of 18 s.h. in art courses, including at least 15 s.h. earned in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may not count course work for the minor in art toward requirements for the major in art history, except ARTS:1510 Basic Drawing.

Art courses that may be taken include animation, ceramics, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, sculpture, and three-dimensional (3-D) design. Two courses with the prefix ARTS are required and one art history course with the prefix ARTH may be included in the 18 s.h. required for the minor.

The minor in art requires the following course work.

Code	Title	Hours
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
At least one introductory studio art 3-D course		
At least one introductory studio art 2-D course, except DSGN:2500		
Additional introductory studio art courses or upper-level courses in the same studio art discipline(s) as the introductory 3-D and/or 2-D courses required for the minor		

Before registering for a course, students must complete all of the course's prerequisites.

Contact an undergraduate advisor in the School of Art and Art History for more information about how to meet the requirements for the minor.

Art History, Minor

The undergraduate minor in art history requires a minimum of 15 s.h. in art history courses, including 12 s.h. earned in advanced courses taken at the University of Iowa. Courses numbered ARTH:2000 or above are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students earning a major in art and a minor in art history may not count course work or semester hours for the minor in art history toward requirements for the major in art. But they may count one art history course required for the art major toward the requirements for the art history minor; students must consult with their advisors.

The minor in art history must include one survey course chosen from these:

Code	Title	Hours
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	American Indian Art	3

Before registering for a course, students must complete all of the course's prerequisites.

Contact an undergraduate advisor in the School of Art and Art History for more information about how to meet the requirements for the minor.

Art, M.A.

Requirements

The Master of Arts program in art requires a minimum of 38 s.h. of graduate credit. The degree is offered with emphases in the following studio art disciplines: ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia and video art, jewelry and metal arts, painting, photography, printmaking, and sculpture.

M.A. students must hold a B.A. or B.F.A. in art equivalent to that offered by the University of Iowa. Undergraduate deficiencies, if any, may be made up concurrently with graduate study but do not count toward the graduate degree requirements.

The 38 s.h. of credit required for the degree includes at least 16 s.h. in a primary studio art emphasis; 8 s.h. in a secondary studio art emphasis chosen from one of the studio art disciplines listed above; 3 s.h. in the history and theory of art, excluding readings and directed studies; and 3 s.h. in theory, history, criticism, or philosophy, earned in courses inside or outside of the school.

Students undergo a division-wide review for M.A. candidacy by the faculty during their third semester in residence. All those except painting and drawing students must submit a written artist's statement or thesis.

M.A. students in intermedia and video art, and 3-D design are required to write a thesis. They may earn 1 s.h. for writing a technical or substantial thesis by registering for ARTS:6000 M.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements. M.A. students in other studio art disciplines choose the thesis or nonthesis option in consultation with their discipline advisor.

The College of Education offers an M.A. program in art education; see the M.A. in teaching and learning [p. 1270] in the Catalog.

Admission

Deadline date for submission of materials to the Office of Graduate Admissions is February 1 for studio art programs; admission is for fall.

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

School of Art and Art History Requirements

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score as follows on the Test of English as a Foreign Language (TOEFL): for studio art applicants, 81 (internet-based). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application will not be reviewed if scores are lower than the requirements specify.

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific

degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Non-native speakers of English should note that most students are financially funded through teaching, and the Iowa Board of Regents mandates that all non-native speakers of English pass an oral English test in order to teach.

Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents:

- transcripts from all colleges and universities an applicant has attended;
- contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation; and
- a statement of purpose.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website.

Studio art applicants' portfolio requirements are listed below. Images in the portfolio should be uploaded pdf files no larger than 72 dpi and 1240 by 1240 pixels. File size must not exceed 1 MB. Images must be numbered according to the order they are to be presented to the admissions committee, beginning with an inventory list that includes each image's name, title, medium, size, and approximate date of work, as well as the student's name and emphasis. Applicants may supply a link to their personal website.

Portfolio contents and submission requirements are as follows.

Ceramics, three-dimensional (3-D) design, and jewelry and metal arts: eight images in the primary studio art discipline and two in a second discipline.

Graphic design: documentation of 15 to 20 projects. Applicant should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with any questions.

Intermedia and video art: documentation of 5 to 10 projects. Applicants should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with any questions.

Painting and drawing: eight images in the primary studio art discipline and two in a second discipline.

Photography: 20 images in photography and two or three images in a second discipline.

Printmaking: 10 to 20 images.

Sculpture: 20 images in sculpture, including details, and two or three images in a second discipline.

Extreme care is taken in handling all portfolios, but the School of Art and Art History cannot be responsible for reimbursement in the event of loss or damage.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

Iowa Arts Fellowships

The Graduate College awards Iowa Arts Fellowships to two incoming or first-year studio art graduate students each year. For more information, see Iowa Arts Fellowships on the Graduate College website.

Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships and a separate application is not necessary.

Information and application materials for graduate scholarships and fellowships are included in the admissions package. They also are available from the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year.

Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor.

Art History, M.A.

Requirements

The Master of Arts program in art history requires a minimum of 30 s.h. of graduate credit. Students are expected to acquire a broad knowledge of art history and to become familiar with major periods and monuments of world art. They also become proficient scholars, receiving training in research methods and theory necessary for subsequent scholarship at the Ph.D. level.

Students must maintain a g.p.a. of at least 3.50. Only one semester of academic probation is allowed. All M.A. candidates, including transfer students, must complete at least 24 s.h. in residence at the University of Iowa.

Students must earn a grade of B or higher in semester-long courses numbered 3000 or above in five of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. These courses must be taken after the B.A. is granted.

Students must complete a qualifying paper that demonstrates their ability to conduct scholarly research and convey ideas in writing appropriately for the discipline and for the student's specialization field.

The College of Education offers an M.A. program in art education; see Teaching and Learning [p. 1245] in the Catalog.

Required Courses

Students must satisfactorily complete ARTH:4999 History and Methods during their first fall semester of enrollment and must register for an art history seminar in their first, second, third, and fourth semesters of enrollment.

They also must satisfactorily complete ARTH:6020 Art History Colloquium every semester that they are enrolled for 9 s.h. or more or are serving as teaching or research assistants. Students who are not employed as teaching or research assistants or are registered for less than 9 s.h. are strongly encouraged to attend the colloquium.

Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit. Cross-listed courses not taught by art history faculty members also do not carry art history credit.

Directed Studies

Directed Studies (ARTH:6040) is designed for graduate students who already have taken one or more advanced courses in a specific art history field. It provides students with an opportunity to work one-to-one with a professor to continue specific research interests developed in lecture courses or seminars, or on topics that eventually may be the subject of a thesis or dissertation. Directed Studies cannot be substituted for a lecture course already offered in the program. Students must discuss their decision to take Directed Studies with the professor involved and obtain the professor's approval. The Directed Studies topic must be within the professor's range of expertise.

Students meet with their Directed Studies professor once a week. The hours of work and written assignments required

for Directed Studies must be equal to a comparable regularly scheduled course.

Language Requirement

Students must demonstrate proficiency in French or German by the end of their third semester. Proficiency is determined by a translation exam administered under the direction of the art history division. Credit earned in language courses does not count toward the degree.

M.A. Committee

The M.A. committee consists of a student's advisor and two additional tenured or tenure-track faculty members in art history.

M.A. Qualifying Paper

Prior to graduation, each candidate must complete a qualifying paper on a topic that stems from a term paper written for an art history graduate seminar or a 3000-level course. The paper should be between 5,000 and 7,500 words in length (20 to 30 pages exclusive of bibliography and illustrations). A student chooses an advisor who specializes in the student's field of concentration. In cases where a student wants to focus on a topic that involves more than one field, the art history faculty strongly recommends that the student work closely with faculty members in both fields.

Final Examination

The final examination constitutes an oral defense of the qualifying paper. The final examination meeting with the M.A. committee normally takes place toward the end of a student's last semester of course work.

Admission

Deadline date for submission of materials to the Office of Graduate Admissions is December 15 for the art history program; admission is for fall.

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

School of Art and Art History Requirements

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score as follows on the Test of English as a Foreign Language (TOEFL): for art history applicants, at least 100 (internet-based). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application will not be reviewed if scores are lower than the requirements specify.

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Although exceptions may be made when other components of the application are strong, art history applicants should have a combined verbal and quantitative score of at least 300 and an analytical writing score of at least 5 on the Graduate Record Exam (GRE) General Test. Art history applicants must have a bachelor's degree, preferably in art history or a related field, and have an undergraduate g.p.a. of at least 3.25.

Non-native speakers of English should note that most students are financially funded through teaching, and the Iowa Board of Regents mandates that all non-native speakers of English pass an oral English test in order to teach.

Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting their application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents:

- transcripts from all colleges and universities an applicant has attended;

- contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation; and

- a statement of purpose.

Art history applicants should supply a research paper (preferably from an art history course) or thesis that demonstrates potential to undertake graduate-level research in art history, and a personal statement of 1,000 words describing their intellectual development, academic interests, and career goals. The statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and indicate how that faculty member's area of expertise, or how the art history program is especially suited to the applicant's interests and goals.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

Iowa Arts Fellowships

The Graduate College awards Iowa Arts Fellowships to two incoming or first-year studio art graduate students each year. For more information, see Iowa Arts Fellowships on the Graduate College website.

Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major

criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information and application materials for graduate scholarships and fellowships are included in the admissions package. They also are available from the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year. Applications and all relevant materials should be on file by January 15.

Career Advancement

Many art and art history graduates pursue careers that match their degree specializations, such as commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, gallery and museum administration, art appraisal, and restoration, or community art center coordinator or instructor.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Art, M.F.A.

Requirements

The Master of Fine Arts program in art requires a minimum of 60 s.h. of graduate credit. The degree is offered with thesis and with emphases in the following studio art disciplines: ceramics, graphic design, three-dimensional (3-D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture. Students must earn at least 24 s.h. of credit for the degree at the University of Iowa, including approved credit earned for the M.A. in art.

M.F.A. students must hold an M.A. in art equivalent to that offered by the University of Iowa. Transfer credit is decided by faculty review. Following completion of the M.A., students may be invited into the M.F.A. program.

Required Courses

The 60 s.h. of credit required for the M.F.A. includes at least 24 s.h. in a primary studio art emphasis; at least 12 s.h. in a secondary studio art emphasis selected from those listed above; 3 s.h. in art history and theory of art (if not already taken); and 3 s.h. in theory, history, criticism, or philosophy (if not already taken). Students must earn 8 s.h. in their primary studio art emphasis and 4 s.h. in their secondary studio art emphasis after being granted an M.A. in art.

M.F.A. Committee Review

Students must undergo an M.F.A. committee review. They also must complete a written thesis and possibly a studio thesis. Students are reviewed by their committees at the end of the semester prior to the semester they intend to graduate.

Students are responsible for identifying a degree chair by the semester prior to the semester they intend to graduate. Committee members are selected in consultation with the degree chair by October 1 for spring or summer graduation and March 1 for fall graduation. The committee is comprised of the degree committee chair and three members of the graduate faculty at the assistant professor rank or above (two graduate faculty members from a student's major discipline, one graduate faculty member from a student's second studio discipline, and an additional member.) Adjunct faculty, lecturers, and visiting professors may serve on degree committees with approval of the degree committee chair and a Graduate College petition request (renewable every three years).

M.F.A. students sign up for review through the graduate program coordinator. They obtain a form to be signed by both the degree committee members and a faculty member in the second emphasis studio discipline. These forms must be returned to the office no later than the University's official midterm day by 4:30 p.m.

M.F.A. Thesis

A thesis abstract is given to all degree committee members and is due by November 15 for May or August graduation and by April 15 for December graduation. The thesis chair is responsible for meeting with the student immediately thereafter to direct thesis content and to coordinate meeting with the full committee.

A copy of the thesis is due to all committee members before the M.F.A. exhibition to be read in its final form prior to thesis defense. The thesis must be as complete as possible including

photocopies (may be black and white) of approved figures that will be included in the final thesis. The graduate program coordinator will provide a student with complete thesis/artist statement procedures, including the Graduate College calendar.

A thesis defense of the M.F.A. work must be scheduled with the candidate's committee during the final semester in residence. The M.F.A. exhibition is the final examination and where the degree committee signs the final examination report.

The complete thesis in final form must be deposited for its first check in the Graduate College approximately six weeks prior to the end of the semester in which the degree is to be conferred. Graduate College regulations covering the specific requirements of the written thesis are found on the Graduate College Thesis and Dissertation website.

The thesis and the signed certificate of approval are submitted by the Graduate College deadline. The certificate of approval (a page of the written thesis) must be signed by all degree committee members. The student is responsible for obtaining committee members' signatures on the certificate of approval. Any corrections to the thesis required by the graduate examiner or the degree committee should be completed prior to the final deposit.

Students may earn 1 s.h. for writing a technical or substantial thesis by registering for ARTS:7000 M.F.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements.

Admission

Deadline date for submission of materials to the Office of Graduate Admissions is February 1 for studio art programs; admission is for fall.

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

School of Art and Art History Requirements

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score as follows on the Test of English as a Foreign Language (TOEFL): for studio art applicants, 81 (internet-based). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application will not be reviewed if scores are lower than the requirements specify.

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Non-native speakers of English should note that most students are financially funded through teaching, and the Iowa Board

of Regents mandates that all non-native speakers of English pass an oral English test in order to teach.

Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents:

- transcripts from all colleges and universities an applicant has attended;

- contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation; and

- a statement of purpose.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website.

Studio art applicants' portfolio requirements are listed below. Images in the portfolio should be uploaded pdf files no larger than 72 dpi and 1240 by 1240 pixels. File size must not exceed 1 MB. Images must be numbered according to the order they are to be presented to the admissions committee, beginning with an inventory list that includes each image's name, title, medium, size, and approximate date of work, as well as the student's name and emphasis. Applicants may supply a link to their personal website.

Portfolio contents and submission requirements are as follows.

Ceramics, three-dimensional (3-D) design, and jewelry and metal arts: eight images in the primary studio art discipline and two in a second discipline.

Graphic design: documentation of 15 to 20 projects. Applicant should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with any questions.

Intermedia and video art: documentation of 5 to 10 projects. Applicants should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with any questions.

Painting and drawing: eight images in the primary studio art discipline and two in a second discipline.

Photography: 20 images in photography and two or three images in a second discipline.

Printmaking: 10 to 20 images.

Sculpture: 20 images in sculpture, including details, and two or three images in a second discipline.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

Iowa Arts Fellowships

The Graduate College awards Iowa Arts Fellowships to two incoming or first-year studio art graduate students each year. For more information, see Iowa Arts Fellowships on the Graduate College website.

Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information and application materials for graduate scholarships and fellowships are included in the admissions package. They also are available from the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year.

Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor.

Art History, Ph.D.

Requirements

The Doctor of Philosophy program in art history requires a minimum of 72 s.h. of graduate credit. Of the 72 s.h., at least 39 s.h. must be earned while registered in the UI Graduate College, after formal program admission. For details, see the Graduate College Manual of Rules and Regulations Section XII C. Students must maintain a g.p.a. of at least 3.50. They may count a maximum of 38 s.h. of work completed for the M.A. toward the Ph.D., excluding credit earned in language courses. Students are allowed only one semester of academic probation.

They are expected to acquire great breadth and depth of knowledge in the discipline of art history, achieve a high level of expertise in a specialized field, and demonstrate professional speaking and writing skills. The program provides them with scholarly challenges, research skills, and mentoring necessary for professional development and successful careers.

Ph.D. students major in one of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. Students also minor in two fields. The first minor must be in an art history distribution field that is not contiguous with the major field; the second may be in any art history distribution field or in a relevant discipline outside of art history, subject to the faculty's approval.

For more detailed information, consult the Art History Graduate Bulletin.

Required Courses

Students must satisfactorily complete ARTH:4999 History and Methods, even if they have completed a similar course at another institution (students who have completed the course for a master's degree or other previous work at Iowa are exempt). They must register for an art history seminar in their first three semesters of Ph.D. course work (or in their fifth, sixth, and seventh semesters of graduate study), before the Ph.D. readings course and comprehensive exam.

They also must satisfactorily complete ARTH:6020 Art History Colloquium every semester that they are enrolled for 9 s.h. or more or are serving as teaching or research assistants. Students who are not employed as teaching or research assistants or are registered for less than 9 s.h. are strongly encouraged to attend the colloquium.

Students may count up to 6 s.h. of credit earned for dissertation research toward the 72 s.h. required for the degree. Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit.

Directed Studies

Normally, a maximum of 6 s.h. earned in ARTH:6040 Directed Studies may be applied toward the semester-hour requirement for the Ph.D., although doctoral students may petition the art history faculty for permission to apply up to 9 s.h.

Language Requirement

Students must demonstrate proficiency in French or German for admission to the Ph.D. program. They also must demonstrate proficiency in a second non-English language relevant to their research area by the end of their third semester of Ph.D. work or before their dissertation topic is approved. Proficiency is determined by a translation exam administered under the direction of the art history division. Credit earned in language courses does not count toward the degree.

Ph.D. Committee

The Ph.D. committee consists of the student's dissertation advisor, who is responsible for the major field; two members responsible for the two minor fields; and at least two additional members. Of these five, four must be tenured or tenure-track faculty members from the art history division. One must be from outside the division and must be a member of the Graduate College faculty. When appropriate, committees may include additional members.

Comprehensive Examination

Upon completion of course requirements, the Ph.D. candidate takes three written comprehensive examinations. The major exam consists of six questions and lasts six hours; the two minor exams each consist of three questions and last three hours. The exams are taken on any three days within one week (Monday through Friday).

The scope of the comprehensive exams is determined in consultation with the candidate's degree committee supervisor and the committee members responsible for the two minor fields.

Oral Comprehensive Examination

Within approximately two weeks of completing the three written exams, the candidate meets with the degree committee for the oral comprehensive examination, which concentrates on questions that arise from the written comprehensive exams.

Dissertation Proposal

Each student must complete a publishable dissertation that makes an original contribution to the art history discipline and demonstrates evidence of superior understanding of critical issues in the candidate's chosen specialization field. As soon as possible after completing the comprehensive examinations, the candidate submits a dissertation proposal to the degree committee supervisor and subsequently to the degree committee.

The committee meets as a group with the candidate to discuss the dissertation proposal and to offer comments and suggestions. (The proposal must be submitted to the committee at least two weeks before the approval meeting.) The proposal includes a 1-2 page abstract, a 10-15 page précis (including a review of the state of the field), and a bibliography.

After the proposal has been approved by the committee, the candidate circulates an abstract to the entire art history faculty. The candidate must give a public presentation on the dissertation topic no later than the end of the semester following the degree committee's approval. The presentation is scheduled with the head of art history.

Final Examination

Upon completing a dissertation, the candidate meets with the Ph.D. committee for an oral defense of the dissertation. The oral defense constitutes the final examination for the Ph.D. The successful completion of this examination normally marks the last stage in the candidate's fulfillment of requirements for the degree.

Admission

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

Deadline date for submission of materials to the Office of Graduate Admissions is December 15 for the art history program; admission is for fall.

School of Art and Art History Requirements

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score as follows on the Test of English as a Foreign Language (TOEFL): for art history applicants, at least 100 (internet-based). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application will not be reviewed if scores are lower than the requirements specify.

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Although exceptions may be made when other components of the application are strong, art history applicants should have a combined verbal and quantitative score of at least 300 and an analytical writing score of at least 5 on the Graduate Record Exam (GRE) General Test. Art history applicants must have a bachelor's degree, preferably in art history or a related field, and have an undergraduate g.p.a. of at least 3.25.

Non-native speakers of English should note that most students are financially funded through teaching, and the Iowa Board of Regents mandates that all non-native speakers of English pass an oral English test in order to teach.

Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents:

- transcripts from all colleges and universities an applicant has attended;

- contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation; and

- a statement of purpose.

Art history applicants should supply a research paper (preferably from an art history course) or thesis that demonstrates potential to undertake graduate-level research in art history, and a personal statement of 1,000 words describing their intellectual development, academic interests, and career goals. The statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and indicate how that faculty member's area of expertise, or how the art history program is especially suited to the applicant's interests and goals.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website.

A student who completed an M.A. at the University of Iowa and who wishes to apply to the Ph.D. program in art history must make a formal application for change of status through the graduate program coordinator. Applications are evaluated in the context of the entire applicant pool.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

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Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year. Applications and all relevant materials should be on file by January 15.

Career Advancement

Many graduates pursue careers that match their degree specializations, such as commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, gallery and museum administration, art appraisal, and restoration, or community art center coordinator or instructor.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Arts Entrepreneurship

Director, Division of Performing Arts

- Alan M. MacVey

Coordinator, Arts Entrepreneurship

- Abbie H. Katz (Theatre Arts)

Undergraduate certificate: arts entrepreneurship

Website: <https://dpa.uiowa.edu/academic-programs/arts-entrepreneurship>

The Division of Performing Arts, the School of Art and Art History, and the Department of Cinematic Arts, in partnership with the John Pappajohn Entrepreneurial Center in the Tippie College of Business, offers the undergraduate Certificate in Arts Entrepreneurship. The program gives students the opportunity to pursue professional studies in the arts and entertainment fields, in the framework of a liberal arts education, and to develop the skills required for creating market-based opportunities in the arts.

Arts Living Learning Community

First- and second-year students studying arts entrepreneurship may apply to live in the Arts Living Learning Community, a coed floor in a University of Iowa east campus residence hall. The community includes students from art and art history, dance, film, music, and theatre arts.

Programs

Undergraduate Program of Study Certificate

- Certificate in Arts Entrepreneurship [p. 118]

Arts Entrepreneurship, Certificate

The undergraduate Certificate in Arts Entrepreneurship requires a minimum of 29 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

The program is designed for students of art, art history, cinema, dance, music, and theatre arts who wish to learn about the business of the arts and entertainment fields and who want to develop the entrepreneurial skills necessary for promoting their artistic work.

Certificate students are strongly encouraged, but not required, to also pursue a major in one of the arts disciplines.

Work for the certificate includes entrepreneurship-related courses in accounting, financial management, and marketing as well as courses focused on arts management and leadership practices in both commercial and nonprofit organizations. Students also must complete course work in art, art history, cinema, dance, music, or theatre arts and an internship in an arts organization.

Students may not use a course to satisfy more than one certificate requirement (e.g., a business course required for the certificate that is cross-listed in dance, music, or theatre arts may not also be counted toward the arts course requirement).

The Certificate in Arts Entrepreneurship requires the following course work.

Code	Title	Hours
Arts-Based Courses (Art and Art History, Cinematic Arts, Dance, Music, or Theatre Arts)		9
Business and Entrepreneurship Courses		20
Internship		0
Total Hours		29

Arts-Based Courses

Certificate students earn 9 s.h. in courses numbered 2000 or above taken in any of the arts units: the School of Art and Art History, the Department of Cinematic Arts (courses numbered CINE:1834 and above), the Department of Dance, the School of Music, or the Department of Theatre Arts. Many of these courses have prerequisites; consult an advisor about course sequencing.

Business and Entrepreneurship Courses

Students must complete ENTR:1350 Foundations in Entrepreneurship, an entrepreneurship prerequisite that is offered both on campus and online. They also must complete several courses that focus on entrepreneurial and arts financing; entrepreneurship, innovation, and new ventures in the arts; entrepreneurial marketing; e-commerce for entrepreneurs; arts management; and arts leadership.

Code	Title	Hours
All of these:		
ARTS:3400 or ENTR:3100	Grant Writing in the Arts Entrepreneurial Finance	3

DPA:3510	Introduction to Arts Management	3
DPA:3520 or ENTR:2000	New Ventures in the Arts Entrepreneurship and Innovation	3
DPA:4510	Arts Leadership Seminar	3
ENTR:1350	Foundations in Entrepreneurship	2
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3

Internship

Students may complete the required internship (0 s.h.) during any semester in the program. The Pomerantz Career Center coordinates a wide variety of internships; see Career Center Programs [p. 1808] (University College) in the Catalog. Students also may choose other internship opportunities. The Iowa Arts Council and the Iowa Cultural Corridor Alliance maintain lists of recommended host organizations.

Asian and Slavic Languages and Literatures

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Chair, Department of Asian and Slavic Languages and Literatures

- Frederick M. Smith

General Education Language Coordinators

- Irina Kostina (Russian), Yumiko Nishi (Japanese), Helen Shen (Chinese), Frederick M. Smith (Sanskrit), Sang-Seok Yoon (Korean)

Undergraduate majors: Asian languages and literature (B.A.); Russian (B.A.)

Undergraduate minors: Asian languages; Korean studies; Russian; Russian and Eastern European studies

Graduate degree: M.A. in Asian civilizations

Faculty: <https://clas.uiowa.edu/dwllc/asll/people>

Website: <https://clas.uiowa.edu/dwllc/asll>

The Department of Asian and Slavic Languages and Literatures offers instruction in languages of Asia and Eastern Europe as well as in the literatures, civilizations, and cultures of the regions. In addition to offering degree programs, the department welcomes undergraduate and graduate students from across the University to enroll in courses that complement their degree programs or satisfy their personal interests.

The department offers language study in Chinese, Japanese, Korean, Russian, and Sanskrit.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core [p. 459] with courses in Chinese Japanese, Korean, Russian, or Sanskrit; see "Language for GE CLAS Core" below. They also may get acquainted with Asia and Eastern Europe by taking any of the department's GE CLAS Core courses on Asian humanities and on Russian and Slavic literature and culture, all taught in English. Entering students may take the department's First-Year Seminars, one on Asian culture and civilization, the other on Slavic culture and civilization.

The Department of Asian and Slavic Languages and Literatures is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 336].

Language for GE CLAS Core

Undergraduate students in all majors may satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459] with course sequences in Chinese, Japanese, Korean, Russian, and Sanskrit.

Students who have had experience with Japanese or Russian should take the appropriate University of Iowa World Languages Placement Test, which helps determine the level at which they should begin study of the language. Students with backgrounds in Chinese, Korean, or Sanskrit should contact the general education coordinator to determine the level at

which they should begin language study at the University of Iowa.

Chinese

The following sequence fulfills the GE CLAS Core [p. 459]

World Languages requirement and is appropriate for students without previous knowledge of Chinese.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2101	Second-Year Chinese: First Semester	5
CHIN:2102	Second-Year Chinese: Second Semester	5

Students who have participated in ABRD:3411 Iowa in Tianjin after completing CHIN:1111 First-Year Chinese: First Semester and CHIN:1112 First-Year Chinese: Second Semester, and students from Chinese-speaking families who perform exceptionally well in CHIN:1111 and CHIN:1112, may fulfill the World Languages requirement with the following sequence.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2103	Accelerated Second-Year Chinese: First Semester	3
CHIN:2104	Accelerated Second-Year Chinese: Second Semester	3

Students who have taken CHIN:2103 Accelerated Second-Year Chinese: First Semester and/or CHIN:2104 Accelerated Second-Year Chinese: Second Semester should not enroll in CHIN:2101 Second-Year Chinese: First Semester and/or CHIN:2102 Second-Year Chinese: Second Semester.

Additional course work is available, including advanced Chinese, classical Chinese, and business Chinese. Consult the department for appropriate placement in Chinese language courses.

Japanese

The following sequence fulfills the GE CLAS Core World Languages requirement and is appropriate for students without previous knowledge of Japanese.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

Korean

The following sequence fulfills the GE CLAS Core World Languages requirement and leads to elementary/intermediate proficiency in Korean.

Code	Title	Hours
KORE:1101	First-Year Korean: First Semester	4
KORE:1102	First-Year Korean: Second Semester	4
KORE:2101	Second-Year Korean: First Semester	4
KORE:2102	Second-Year Korean: Second Semester	4

Students interested in Korean language study beyond the GE CLAS Core requirement may take the third- and fourth-year Korean courses.

Russian

The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
RUSS:1111	First-Year Russian I	5
RUSS:1112	First-Year Russian II	5
RUSS:2111	Second-Year Russian I	4
RUSS:2112	Second-Year Russian II	4

Students interested in Russian language study beyond the GE CLAS Core requirement may take the third- and fourth-year Russian courses.

Sanskrit

The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
SOAS:2901	First-Year Sanskrit: First Semester	4
SOAS:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902	Second-Year Sanskrit: Second Semester	3

Students interested in Sanskrit language study beyond the GE CLAS Core requirement may take third-year Sanskrit courses.

Related Certificate

International Business

The College of Liberal Arts and Sciences and the Tippie College of Business offer the Certificate in International Business. The program entails study of international business and economics; international relations and institutions; a language; and the art, literature, culture, and/or politics of a geographic area. Students of Chinese, Japanese, or Russian are likely to satisfy the certificate's language requirement while completing the requirements for their major. For more information, see the Certificate in International Business in the Catalog.

Study Abroad

The department strongly urges its students to seek opportunities for summer language study and study abroad to accelerate the language acquisition process. The University's memberships in the American Institute of Indian Studies and the China Cooperative Language and Study Programs consortium help facilitate students' access to quality

international programs in India and China. The government of the People's Republic of China offers scholarships for two students to live and study in mainland China each year.

The Iowa in Tianjin Summer Program is a faculty-led Chinese language and culture study program. This program provides students with a comprehensive and balanced curriculum and combines classroom instruction with field trips, language partnerships, and extracurricular activities.

The UI-Nanzan Exchange allows Iowa students to pay Iowa tuition, room, and board while attending the Center for Japanese Studies at Nanzan University in Nagoya, Japan. There also is a cooperative agreement with the Landour Language School in the Himalayan foothills of India.

Iowa students participate in summer, semester, or academic year programs in Russian under the auspices of the American Council of Teachers of Russian (ACTR). The association directs academic language training programs in the cities of Moscow, St. Petersburg, and Vladimir.

Many students participate in summer, semester-long, and year-long study abroad programs in India, China, and Japan offered through other U.S. universities. In many cases credit is transferable, and it is possible for a student to study abroad and still complete the Four-Year Graduation Plan. There are many resources available for funding research and study abroad. It also may be possible for students to apply University of Iowa financial aid to their study abroad programs.

Contact the Department of Asian and Slavic Languages and Literatures or International Programs Study Abroad for more information.

Summer Study, Internships

The department offers an intensive course of language study (second year) each summer in which students complete the equivalent of one academic year of study (the equivalent of one course for each of two semesters, totaling 8 s.h.). Scholarships are available for summer intensive Russian.

Students are encouraged to enrich their programs of study through internships designed to combine work experience in Asia or the United States with study or research projects. The University's Pomerantz Career Center maintains a list of internships.

Activities

Student Associations

Students have many opportunities to enrich their studies in Asian languages and literature while living in Iowa City. The University sponsors student associations for students from many Asian countries, including mainland China, Japan, Korea, India, Pakistan, and Taiwan. All University of Iowa students are welcome to join. Various international community groups sponsor cultural events and holiday celebrations throughout the year.

Residence in the Global Mosaic Living Learning Community

The Global Mosaic Living Learning Community welcomes American and international first- and second-year students who wish to broaden their knowledge of international issues, languages, and cultures. Global Mosaic members live in Mayflower Residence Hall and enjoy a variety of programs on diverse cultures, the arts, fashion, cinema, dining and

cuisine, study abroad, and more. Students must apply to live in the Global Mosaic Living Learning Community; see the Communities website.

Programs

Undergraduate Programs of Study

Majors

- Major in Asian Languages and Literature (Bachelor of Arts) [p. 132]
- Major in Russian (Bachelor of Arts) [p. 138]

Minors

- Minor in Asian Languages [p. 141]
- Minor in Korean Studies [p. 143]
- Minor in Russian [p. 144]
- Minor in Russian and Eastern European Studies [p. 145]

Graduate Program of Study

Major

- Master of Arts in Asian Civilizations [p. 146]

Facilities

Language Media Center

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

University of Iowa Libraries

Since 1960 University of Iowa Libraries has routinely acquired most American titles in Asian studies and selected overseas scholarly publications in English and other Western languages. The Main Library's Asian collection includes approximately 80,000 volumes in Asian languages and about 140,000 Western-language volumes on Asian subjects. The University

has been a member of the Library of Congress Foreign Currency Exchange Program for Indian books and periodicals since 1975. The library's nonprint media collection includes a growing number of Asian feature films. A Chinese-Japanese-Korean computer terminal gives students and faculty access to the growing Research Libraries Information Network database in Asian languages.

Courses

- Asian Languages and Literatures Courses [p. 121]
- Chinese Courses [p. 123]
- Japanese Courses [p. 125]
- Korean Courses [p. 128]
- Russian Courses [p. 129]
- South Asian Studies Courses [p. 130]

Asian Languages and Literatures Courses

ASIA:1000 First-Year Seminar **1-2 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ASIA:1040 Living Religions of the East **3 s.h.**

Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as HIST:1610, RELS:1404.

ASIA:1060 Introduction to Buddhism **3 s.h.**

Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as HIST:1612, RELS:1506.

ASIA:1110 Gods, Buddhas, and Ghostly Officials: The Past and Present of Chinese Religions **3 s.h.**

History of religious beliefs and practices in China; role in modern-day Chinese society; specific case studies that illuminate current situation of religion in China and impact on Chinese society; focus on the still widespread worship of gods and ancestors, the Confucian, Buddhist and Daoist traditions, recent upsurge of Christianity in China, and emergence of new religions (e.g., the Falun gong). Same as RELS:1510.

ASIA:1510 Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature **3 s.h.**

Reading of Chinese literature concerning ghosts, marvels, and supernatural from the first millennium B.C.E. through the 1800s; readings analyzed against changing historical and religious contexts. Taught in English. GE: Interpretation of Literature. Same as CL:1510.

ASIA:1602 Civilizations of Asia: China **3 s.h.**

GE: Historical Perspectives; International and Global Issues. Same as HIST:1602.

ASIA:1604 Civilizations of Asia: Japan **3-4 s.h.**

GE: Historical Perspectives; International and Global Issues. Same as HIST:1604.

ASIA:1606 Civilizations of Asia: South Asia **3-4 s.h.**

Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as HIST:1606.

ASIA:1607 Civilizations of Asia: Korea 3-4 s.h.

Introduction to Korean history and culture; how meanings of "Korea" and "Koreans" changed from ancient times to present; relevant issues of politics, society, and culture; events that shaped ancient Korean states—Koryo state (918-1392), the Choson dynasty (1392-1910), Japanese colonization (1910-1945), and the two Koreas (1945-present); how present perspectives on Korea have influenced understandings of its past. GE: Historical Perspectives; International and Global Issues. Same as HIST:1607.

ASIA:1704 The Languages of Asia in Cultural and Historical Perspective 3 s.h.

Chinese, Japanese, Korean, Sanskrit and Hindi; cultural and ethnic factors which have affected and are affected by each language; nontechnical introduction to the structure of the language, discussion of the script in which the language is written, and the history of the language, including a brief outline of the political and cultural history of each pertinent linguistic area and the ways linguistic history has been affected by these factors.

ASIA:1725 Gender and Religion in Korean Visual Culture 3 s.h.

Students draw creatively on visual materials to illuminate complex experience of Korean women in various religious traditions of Korea. Same as GWSS:1725, KORE:1725, RELS:1725.

ASIA:1770 Asian Humanities: Middle East 3 s.h.

How the self has been constructed in literary texts from premodern and modern Islamic world.

ASIA:2041 Understanding "The Muslim World" 3 s.h.

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as IS:2041, RELS:2041.

ASIA:2208 Classical Chinese Literature Through Translation 3 s.h.

Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Requirements: completion of required ESL courses. Same as CL:2208, TRNS:2208.

ASIA:2222 Women in Premodern East Asian Literature 3 s.h.

Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as CL:2222, GWSS:2222.

ASIA:2231 Introduction to the Art of China 3 s.h.

Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as ARTH:2220.

ASIA:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

ASIA:2444 Envision India 3 s.h.

Introduction to world view and civilization of the South Asian subcontinent, not as a timeless and isolated culture, but as a dynamic and interactive part of evolving global cultural exchanges.

ASIA:2450 India Beat: The Aesthetics and Politics of India Today 3 s.h.

Ways in which music forms a crucial part of Indian public sphere, reflecting and shaping culture, society, and economy; wide range of genres commonly performed and heard across India and South Asia today (i.e., film music, several folk forms, classical, semi-classical, Indipop, rock) and locating each of them in their respective historical, cultural, and socioeconomic contexts; exploration of themes and questions (i.e., emergence and impact of technologies of mass production, distribution of music in colonial and post-independence India). GE: Values and Culture.

ASIA:2500 Cold War Cultures in Korea 3 s.h.

Analysis of Cold War (1945-1989) not only as an era in geopolitics, but also as a historical period marked by specific cultural and artistic forms; focus on Korean peninsula, looking closely at literary and film cultures of both South Korea and North Korea; how global conflict between United States and Soviet centered societies affected politics, culture, and geography of Korea between 1945 and 1989, treating division of Korea as an exemplary case extending from origins of Cold War to the present.

ASIA:2887 Perspectives on Korea 3 s.h.

History of Korea from earliest times to present; changing meanings of Korea and Koreans; relevant issues of politics, society, and culture; events that shaped ancient Korean kingdoms, the Choson dynasty (1392-1910), Japanese occupation, and divided Korean peninsula; how present perspectives on Korea have influenced understandings of its past; placement of Korea within a regional and global context to examine Korea's relationship with the world. Same as HIST:2687.

ASIA:3055 Death, Dying, and Beyond in Asian Religions 3 s.h.

Survey of cultural and religious approaches to the dying process, post-death rituals, and conceptions about the afterlife in different religions in Asia. Same as RELS:3055.

ASIA:3120 Autobiography in Islamic Literary Cultures 3 s.h.

How the self has been constructed in Islamic literary cultures from classical Islamic period to modernity.

ASIA:3219 Chinese Art and Culture 3 s.h.

Archaeological discoveries, sculpture, painting, architecture, calligraphy, other arts of Greater China area in historical and cultural contexts of past 5,000 years. Same as ARTH:3220.

ASIA:3220 Chinese Painting I: Pagodas and Palaces**3 s.h.**

Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Same as ARTH:3230.

ASIA:3270 Themes in Asian Art History**3 s.h.**

Same as ARTH:3270.

ASIA:3550 Islam, Secularity, Modernity**3 s.h.**

How religiosity and secularity are experienced in the Muslim world today.

ASIA:3561 Religion and Healing**3 s.h.**

Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, GHS:3113, RELS:3580.

ASIA:3650 Chinese History from 1600 to 1911**3 s.h.**

Chinese history from the 17th to early 20th century, history of the Qing dynasty (1644-1911); Qing's role in shaping aspects of today's politics in China and the mentality of Chinese people; foundation of Manchu state in early 17th century, Ming-Qing transition in 1644, politics and society during the high Qing era, decline of the empire under foreign invasion and inner rebellions in the 19th century, collapse of the dynasty in 1911. Same as HIST:3650.

ASIA:3652 Twentieth-Century China**3 s.h.**

Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. Same as HIST:3652.

ASIA:3655 Zen Buddhism**3 s.h.**

Same as HIST:3655, RELS:3655.

ASIA:3685 Modern Korean History**3 s.h.**

Transformation of Choson Korea to North and South Korea; local, regional, and global transformations in Korea from the late 19th century to present; severing of historic ties with China; encounters with the West and Japan; new ideas of civilization and political community; erasure of Choson as a country in 1910; colonial experience; civil war; industrialization; creation of North Korea; democratic movement in South Korea and spread of diasporic communities abroad; Korean peninsula as a laboratory for analyzing compressed communist and capitalist modernities of the 20th century. Same as HIST:3685.

ASIA:3700 Topics in Global Cinema**3 s.h.**

Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Same as JPNS:3700, TRNS:3700, WLLC:3700.

ASIA:3775 East Meets West: The Western Reception of Eastern Religion**3 s.h.**

Introduction of religious ideas and forms from India, China, and Japan into Europe and America to late 20th century, from Greeks to New Age. Same as RELS:3575.

ASIA:3890 Comparative Ritual**3 s.h.**

Practice and theory; rituals from religions, including Hinduism, Buddhism, Christianity, Indian religions; theories of interpretation. Same as RELS:3572.

ASIA:4166 Topics in Asian History**3 s.h.**

Same as HIST:4666.

ASIA:4301 Honors Tutorial**arr.****ASIA:4506 Senior Honors Thesis****arr.****ASIA:4507 Topics in Asian Studies****arr.**

Topics vary.

ASIA:4508 Asian Studies**arr.****ASIA:4606 Topics in Asian Cinema****3 s.h.**

Issues or topics in East or South Asian cinemas. Prerequisites: CINE:1601. Same as CINE:4606.

ASIA:6483 Second Language Classroom Learning**3 s.h.**

Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as EDTL:6483, SLA:6506.

ASIA:6501 M.A. Thesis**arr.**

Offered fall semesters.

ASIA:6502 M.A. Thesis**arr.**

Offered spring semesters.

ASIA:6520 Seminar: South Asian Religion**3 s.h.**

Topics in South Asian religions. Same as RELS:6520.

ASIA:6901 Second Language Acquisition Research and Theory**3 s.h.**

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as FREN:6901, JPNS:6901, SLA:6901, SPAN:6901.

ASIA:6903 Second Language Acquisition Research and Theory II**3 s.h.**

Continuation of SLA:6901. Prerequisites: SLA:6901. Same as SLA:6902, SPAN:6902.

ASIA:7606 Readings in Chinese History**arr.**

Same as HIST:7606.

Chinese Courses

High school students and University of Iowa students who would like to learn Chinese but do not plan to use Chinese to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core may wish to take the beginning Chinese courses CHIN:1115 and CHIN:1116 in sequence and may follow them with the second-year courses CHIN:2101 and CHIN:2102. See the course descriptions below.

CHIN:1000 First-Year Seminar**1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

CHIN:1070 Asian Art and Culture**3 s.h.**

Art from India, China, and Japan in many media and forms, in their cultural and historical contexts; cultural distinctions of these Asian civilizations as seen through the visual arts; chronology used to highlight historical processes and provide perspectives on continuity and change. GE: Historical Perspectives; Literary, Visual, and Performing Arts. Same as ARTH:1070.

CHIN:1101 Conversational Chinese I**1 s.h.**

Introduction to modern Chinese, with focus on communication "survival" skills for discussing oneself, family, daily activities, interests, personal preferences, food, shopping, travel, lodging; situational activities and performance.

CHIN:1102 Conversational Chinese II**1 s.h.**

Continuation of CHIN:1101, with focus on speaking and listening.

CHIN:1111 First-Year Chinese: First Semester 5 s.h.
Sound system of Mandarin Chinese, basic sentence patterns; aural understanding, speaking, reading, writing. Offered fall semesters. Requirements: undergraduate standing. GE: World Languages First Level Proficiency.

CHIN:1112 First-Year Chinese: Second Semester 5 s.h.
Continuation of CHIN:1111. Offered spring semesters. Prerequisites: CHIN:1111. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.

CHIN:1115 Beginning Chinese I 3 s.h.
Beginning Chinese; offered through UI Confucius Institute; first of a four-course sequence.

CHIN:1116 Beginning Chinese II 3 s.h.
Continuation of CHIN:1115; offered through UI Confucius Institute; second of a four-course sequence. Requirements: CHIN:1115 or equivalent as demonstrated in written and oral exams.

CHIN:1121 Beginning Chinese III 3 s.h.
Continuation of CHIN:1116; provides instruction in all four language skills of listening, speaking, reading, and writing; students further develop their understanding of Chinese culture through language learning; offered through UI Confucius Institute; third of a four course sequence. Prerequisites: CHIN:1116.

CHIN:1122 Beginning Chinese IV 3 s.h.
Continuation of CHIN:1121; provides instruction in all four language skills of listening, speaking, reading, and writing through task-based and task-supported curriculum; students further develop their understanding of historical and contemporary Chinese culture; fourth in a series of beginning Chinese for high school students. Prerequisites: CHIN:1121.

CHIN:1504 Asian Humanities: China 3 s.h.
Literary and philosophical texts of China in English translation. GE: Values and Culture.

CHIN:1702 Chinese Popular Culture 3 s.h.
Introduction to popular culture from the People's Republic of China, Taiwan, Hong Kong, and the Chinese diaspora; shifting relationships among cultural production, media and technology, and political thought; influences of Japan, Korea, and the West; materials drawn from film, television shows, music, new media, popular literature, comics, magazines, advertising, fashion, art, and material culture; no previous knowledge of Chinese is required. GE: Literary, Visual, and Performing Arts.

CHIN:1800 Chinese Character Writing and Calligraphy 2 s.h.
Introduction to historical development of Chinese script, Chinese calligraphy theories, representative calligraphers, and writing Chinese script by using a Chinese writing brush. Recommendations: enrollment in a Chinese language course.

CHIN:2101 Second-Year Chinese: First Semester 5 s.h.
Continuation of CHIN:1112. Offered fall semesters. Prerequisites: CHIN:1112. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.

CHIN:2102 Second-Year Chinese: Second Semester 5 s.h.
Continuation of CHIN:2101. Offered spring semesters. Prerequisites: CHIN:2101. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency.

CHIN:2103 Accelerated Second-Year Chinese: First Semester 3 s.h.
Intermediate Chinese. Requirements: grades of C or higher in CHIN:1111 and CHIN:1112, and one summer of Chinese study in China. GE: World Languages First Level Proficiency.

CHIN:2104 Accelerated Second-Year Chinese: Second Semester 3 s.h.
Intermediate Chinese. Prerequisites: grade of C or higher in CHIN:2103. GE: World Languages Fourth Level Proficiency.

CHIN:3101 Third-Year Chinese: First Semester 3 s.h.
Reading of advanced modern Chinese texts; speaking, writing. Offered fall semesters. Prerequisites: CHIN:2102 or CHIN:2104.

CHIN:3102 Third Year Chinese: Second Semester 3 s.h.
Continuation of CHIN:3101. Offered spring semesters. Prerequisites: CHIN:3101.

CHIN:3103 Business Chinese I 3 s.h.
Skill development in communicating with Chinese counterparts on a number of domains in business translations; first of a two-course sequence. Prerequisites: CHIN:2102 or CHIN:2104.

CHIN:3104 Business Chinese II 3 s.h.
Skill development in communicating with Chinese counterparts on a number of domains in business translations; second of a two-course sequence. Prerequisites: CHIN:3102 or CHIN:3103.

CHIN:3201 Workshop in Chinese Literary Translation 3 s.h.
Translation from Chinese to English with emphasis on literary translation; issues in theory and practice of translation; special features of Chinese as a source language for translation. Prerequisites: CHIN:3102. Same as TRNS:3202.

CHIN:3202 Chinese Literature: Prose 3 s.h.
Readings in Chinese prose, primarily fiction, from third century B.C. to 1900 A.D., in English translation.

CHIN:3302 Introduction to Chinese Linguistics 3 s.h.
Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as LING:3302, SLA:3302.

CHIN:3341 Chinese Literature: Poetry 3 s.h.
Readings in classical and modern Chinese poetry in English translation. Recommendations: sophomore or higher standing. Same as CL:3341.

CHIN:4101 Classical Chinese: First Semester 3 s.h.
Introduction to basic knowledge of classical Chinese; appreciation of traditional Chinese culture through reading idiomatic phrases and ancient fables with vivid and interesting plots. Prerequisites: CHIN:2102 or CHIN:2104.

CHIN:4102 Classical Chinese: Second Semester 3 s.h.
Continuation of CHIN:4101. Prerequisites: CHIN:4101.

CHIN:4103 Fourth-Year Chinese: First Semester 3 s.h.
Proficiency through oral and written discussions of modern texts. Offered fall semesters. Prerequisites: CHIN:3102.

CHIN:4104 Fourth-Year Chinese: Second Semester 3 s.h.
Offered spring semesters. Prerequisites: CHIN:4103.

CHIN:4150 Advanced Readings in Chinese 3 s.h.
Essays in aspects of contemporary Chinese society to further understanding of Chinese society and to expand reading and writing skills. Taught in Chinese. Prerequisites: CHIN:4103.

CHIN:4203 Modern Chinese Writers 3 s.h.
Readings in modern and contemporary Chinese fiction; in English translation. Recommendations: sophomore or higher standing. Same as CL:4203.

CHIN:4206 Transnational Chinese Cinemas 3 s.h.
Films from Mainland China, Hong Kong, Taiwan, and Chinese diasporic communities, silent era to present; relationship of film to nation-state, cultural interflows, media technologies, ideologies. English subtitles. Recommendations: sophomore or higher standing.

CHIN:4300 Independent Study arr.
Research, reading, writing, and translation projects for undergraduate students. Prerequisites: CHIN:3102.

CHIN:5024 Teaching Chinese as a Second Language VII: Pedagogical Grammar 3 s.h.
Introduction to Chinese grammar system from perspective of teaching Chinese as a foreign language; students teach a unit of Chinese grammar to demonstrate understanding of assigned grammar unit and pedagogical approach involved. Prerequisites: CHIN:4103.

CHIN:5101 Fifth-Year Chinese: First Semester 3 s.h.
Improvement of language skills in modern Chinese: listening, speaking, reading, writing; skill development in reading authentic texts related to topics of student interest. Prerequisites: CHIN:4104.

CHIN:5102 Fifth-Year Chinese: Second Semester 3 s.h.
Continuation of CHIN:5101. Prerequisites: CHIN:5101.

CHIN:5103 Readings in Chinese Society 3 s.h.
Academic texts relating to aspects of Chinese society to develop students' academic reading and writing skills. Requirements: CHIN:5102 for nonnative Chinese student.

CHIN:5105 Literary Chinese I 3 s.h.
Readings from literary and historical texts of Han and Wei-Jin periods. Prerequisites: CHIN:4102.

CHIN:5106 Individual Chinese for Advanced Students arr.
Research, translation projects. Prerequisites: CHIN:4104.

CHIN:5107 Advanced Classical Chinese 3 s.h.
Readings from classical texts of early China period. Prerequisites: CHIN:4102.

CHIN:5201 Seminar in Chinese Fiction 3 s.h.
Novels, novelettes; 16th to 18th centuries (Ming and Qing periods). Requirements: ability to read original texts. Same as CL:5201.

CHIN:5202 Seminar in Chinese Literature arr.
Requirements: two years of modern Chinese and one year of classical Chinese. Same as CL:5202.

CHIN:6401 Teaching Chinese as a Second Language VI: Research and Pedagogical Projects 3 s.h.
Participation in Chinese second language research and material development projects under instructor's guidance.

CHIN:7401 Teaching Chinese as a Second Language I: Theories and Research 3 s.h.
Research, theory on acquisition of Chinese as a non-native language. Same as SLA:7406.

CHIN:7403 Teaching Chinese as a Second Language III: Instruction and Practicum 3 s.h.
Classroom instructional theories, methodologies, and techniques of teaching Chinese as a second language; teaching practicum.

CHIN:7404 Teaching Chinese as a Second Language IV: Testing and Assessment 3 s.h.
Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a second language. Same as SLA:7804.

CHIN:7405 Teaching Chinese as a Second Language V: Seminar in Research and Design 3 s.h.
Qualitative and quantitative research design theories and techniques. Prerequisites: CHIN:7401 and PSQF:4143. Same as SLA:7405.

Japanese Courses

JPNS:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

JPNS:1001 First-Year Japanese: First Semester 5 s.h.
Modern Japanese. Offered fall semesters. Requirements: undergraduate standing. GE: World Languages First Level Proficiency.

JPNS:1002 First-Year Japanese: Second Semester 5 s.h.
Continuation of JPNS:1001. Offered spring semesters. Prerequisites: JPNS:1001. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.

JPNS:1020 Intensive Kanji: Elementary 2 s.h.
Students learn elementary-level Kanji to strengthen their existing knowledge; recommended for students who have studied Japanese for at least one semester at the college level and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N4 or N5 level.

JPNS:1030 Japanese for Travelers 2 s.h.
Basic, practical language and social skills that travelers or visitors need in everyday situations, such as making self introductions, ordering food, asking for directions, and traveling by train; Japanese culture, manners and customs, major cities and tourist attractions; for students with no previous experience of Japanese who plan to travel in Japan or would like a practical introduction to the language and culture.

JPNS:1115 Japanese Religions 3 s.h.
Religions of Japan from ancient times to the present day; elite and popular Japanese interpretations of Chinese Buddhist and Daoist traditions; the parallel development of an indigenous kami tradition; contemporary new religious movements; focus on the codification of a variety of religious (and sometimes quasi-religious) paths, including the way of tea, the way of the brush, and the way of the samurai. Same as RELS:1610.

JPNS:1200 Special Topics in Japanese 3 s.h.
Topics vary.

JPNS:1506 Asian Humanities: Japan 3 s.h.
Introduction to premodern, modern, and contemporary Japanese culture; special attention given to the relationship of classical texts to contemporary novels, short stories, manga, anime, music, and film; students consider relationships of textual and visual cultures, high art and low art, moments of crisis and the everyday, the sacred and the profane, men and women. Taught in English. GE: Values and Culture.

JPNS:2001 Second-Year Japanese: First Semester 5 s.h.
Continuation of JPNS:1002. Offered fall semesters. Prerequisites: JPNS:1002. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.

JPNS:2002 Second-Year Japanese: Second Semester**5 s.h.**

Continuation of JPNS:2001. Offered spring semesters. Prerequisites: JPNS:2001. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency.

JPNS:2020 Building Kanji Skills**1 s.h.**

Designed as a supplement for students currently enrolled in or who have already taken second-year Japanese and who have no other background in languages that use Chinese characters; students develop strategies and skills to learn Kanji more effectively; recommended for students who would like additional instruction and practice with Kanji. Prerequisites: JPNS:1002.

JPNS:2127 Global Manuscript Cultures**3 s.h.**

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. GE: Historical Perspectives. Same as CLSA:2127.

JPNS:2175 Japanese Society and Culture**3 s.h.**

Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Values and Culture. Same as ANTH:2175.

JPNS:2250 Introduction to the Art of Japan**3 s.h.**

Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Same as ARTH:2250.

JPNS:3001 Third-Year Japanese I**3 s.h.**

Modern Japanese; focus on speaking, listening, reading, writing; materials related to everyday life and civilization in Japan. Offered fall semesters. Prerequisites: JPNS:2002.

JPNS:3002 Third-Year Japanese II**3 s.h.**

Continuation of JPNS:3001. Offered spring semesters. Prerequisites: JPNS:3001.

JPNS:3020 Intensive Kanji: Intermediate I**2 s.h.**

Students learn and strengthen their existing knowledge of Kanji; particularly recommended for third-year Japanese students and those who plan to take the Japanese Language Proficiency Test (JLPT) at the N3 level. Prerequisites: JPNS:1002.

JPNS:3021 Intensive Kanji: Intermediate II**2 s.h.**

Students learn upper- to intermediate-level Kanji to strengthen their existing knowledge; particularly recommended for third- or fourth-year Japanese students, and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N2 level.

JPNS:3022 Intensive Kanji: Advanced**2 s.h.**

Students learn advanced-level Kanji to strengthen their existing knowledge; particularly recommended for fourth-year Japanese students, and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N1 level.

JPNS:3107 Classical Japanese: First Semester**3 s.h.**

Introduction to vocabulary, grammar, and calligraphic scripts of classical Japanese through readings of primary literary and historic sources; instruction in English, readings in classical and modern Japanese. Prerequisites: JPNS:3002.

JPNS:3127 Global Manuscript Cultures**3 s.h.**

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. Same as CLSA:3127.

JPNS:3128 Introduction to Japanese Linguistics**3 s.h.**

Basic structural features of the Japanese language; topics include typological and historical background, writing system, phonetics, phonology, syntax, semantics, pragmatics, and language variation; recommended for students who wish to have a deeper understanding of the Japanese language as well as non-Indo-European languages. Taught in English.

JPNS:3201 Workshop in Japanese Literary Translation**3 s.h.**

Workshop in translation from Japanese to English, with emphasis on literary translation; issues in theory and practice of translation; special features of Japanese as a source language for translation. Corequisites: JPNS:3001, if not taken as a prerequisite. Same as TRNS:3201.

JPNS:3202 Traditional Japanese Literature in Translation**3 s.h.**

Early Japanese literature from 7th to 19th centuries including prose, poetry, drama, and Buddhist texts; students bring traditional Japanese culture to life through practice with experiences ranging from calligraphy, letter folding, and layering kimono patterns to courtly contests and bookbinding. Taught in English. Same as CL:3204.

JPNS:3203 Modern Japanese Fiction in Translation**3 s.h.**

Introduction to modern Japanese literature from 1868 to present; focus on representative short stories, novels, and manga; the twin advent of modern Japanese language and the modern novel; rise of autobiographical "I-novel"; Japanese *bundan* (literary establishment), high modernity, and *ero guro nansensu* (erotic grotesque nonsense); stories of the war and its endless postwar; the neo-traditional and the avant-garde; literature of economic collapse and internationalization. Taught in English. Same as CL:3203.

JPNS:3204 Topics in Japanese Literature in Translation**3 s.h.**

Topics vary. Taught in English.

JPNS:3205 Major Authors in Modern Japanese Literature**3 s.h.**

Modern Japanese literary works in English translation; topics vary. Taught in English.

JPNS:3206 Warriors' Dreams**3 s.h.**

Images of the warrior in traditional Japanese literature from ancient legendary heroes, medieval warrior monks, and ninja to the unifying generals, masterless samurai, and women revolutionaries of early modern Japan; students discover what is truth and what is fiction when encountering the warrior in popular culture today. Taught in English. Same as CL:3206.

JPNS:3207 Japan Illuminated: Japanese Literature and Visual Culture**3 s.h.**

How text and image have been used together to tell stories across 1,000 years of Japanese culture; students read and view illustrated handscrolls, calligraphy, maps, mandalas, early board games, woodblock prints, modern print media, manga and anime; emphasis on visual analysis and material culture. Taught in English.

- JPNS:3208 Japanese Film** 3 s.h.
History of Japanese cinema with particular attention paid to Japanese conventions and innovations that differ from classical Hollywood or European paradigms (*benshi* silent-film narrators, *jidaigeki* period films, wartime propaganda, postwar melodrama, avant-garde Japanese New Wave, rise of Japanese documentary, anime); screenings may include works by world famous directors (Mizoguchi, Ozu, Kurosawa) and recent masters (Nishikawa Miwa, Koreeda Hirokazu, Mitani Koki). Taught in English.
- JPNS:3210 Japanese Theater** 3 s.h.
Major forms of Japanese theater and performance including No and kyogen, the bunraku puppet theater, kabuki, shingeki "Western" theater, benshi film narration, butoh modern dance, counterculture and street theater of the 1960s, Japanese musicals; focus on textual analysis and performance practices; weekly screenings of theatrical performances and student-led staged readings of contemporary performances. Taught in English.
- JPNS:3260 Japanese Painting** 3 s.h.
Japanese painting in its historical, cultural contexts; focus on developments of successive eras—religious art; narrative, other literary connections; Zen; decorative traditions; popular arts; Japan and the modern world. Same as ARTH:3260.
- JPNS:3401 Language in Japanese Society** 3 s.h.
Aspects of the Japanese language that reflect culture, social structures of Japan; communication styles and strategies, cross-cultural communication, language in media, metaphors.
- JPNS:3402 Japan: Culture and Communication** 3 s.h.
How Japanese-speaking people communicate; what factors determine the way they speak; how they communicate nonverbally; how people convey messages and emotions in various social settings. Taught in English.
- JPNS:3500 Japanese for Professional Purposes I** 3 s.h.
Introduction to essential linguistic skills and practical knowledge needed to effectively communicate in Japanese in various professional contexts and in socially appropriate manners; recommended for anyone interested in working in Japan or using Japanese at work. Prerequisites: JPNS:3001 with a minimum grade of C.
- JPNS:3501 Japanese for Professional Purposes II** 3 s.h.
Continuation of JPNS:3500; advanced linguistic skills needed to become an effective communicator in various professional settings; develop a deeper understanding of Japanese business culture; improve intercultural communication and problem-solving skills; recommended for students interested in working in Japan or using Japanese at work. Prerequisites: JPNS:3500.
- JPNS:3601 Contemporary Japanese Culture** 3 s.h.
Forms of Japanese popular culture including fiction, manga, animation, film, television drama, video games, music, sports, and food from 17th to 21st centuries; aspects of Japanese society relating to urban culture and play, school and work, disaster, good and evil, beauty and ugliness, life and death. Taught in English.
- JPNS:3660 Japanese Religion and Thought** 3 s.h.
Same as RELS:3660.
- JPNS:3700 Topics in Global Cinema** 3 s.h.
Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Same as ASIA:3700, TRNS:3700, WLLC:3700.
- JPNS:4001 Fourth-Year Japanese I** 3 s.h.
Modern Japanese; focus on reading, writing, speaking, listening. Offered fall semesters. Prerequisites: JPNS:3002.
- JPNS:4002 Fourth-Year Japanese II** 3 s.h.
Continuation of JPNS:4001. Offered spring semesters. Prerequisites: JPNS:4001.
- JPNS:4201 The Tale of Genji** 3 s.h.
Close reading of Murasaki Shikibu's classic *Tale of Genji*; students come to know the characters by exploring the social and cultural context of the tale and discover the art, literature, and film that the *Tale of Genji* has inspired while tracking its reception through the history of Japan and across the globe. Taught in English. Same as CL:4201.
- JPNS:4501 Fifth-Year Japanese I** 3 s.h.
Continuation of JPNS:4002; modern Japanese. Prerequisites: JPNS:4002.
- JPNS:4610 Japan - Age of the Samurai** 3 s.h.
Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Same as HIST:4610.
- JPNS:4615 Modern Japan** 3 s.h.
Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Same as HIST:4615.
- JPNS:4620 Japan-U.S. Relations** 3 s.h.
Political, social, economic, and cultural developments in Japan mid-19th century to late 20th century. Same as HIST:4620.
- JPNS:5301 Japanese Linguistics** 3 s.h.
Japanese language as linguistic system; basic linguistic terminology; sound systems, grammar, meanings, usages.
- JPNS:5401 Japanese as a Foreign Language: Practical Applications** 3 s.h.
Instructional methodology, curriculum, and material design; hands-on experience. Same as SLA:5441.
- JPNS:5901 Practicum in Teaching Japanese as a Foreign Language** 1-3 s.h.
Teaching apprenticeship guided and supervised by a faculty member skilled in University curriculum and instruction.
- JPNS:5902 Individual Japanese for Advanced Students** arr.
arr.
- JPNS:6403 Special Topics in Japanese Linguistics** 3 s.h.
Topics in applied linguistics and language pedagogy related to Japanese language. Same as SLA:6403.
- JPNS:6901 Second Language Acquisition Research and Theory** 3 s.h.
Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as ASIA:6901, FREN:6901, SLA:6901, SPAN:6901.
- JPNS:7101 Readings in Modern Japanese** 3 s.h.
Readings in modern Japanese.
- JPNS:7201 Seminar in Japanese Literature** 3 s.h.
Requirements: three years of Japanese.

JPNS:7630 Readings: Japanese History

Same as HIST:7630.

arr.

Korean Courses**KORE:1000 First-Year Seminar****1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

KORE:1051 Korean for Travel and Business**2 s.h.**

Introduction to basic communication skills and Korean culture; Korean alphabet (Hangeul), survival Korean expressions, cultural etiquette and norms; speaking, comprehension, reading, and writing in basic Korean; Korean business culture; classroom activities and assignments based on authentic material.

KORE:1052 Korean for Travel and Business: Second Semester**2 s.h.**

Continuation of KORE:1051; introduction to basic communication skills and Korean culture which are essential for communicating with Korean people while traveling or doing business; basic Korean expressions, cultural etiquette, and norms; speaking, comprehension, reading, and writing in basic Korean; Korean business culture; classroom activities and homework assignments based on authentic material. Requirements: some familiarity with Korean is needed, but completion of specific course work in Korean is not required.

KORE:1101 First-Year Korean: First Semester**4 s.h.**

Modern Korean; speaking, listening, reading, writing. Offered fall semesters. GE: World Languages First Level Proficiency.

KORE:1102 First-Year Korean: Second Semester**4 s.h.**

Continuation of KORE:1101. Offered spring semesters. Prerequisites: KORE:1101. GE: World Languages Second Level Proficiency.

KORE:1135 Korean Language in Culture and Society**3 s.h.**

Introduction to various sociolinguistic phenomena in Korean society; general linguistic characteristics of Korean; Confucianism and honorifics; language changes in North and South Korea; gender differences and generation differences; Korean contacts with English, Chinese, Japanese, others. Taught in English.

KORE:1500 Asian Humanities: Korea**3 s.h.**

Introduction to most representative cultural heritages in Korean humanities tradition throughout 4,500 years of Korean history; English translations of famous works in Korean traditional literature, performing and visual arts, philosophy; understanding the essence of traditional Korean culture through exposure to various aspects of Korean humanities; how Korean traditional culture is reflected in contemporary pop culture; readings and discussions taught in English, video materials with English subtitles.

KORE:1670 Korea in the World**3 s.h.**

Comprehensive and critical understanding of Korea's place in the world; emphasis on historical and sociocultural roots of various aspects of life on the contemporary Korean peninsula (both North and South Korea); comprehensive list of topics including cultural production (K-pop and film), religions, economy, gender relations, cuisine, politics, and prospects for reunification. Same as RELS:1670.

KORE:1725 Gender and Religion in Korean Visual Culture**3 s.h.**

Students draw creatively on visual materials to illuminate complex experience of Korean women in various religious traditions of Korea. Same as ASIA:1725, GWSS:1725, RELS:1725.

KORE:2101 Second-Year Korean: First Semester**4 s.h.**

Continuation of KORE:1102; conversation and readings in intermediate Korean language; Korean culture. Prerequisites: KORE:1102. GE: World Languages Second Level Proficiency.

KORE:2102 Second-Year Korean: Second Semester**4 s.h.**

Continuation of KORE:2101. Prerequisites: KORE:2101. GE: World Languages Fourth Level Proficiency.

KORE:3070 Topics in Korean Studies**3 s.h.**

Varied topics in Korean studies.

KORE:3101 Third-Year Korean: First Semester**3 s.h.**

Continuation of KORE:2102; advanced intermediate Korean—conversation and grammar skills beyond basic intermediate level; vocabulary expansion with increasingly complex, abstract concepts; how to advance one's opinion and discuss thoughts, ideas. Requirements: KORE:2102 with a minimum grade of C-.

KORE:3102 Third-Year Korean: Second Semester**3 s.h.**

Continuation of KORE:3101; conversation and grammar skills beyond basic intermediate level; writing skills for formal occasions; advanced discussion skills—how to advance one's opinion and share thoughts and ideas; traditional and modern Korean culture. Requirements: KORE:3101 with a minimum grade of C-.

KORE:4000 Fourth Year Korean: First Semester**3 s.h.**

Continuation of KORE:3102; development of intermediate high to advanced-level Korean; enlarging vocabulary, exploring Korean sentence structures, reading various types of texts, listening to authentic Korean materials; Korean society and culture; content-based learning methodology. Requirements: KORE:3102 with a minimum grade of C-.

KORE:4001 Fourth Year Korean: Second Semester**3 s.h.**

Continuation of KORE:4000; development of intermediate high- to advanced-level Korean speaking ability; enlarging vocabulary, exploring Korean sentence structures, reading various types of texts, and listening to authentic Korean materials; Korean society and culture; materials provided to prepare for Korean standardized tests; content-based learning methodology. Requirements: KORE:4000 with a minimum grade of C-.

KORE:4151 Selected Readings in Korean I**3 s.h.**

Korean literary works and various readings related to Korean history, culture, and society; expansion of Korean literacy and cultural knowledge through readings; advanced Korean texts.

KORE:4152 Selected Readings in Korean II**3 s.h.**

Reading various genres of more advanced texts than those covered in KORE:4150; short stories, poetry, and essays familiar with educated Korean people; texts related to history and current events (e.g., articles from newspapers or magazines); texts written in hangul (Korean characters) and hanja (Chinese characters); Korean literature, history, and culture. Prerequisites: KORE:3102.

KORE:5102 Individual Korean for Advanced Students**arr.**

Korea's modern/traditional culture, history, and current social issues; reading, translating authentic articles. Prerequisites: KORE:3102.

Russian Courses

RUSS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

RUSS:1030 Conversational Russian I 3 s.h.

Basic elements of Russian for travel and business; for adult learners.

RUSS:1031 Conversational Russian II 3 s.h.

Continuation of RUSS:1030; basic elements of Russian for travel or business; for adult learners.

RUSS:1050 Russian for Travelers and Business People 2 s.h.

How Russian culture continues to shape current geopolitical and sporting events (e.g., World Cup Soccer 2018); emphasis on learning basic survival Russian phrases, cultural etiquette and norms. Taught in English.

RUSS:1082 Youth Subcultures After Socialism 3 s.h.

Examination of youth subculture (i.e., distinct style and identity, beliefs, value system, fashion and favorite music) on the territory of post-communist Europe and its relations with the mainstream culture; how young people of Russia express their individuality after years of dullness and monotony. GE: Values and Culture.

RUSS:1111 First-Year Russian I 5 s.h.

Basic language skills of listening, speaking, reading, and writing Russian; fundamentals of Russian grammar. GE: World Languages First Level Proficiency.

RUSS:1112 First-Year Russian II 5 s.h.

Continuation of RUSS:1111. Requirements: RUSS:1111. GE: World Languages Second Level Proficiency.

RUSS:1131 Introduction to Russian Culture 3 s.h.

Development of cultural history in Russia from middle ages to present; painting, music architecture, literature viewed against their political, historical, and social settings. Taught in English. GE: Values and Culture.

RUSS:1132 Russia Today 3 s.h.

Contemporary Russia, with focus on prevailing social, political, economic, ethnic, environmental conditions; attention to historical evolution of problems, current factors; what these factors might portend for the future. Taught in English. GE: International and Global Issues; Values and Culture.

RUSS:1500 Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture 3 s.h.

Cultural specificity of Ukraine as a large multicultural European country; vital background information for analysis of present-day political events; strategic location between East and West; centuries-long history and culture; all readings in English, no knowledge of Russian or Ukrainian required. Same as CL:1500.

RUSS:1531 Slavic Folklore 3 s.h.

Introduction to culture, history, and art of eastern European peoples; pagan, dualistic, and animistic beliefs and their coexistence with Christian faith in eastern Europe. GE: Historical Perspectives; Values and Culture.

RUSS:1532 Religion and Culture of Slavs 3 s.h.

Early and medieval Slavic history, with focus on Russian art, literature, and religion from 10th through 17th century. GE: Historical Perspectives; Values and Culture.

RUSS:1600 The Cult of Power in Russian History 3 s.h.

Characteristic patterns in cultures associated with some of history's well known authoritarian figures: Ghengis Khan, Ivan the Terrible, Peter the Great, Lenin, Stalin, and, most recently, Putin; content divided chronologically into six sections—Russia's Tatar-Mongol sociocultural heritage, Ivan the Terrible and imperial expansion and special police, Peter the Great and forced Westernization, Lenin and the "dictatorship of the proletariat", Stalin's control of the arts and cinema, and state power and the age of information technology; readings in English.

RUSS:2100 Secrets of Russian Mentality 3 s.h.

Deeper insight of Russian mentality through philosophical, historical, cultural, and practical developments that have shaped Russian behavior and thought. GE: Values and Culture.

RUSS:2111 Second-Year Russian I 4 s.h.

Transition to upper-level study through oral practice, grammar exercises, tapes, videos, readings from the Russian press. Requirements: RUSS:1112. GE: World Languages Second Level Proficiency.

RUSS:2112 Second-Year Russian II 4 s.h.

Continuation of RUSS:2111. Requirements: RUSS:2111. GE: World Languages Fourth Level Proficiency.

RUSS:2122 Cult Films of the Last Soviet Generation 3 s.h.

Political and cultural circumstance of one of the world's most volatile and powerful regions; how life within what was considered an "Evil Empire" from 1960s to 1980s was far from primitive; how creative intelligentsia continued producing and enjoying excellent motion pictures despite multiple bans and regulations; implications for contemporary life; wider understanding of Russian aesthetics.

RUSS:2131 Women in Russian Society 3 s.h.

Historical developments that have shaped women's role in contemporary Russian society; readings in cultural history, political science, autobiographical and fictional literature, contemporary film. Taught in English.

RUSS:2232 Romani (Gypsy) Cultures of Eastern Europe 3 s.h.

Aspects of culture shared by most Roma (Gypsies) around the world; samples of folklore from Europe; impact of Roma on European literature, music, and culture; readings in English; no previous knowledge of Russian or Romani required. GE: Diversity and Inclusion. Same as CL:2700.

RUSS:2531 Topics in Russian, East European, and Eurasian Studies arr.

Topics in Russian literature and culture. Same as CL:2531.

RUSS:2600 Issues in Russian Identity: Nationalism 3 s.h.

Development of the Russian national identity in the works of three 19th-century Russian authors: Alexander Pushkin, Leo Tolstoy and Fyodor Dostoevsky; how major historical events such as Russia's wars with Poland, Sweden, France, England, and Turkey are portrayed in Pushkin's *Boris Godunov* and *Poltava*, Tolstoy's *War and Peace* and *Sevastopol Sketches*; how Western Europe is viewed in Dostoevsky's *Winter Notes on Summer Impressions*, *Notes From Underground*, and *The Idiot*. Prerequisites: RHET:1030. Requirements: ENGL:1200. Same as CL:2600.

RUSS:3100 West and East: Women in the Slavic World 3 s.h.

Roles of women in two Slavic countries—Islamic Republic of Dagestan in Russia, and the Czech Republic—using approaches from the social sciences and humanities; Christian/Catholic traditions in the western Slavic country (i.e., Czechoslovakia/Czech Republic) and Islamic influences in eastern parts of Russia; analysis of women's egalitarian roles in socialist societies of 1980s, the impact of the major political, economic, and social transitions on women's lives in 1990s.

RUSS:3111 Third-Year Russian I 4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Requirements: RUSS:2112.

RUSS:3112 Third-Year Russian II 4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Requirements: RUSS:3111.

RUSS:3113 Beginning Composition and Conversation I 4 s.h.

Russian oral and aural skills developed through idiomatic usage, stylistics, phonetics, intonation, grammar review; supplemented by short stories, newspaper texts. Taught in Russian. Requirements: RUSS:1112.

RUSS:3114 Beginning Composition and Conversation II 4 s.h.

Russian oral and aural skills developed through idiomatic usage, stylistics, phonetics, intonation, grammar review; supplemented by short stories, conversation handbooks, current periodicals. Taught in Russian. Requirements: RUSS:2112.

RUSS:3115 Russian for Heritage Learners 3 s.h.

Linguistic problems (grammar and vocabulary), communicative problems (understanding of written and oral advanced Russian speech), cultural problems (similarities and differences between cultures); for Russian heritage speakers.

RUSS:3116 Russian for Heritage Learners II 3 s.h.

Continuation of RUSS:3115.

RUSS:3122 Tolstoy and Dostoevsky 3-4 s.h.

Tolstoy's *War and Peace* and *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Demons*, and short stories. Taught in English. Same as CL:3122.

RUSS:3124 Invitation to Nabokov 3-4 s.h.

Nabokov's works and his writings on Russian literature. Same as CL:3124.

RUSS:3131 Health Care and Health Reforms in Russia 3 s.h.

Societal changes and their continuing effect on the Russian health care system since 1991; guest lectures from public health, nursing, medicine, cultural anthropology. Same as GHS:3131.

RUSS:3202 Russian Literature in Translation 1860-1917 3 s.h.

Survey of major works, figures, and trends of 19th and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Same as CL:3302.

RUSS:3990 Special Readings arr.

Russian-language materials determined by student and instructor. Requirements: 16 s.h. of Russian language instruction.

RUSS:4111 Fourth-Year Russian I 4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: RUSS:3112 or three years of college-level Russian.

RUSS:4112 Fourth-Year Russian II 4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: RUSS:4111 or three years of college-level Russian.

RUSS:4990 Independent Research arr.

Directed study.

RUSS:4995 Honors arr.

Honors project with a faculty member.

South Asian Studies Courses

SOAS:1502 Asian Humanities: India 3 s.h.

Introduction to four thousand years of South Asian civilization, through popular stories. GE: Values and Culture. Same as RELS:1502.

SOAS:1550 Sex, Music, and Pop Culture in India 3 s.h.

Exploration of debates and conflicts around gender and sexuality in Indian and South Asian popular culture, particularly music; shifting representations of gender relations, sexuality, gender/sexual identities in Indian music; focus on postcolonial period; how folk music, film songs, and classical music (among other genres) have dealt with issues such as changing conceptions of womanhood or masculinity, "queer" or gender/sexually variant communities and identities; how popular culture has negotiated questions of gender and sexuality in relation to nationhood, globalization, and cultural identity.

SOAS:1620 Bhagavad Gita: Essential Teachings of Indian Religion 3 s.h.

Students read the Bhagavad Gita and discuss its interpretations and use in classical and modern religious, literary, and political contexts; composed around 2000 years ago, it is the best known and most influential religious text in Indian history and concisely addresses war and peace, duty and righteousness, renunciation, devotion, and the nature of the universe; its been read, debated, and discussed by ancient philosophers, modern religious teachers, and political figures such as Mahatma Gandhi, the father of modern Independent India. Same as RELS:1620, TRNS:1620.

SOAS:2901 First-Year Sanskrit: First Semester 4 s.h.

Grammar, basic vocabulary; elementary readings. Offered fall semesters of even years. Requirements: undergraduate standing. GE: World Languages First Level Proficiency. Same as CLSA:2901.

SOAS:2902 First-Year Sanskrit: Second Semester 4 s.h.

Readings in epic and story literature. Offered spring semesters of odd years. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency. Same as CLSA:2902.

SOAS:3448 The Allure of Krishna: Sacred Sexuality in Indian Culture 3 s.h.

For thousands of years, Krishna, the dark-skinned flute-player, has been central to the religious experience of many Hindus; his diverse roles as mischievous divine child, sensual teenage cowherd, and adult statesman, warrior, and philosopher celebrated in poetry and prose, painting and sculpture, music, dance, drama, film, and television; exploration of multiple facets of Krishna's character through literary and visual sources, performances; focus on Indian interpretations of erotic content prominent in his story and to the figure of Radha, Krishna's mistress and beloved. Same as RELS:3448.

SOAS:3500 Queerness in South Asian Literature and Cinema 3 s.h.

Debates and conflicts around gender or sexual variance in South Asian cultural spheres; shifting representations of queerness—a broad label for non-normative gender/sexual practices or identities—in literature and films from India and neighboring regions; diverse constructions of gender/sexuality in precolonial India; focus on postcolonial period when regulation of deviant gender/sexuality became tied to colonial administration and emerging national identity; how cultural representations constructed normative or deviant genders/sexualities in relation to class, caste, and nationhood.

SOAS:3644 Gandhi and His Legacy 3 s.h.

In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as HIST:3644, RELS:3644.

SOAS:3901 Second-Year Sanskrit: First Semester 3 s.h.

Readings in epic and puranic texts. Offered fall semesters of odd years. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency. Same as CLSA:3901.

SOAS:3902 Second-Year Sanskrit: Second Semester 3 s.h.

The Bhagavad Gita and related religious/philosophical texts. Offered spring semesters of even years. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency. Same as CLSA:3902.

SOAS:3920 Enlightenment: Cross-Cultural Experiments in Religious Realization 3 s.h.

Enlightenment as one of the most important ideas that feeds contemporary religious and spiritual imagination; exploration of this concept in contemporary religious and spiritual discourse. Same as RELS:3582.

SOAS:4103 Individual Hindi arr.

Readings in medieval and modern Hindi.

SOAS:4201 Third-Year Sanskrit: First Semester 3 s.h.

Readings in philosophical and literary Sanskrit. Offered fall semesters.

SOAS:4202 Third-Year Sanskrit: Second Semester 3 s.h.

Continuation of SOAS:4201. Offered spring semesters.

SOAS:4802 South Asian Research Seminar arr.

Faculty and student research.

SOAS:5201 Individual Sanskrit for Advanced Students arr.

Research, translation projects. Requirements: fourth-year proficiency.

Asian Languages and Literature, B.A.

Learning Outcomes

- Culture and Literature Knowledge

Students will have:

basic knowledge about the target literature and culture, from premodern to modern and contemporary;

research and critical thinking skills necessary to engage with relevant primary and secondary materials; and

the ability to present their work using advanced written and spoken English.

- Language Competence

Students are able to:

carry out tasks in various circumstances and interact with others in different social settings and everyday situations in a culturally appropriate manner;

understand relatively uncomplicated texts that describe events and personal feelings, while they understand the essence of various types of lengthy, more complex written materials; and

critically assess materials and produce coherent writing based on the acquired information.

- Linguistics Knowledge

Students will have:

basic knowledge of sociocultural aspects of the language and skills to see through the stereotypes and myths of the target culture in order to have a better understanding of both the target culture and their own.

Overview

The B.A. program in Asian languages and literature gives students the opportunity to develop advanced skills in an Asian language while they study the people, literatures, and cultures of Asia. Students choose one of three tracks: Chinese, Japanese, or Sanskrit.

Students interested in Asian studies may add a second major in international studies with an emphasis in Asian studies; see the B.A. in international studies [p. 651] in the Catalog. Many other disciplines work well as second majors for Asian languages and literature students, such as history, art history, political science, religion, sociology, journalism, business, and anthropology.

Requirements

The Bachelor of Arts with a major in Asian languages and literature requires a minimum of 120 s.h., including 27-30 s.h. of work for the major. Students choose one of three tracks: Chinese, Japanese, or Sanskrit. Credit required for the major depends on choice of track; requirements for each track are listed below. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the

major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

The amount of approved transfer credit that may be applied to the major varies by track; students should consult their advisors about courses taken at other institutions, including study abroad.

The B.A. with a major in Asian languages and literature requires the following work.

Tracks

- Chinese Track [p. 132]
- Japanese Track [p. 133]
- Sanskrit Track [p. 134]

Chinese Track

Students in the Chinese track must complete the following course work.

Code	Title	Hours
Prerequisite Chinese Language Courses		
	Chinese Language Courses	15
	Chinese Literature and Cinema Courses	6
	Chinese Culture and Society Courses	9
Total Hours		30

Prerequisite Chinese Language

Students must successfully complete the prerequisite courses below, or the equivalent, before they enroll in required courses. These courses do not count as credit earned toward track requirements.

Code	Title	Hours
This sequence:		
CHIN:2101- CHIN:2102	Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester	10

Chinese Language

Code	Title	Hours
All of these:		
CHIN:3101- CHIN:3102	Third-Year Chinese: First Semester - Third Year Chinese: Second Semester	6
CHIN:4101	Classical Chinese: First Semester	3
CHIN:4103- CHIN:4104	Fourth-Year Chinese: First Semester - Fourth-Year Chinese: Second Semester	6

Chinese Literature and Cinema

Code	Title	Hours
Two of these:		
CHIN:3202	Chinese Literature: Prose	3
CHIN:3341	Chinese Literature: Poetry	3
CHIN:4203	Modern Chinese Writers	3
CHIN:4206	Transnational Chinese Cinemas	3

Chinese Culture and Society

Courses in this area include those in art, history, literature, religion, and translation.

Code	Title	Hours
A minimum of 9 s.h. from these:		
ASIA:1060/ HIST:1612/ RELS:1506	Introduction to Buddhism	3
ASIA:1510/CL:1510	Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature	3
ASIA:1602	Civilizations of Asia: China	3
ASIA:3220/ ARTH:3230	Chinese Painting I: Pagodas and Palaces	3
CHIN:1504	Asian Humanities: China	3
CHIN:1702	Chinese Popular Culture	3
CHIN:1800	Chinese Character Writing and Calligraphy	2
CHIN:3201	Workshop in Chinese Literary Translation	3
CHIN:4150	Advanced Readings in Chinese	3
HIST:3650	Chinese History from 1600 to 1911	3
HIST:3652	Twentieth-Century China	3

Electives

Courses and requirements listed above represent the minimum hours required to complete the Chinese track. Students also may choose additional Chinese elective courses (prefix CHIN), but may not exceed a total of 56 s.h. that will apply to the minimum 120 s.h. required to graduate. Elective Chinese courses will not count toward Chinese requirements for the major. Independent studies and arranged hours may be used as elective hours but are not counted toward requirements for the major.

Japanese Track

Students in the Japanese track must complete the following course work.

Code	Title	Hours
Prerequisite Japanese Language Courses		
Third- and Fourth-Year Japanese		12
Literature and Translation Courses		9
Linguistics and Advanced Language Studies Courses		6
Cultural Studies Course		3
Total Hours		30

Students may apply a maximum of 12 s.h. of approved transfer credit toward track requirements. Those who are planning to study abroad should consult with their Japanese track advisors in advance to determine whether their planned course work abroad will be accepted toward track requirements.

Prerequisite Japanese Language Courses

Students must successfully complete the prerequisite courses below, or the equivalent, before they enroll in required courses. These courses do not count as credit earned toward track requirements.

Code	Title	Hours
All of these:		
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

Third- and Fourth-Year Japanese

Code	Title	Hours
Both of these sequences:		
JPNS:3001- JPNS:3002	Third-Year Japanese I-II	6
JPNS:4001- JPNS:4002	Fourth-Year Japanese I-II	6

Literature and Translation

Code	Title	Hours
Three of these:		
JPNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3202	Traditional Japanese Literature in Translation	3
JPNS:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
JPNS:3205	Major Authors in Modern Japanese Literature	3
JPNS:3206	Warriors' Dreams	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3208	Japanese Film	3
JPNS:3210	Japanese Theater	3
JPNS:3601	Contemporary Japanese Culture	3
JPNS:4201	The Tale of Genji	3

Linguistics and Advanced Language Studies

Code	Title	Hours
At least 6 s.h. from these:		
JPNS:3107	Classical Japanese: First Semester	3
JPNS:3128	Introduction to Japanese Linguistics	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
JPNS:3501	Japanese for Professional Purposes II	3

Cultural Studies

Code	Title	Hours
Students complete one course chosen from the following lists:		

Asian and Slavic Languages and Literatures

JPNS:1506	Asian Humanities: Japan	3
JPNS:3500	Japanese for Professional Purposes I	3
Anthropology		
JPNS:2175	Japanese Society and Culture	3
Art History		
JPNS:2250	Introduction to the Art of Japan	3
JPNS:3260	Japanese Painting	3
History		
JPNS:4610	Japan - Age of the Samurai	3
JPNS:4615	Modern Japan	3
JPNS:4620	Japan-U.S. Relations	3
Religious Studies		
JPNS:1115	Japanese Religions	3
JPNS:3660	Japanese Religion and Thought	3
World Languages, Literatures, and Cultures		
JPNS:3700	Topics in Global Cinema	3

Sanskrit Track

Students in the Sanskrit track must complete the following course work.

Code	Title	Hours
All of these:		
SOAS:3901- SOAS:3902	Second-Year Sanskrit: First Semester - Second-Year Sanskrit: Second Semester	6
SOAS:4201- SOAS:4202	Third-Year Sanskrit: First Semester - Third-Year Sanskrit: Second Semester (students may substitute 6 s.h. of South Asian studies courses numbered 3000 or above, with the approval of their major advisor)	6
Additional South Asian studies courses numbered 3000 or above, including 1-3 s.h. of independent study		15
Total Hours		27

A list of advanced South Asian studies courses numbered 3000 or above is available from the department.

Sanskrit track students are urged to fulfill the GE CLAS Core [p. 459] Historical Perspectives or International and Global Issues requirement (3 s.h.) by completing HIST:1606/ASIA:1606 Civilizations of Asia: South Asia.

Teacher Licensure

Students majoring in Asian languages and literature (Chinese or Japanese track) who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Asian languages and literature majors must complete designated pedagogy and linguistics courses in the department in addition to the course work required for their major.

Students who plan to use their work toward a minor in Chinese, Japanese, or Russian as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Honors

Honors in the Major

Students earning a major in Asian languages and literature with a minimum g.p.a. of 3.50 in the major and an overall minimum g.p.a. of 3.30 have the opportunity to graduate with honors in the major. Students interested in earning honors in the major should seek the consent of the department chair and a faculty sponsor (an Asian specialist from any department) for departmental honors work. Students must register for ASIA:4301 Honors Tutorial and ASIA:4506 Senior Honors Thesis and must complete an acceptable thesis based on original research.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Asian languages and literature major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: for students in Chinese and Japanese tracks, language work begun (students in the Sanskrit tracks may begin language work in their sophomore year)

Before the fifth semester begins: at least first-year language competency

Before the seventh semester begins: at least second-year language competency and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least third-year, first-semester language competency and one additional course in the major (for the Japanese track, two additional courses in the major)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

Asian Languages and Literature, B.A.

- Chinese Track [p. 135]
- Japanese Track [p. 135]
- Sanskrit Track [p. 136]

Chinese Track

Course	Title	Hours
First Year		
Fall		
CHIN:1111	First-Year Chinese: First Semester a, b, c	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^e		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
CHIN:1112	First-Year Chinese: Second Semester a, b, c	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives ^d		3
Elective course		3
Elective course		1
Hours		15-16
Second Year		
Fall		
CHIN:2101	Second-Year Chinese: First Semester a, b, c	5
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
Elective course ^e		3
Major: Chinese literature and cinema course		3
Hours		17
Spring		
CHIN:2102	Second-Year Chinese: Second Semester a, b, c	5
Major: Chinese literature and cinema course		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		17
Third Year		
Fall		
CHIN:3101	Third-Year Chinese: First Semester	3
CHIN:4101	Classical Chinese: First Semester	3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^e		3
Elective course ^e		2
Hours		15
Spring		
CHIN:3102	Third Year Chinese: Second Semester	3

Major: Chinese culture and society course	3
GE CLAS Core: International and Global Issues ^d	3
Elective course ^e	3
Elective course ^e	3
Hours	15

Fourth Year

Fall		
CHIN:4103	Fourth-Year Chinese: First Semester	3
Major: Chinese culture and society course		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Spring		
CHIN:4104	Fourth-Year Chinese: Second Semester	3
Major: Chinese culture and society course		3
GE CLAS Core: Social Sciences ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		123-125

- a CHIN:1111, CHIN:1112, CHIN:2101, and CHIN:2102 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Japanese Track

Course	Title	Hours
Academic Career		
Any Semester		
Students may apply a maximum of 12 s.h. of approved transfer credit toward track requirements.		
Hours		0
First Year		
Fall		
JPNS:1001	First-Year Japanese: First Semester b, c, d	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
Elective course ^f		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
JPNS:1002	First-Year Japanese: Second Semester b, c, d	5

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives ^e		3
Elective course ^f		3
Elective course ^f		1
Hours		15-16

Second Year**Fall**

JPNS:2001	Second-Year Japanese: First Semester ^{b, c, d}	5
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
Elective course ^f		3
Elective course ^f		1
Hours		15

Spring

JPNS:2002	Second-Year Japanese: Second Semester ^{b, c, d}	5
GE CLAS Core: Natural Sciences without Lab ^e		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		1
Hours		15

Third Year**Fall**

JPNS:3001	Third-Year Japanese I	3
Major: cultural studies course		3
GE CLAS Core: Natural Sciences with Lab ^e		4
Elective course ^f		3
Elective course ^f		2
Hours		15

Spring

JPNS:3002	Third-Year Japanese II	3
Major: literature and translation course		3
Major: literature and translation course		3
GE CLAS Core: International and Global Issues ^e		3
Elective course ^f		3
Hours		15

Fourth Year**Fall**

JPNS:4001	Fourth-Year Japanese I	3
Major: linguistics and advanced language studies course		3
Major: literature and translation course		3
GE CLAS Core: Values and Culture ^e		3
Elective course ^f		3
Hours		15

Spring

JPNS:4002	Fourth-Year Japanese II	3
Major: linguistics and advanced language studies course		3
GE CLAS Core: Social Sciences ^e		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Total Hours 119-121

- a Students who are planning to study abroad should consult with their Japanese track advisors in advance to determine whether their planned course work abroad will be accepted toward track requirements.
- b JPNS:1001, JPNS:1002, JPNS:2001, and JPNS:2002 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Sanskrit Track

Course	Title	Hours
First Year		
Fall		
SOAS:2901	First-Year Sanskrit: First Semester ^{a, b, c}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^e		2
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

SOAS:2902	First-Year Sanskrit: Second Semester ^{a, b, c}	4
ASIA:1606	Civilizations of Asia: South Asia ^b	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Elective course ^e		3
Elective course ^e		2
Hours		15-16

Second Year**Fall**

SOAS:3901	Second-Year Sanskrit: First Semester ^{a, b, c}	3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

SOAS:3902	Second-Year Sanskrit: Second Semester ^{a, b, c}	3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Third Year**Fall**

SOAS:4201	Third-Year Sanskrit: First Semester	3
Major: additional South Asian studies course numbered 3000 or above		3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^e		3
Elective course ^e		2
Hours		15

Spring

SOAS:4202	Third-Year Sanskrit: Second Semester	3
Major: additional South Asian studies course numbered 3000 or above		3
GE CLAS Core: International and Global Issues ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Fourth Year**Fall**

Major: additional South Asian studies course numbered 3000 or above		3
Major: additional South Asian studies course numbered 3000 or above		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

Major: additional South Asian studies course numbered 3000 or above or independent study		3
GE CLAS Core: Social Sciences ^d		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		119-121

- a SOAS:2901, SOAS:2902, SOAS:3901, and SOAS:3902 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Financial Support

Undergraduate students have access to the following financial aid and scholarship resources. Contact the Department of Asian and Slavic Languages and Literatures for application information.

Cheng/Liu Scholarship: Students currently majoring in Chinese in the Department of Asian and Slavic Languages and

Literatures at the University of Iowa may apply for the Cheng/Liu Scholarship. The award can be used for summer Chinese language study.

Confucius Institute Scholarship: The Confucius Institute at the University of Iowa provides scholarships for students to study Chinese language and culture or conduct research related to their academic disciplines in China.

Fairall Scholarship: Majors who have attended and/or graduated from Iowa elementary or secondary schools may be nominated by the department to receive a Fairall Scholarship. Preference is given to Japanese studies students. Applications are available late spring, with scholarships to be awarded the following fall semester.

Summer language scholarships: Currently enrolled students may compete for a Stanley-University of Iowa Foundation Support Organization Summer Language Scholarship to be used for intensive summer language study in Chinese, Japanese, or Sanskrit. Eight to ten awards of \$2,000-\$2,500 are made each summer. Applications are due March 1.

Support for undergraduate study abroad: Opportunities for undergraduates to study abroad include the Presidential Scholarships for Study Abroad and the Stanley Scholarships for International Research and Study.

Career Advancement

Asian languages and literature graduates pursue careers in education, government, communication, business, and other fields in the United States and beyond. The programs also provide an excellent background for advanced study in the humanities and social sciences and in professional schools, such as law and business. The number of Americans who can speak Asian languages is relatively small, so many career opportunities exist for individuals trained in these areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Russian, B.A.

Learning Outcomes

By graduation, Russian majors will have:

- enhanced their language proficiency and cultural awareness of the Russian-speaking world; and
- attained skills to engage critically with histories, cultures, literatures, and other arts, and gained knowledge of the diversified Russian-speaking world (Russia, former Republics of the Soviet Union, and Southern and Western Slavs).

Overview

The Russian major leading to the B.A. degree trains students in both written and spoken Russian and in Russian literature, culture, and civilization. The department encourages students to pursue a second major (e.g., global health, history, linguistics, political science) and to develop their interests in related or complementary fields. Students interested in focusing on a broader interdisciplinary understanding of the region may earn a second major in International Studies; see the B.A. in international studies [p. 651] in the Catalog.

Study Abroad

The Department of Asian and Slavic Languages and Literatures offers an Intensive Summer Language Program at Plekhanov Russian University of Economics (PRUE) in Moscow, Russia. Scholarship opportunities are available and students earn University of Iowa credit. By participating in this program, students can complete the requirements for the Russian major in three years and two months.

Students live and study in the historical center of Moscow, within walking distance from famous landmarks such as Red Square, the Kremlin, the Bolshoi Theater, the State Tretyakov Gallery, and Saint Basil's Cathedral. This immersion in Russian language and culture enables students to become fluent in the Russian language faster, enjoy an authentic Russian language and cultural experience, and make friends from around the world.

Contact the academic coordinator of the Russian program or International Programs Study Abroad for more information.

Requirements

The Bachelor of Arts with a major in Russian requires a minimum of 120 s.h., including 32 s.h. of work for the major earned in Russian courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The B.A. with a major in Russian requires the following course work.

Code	Title	Hours
Language Courses		20
Russian and East European Culture Courses		12
Total Hours		32

Language

Code	Title	Hours
One of these:		
RUSS:3113	Beginning Composition and Conversation I	4
RUSS:3114	Beginning Composition and Conversation II	4
Both of these sequences:		
RUSS:3111- RUSS:3112	Third-Year Russian I-II	8
RUSS:4111- RUSS:4112	Fourth-Year Russian I-II	8

Students are not required to take RUSS:3113 Beginning Composition and Conversation I before RUSS:3114 Beginning Composition and Conversation II.

Russian and East European Culture

Code	Title	Hours
Four of these (12 s.h.):		
RUSS:1082	Youth Subcultures After Socialism	3
RUSS:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Religion and Culture of Slavs	3
RUSS:2100	Secrets of Russian Mentality	3
RUSS:2131	Women in Russian Society	3
RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
RUSS:2531	Topics in Russian, East European, and Eurasian Studies	arr.
RUSS:2600	Issues in Russian Identity: Nationalism	3
RUSS:3100	West and East: Women in the Slavic World	3
RUSS:3122	Tolstoy and Dostoevsky	3-4
RUSS:3131	Health Care and Health Reforms in Russia	3
RUSS:3202	Russian Literature in Translation 1860-1917	3

Students are urged to choose elective courses in economics, geographical and sustainability sciences, history, political science, global health, and international studies. Nearly every avenue of professional training and employment requires a solid background in Russian area studies. For example, criteria for U.S. government employment include substantive knowledge in history, economics, political science, sociological disciplines, scientific specialties, demography, military-related skills, and in some cases, cultural and religious background. In-depth knowledge of literature or linguistics without other

substantive background may be of limited practical use in finding employment.

Teacher Licensure

Students who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors must complete designated pedagogy and linguistics courses in the department in addition to the course work required for their major.

Students who plan to use their work toward a minor in Chinese, Japanese, or Russian as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have junior or senior standing, a g.p.a. of at least 3.33 in Russian, and a cumulative University of Iowa g.p.a. of at least 3.33 in order to enroll in the honors program in Russian.

Honors students must register for RUSS:4995 Honors. They must complete an honors project (e.g., thesis, translation, cultural studies, or research) in Russian. Students must present their work to a faculty committee as determined by their honors thesis advisor. Contact the department for more information about requirements for graduation with honors in the Russian major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Russian major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: competence in first-year Russian

Before the fifth semester begins: competence in second-year Russian

Before the seventh semester begins: competence in third-year Russian, an additional course in the major, and at least 90 s.h. earned toward the degree

Before the eighth semester: competence in fourth-year Russian and two more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Russian, B.A.

Course	Title	Hours
First Year		
Fall		
RUSS:1111	First-Year Russian I ^{a, b, c}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^e		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
RUSS:1112	First-Year Russian II ^{a, b, c}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives ^d		3
Elective course ^e		3
Elective course ^e		1
Hours		15-16
Second Year		
Fall		
RUSS:2111	Second-Year Russian I ^{a, b, c}	4
Major: Russian and East European culture course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
Elective course ^e		2
Hours		15
Spring		
RUSS:2112	Second-Year Russian II ^{a, b, c}	4
Major: Russian and East European culture course		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		2
Hours		15
Third Year		
Fall		
RUSS:3111	Third-Year Russian I	4
RUSS:3114 or RUSS:3113	Beginning Composition and Conversation II or Beginning Composition and Conversation I	4
GE CLAS Core: Natural Sciences with Lab ^d		4

Elective course ^e	3
Hours	15
Spring	
RUSS:3112 Third-Year Russian II	4
Major: Russian and East European culture course	3
GE CLAS Core: International and Global Issues ^d	3
GE CLAS Core: Natural Sciences without Lab ^d	3
Elective course ^e	1 - 3
Hours	14-16
Fourth Year	
Fall	
RUSS:4111 Fourth-Year Russian I	4
Major: Russian and East European culture course	3
GE CLAS Core: Values and Culture ^d	3
Elective course ^e	3
Elective course ^e	2
Hours	15
Spring	
RUSS:4112 Fourth-Year Russian II	4
GE CLAS Core: Social Sciences ^d	3
Elective course ^e	3
Elective course ^e	3
Elective course ^e	2
Hours	15
Total Hours	118-122

- a RUSS:1111, RUSS:1112, RUSS:2111, and RUSS:2112 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f RUSS:3113 is not a pre-requisite for RUSS:3114.

Career Advancement

Training in Russian is often an important asset to careers in the natural and physical sciences, engineering, medicine, business, journalism, library and information science, and the social and military sciences. It also may be appropriate preparation for study of law or international relations as well as Russian language and literature, comparative literature, translation, and other humanistic disciplines.

Some governmental agencies are interested in job candidates who have advanced training in Russian; these agencies give preference to applicants who combine strong language proficiency with a well-rounded background in area studies. Students who develop an exceptional facility with the Russian language may pursue careers in literary and technical translation and interpretation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Financial Support

Undergraduate students have access to the following financial aid and scholarship resources. Contact the Department of Asian and Slavic Languages and Literatures for application information.

Fairall Scholarship: Majors who have attended and/or graduated from Iowa elementary or secondary schools may be nominated by the department to receive a Fairall Scholarship. Preference is given to Japanese studies students. Applications are available late spring, with scholarships to be awarded the following fall semester.

Support for undergraduate study abroad: Opportunities for undergraduates to study abroad include the Presidential Scholarships for Study Abroad and the Stanley Scholarships for International Research and Study.

Asian Languages, Minor

The undergraduate minor in Asian languages is offered with three emphases: Chinese, Japanese, and Sanskrit. The minor requires 15 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor requirements for each emphasis are listed below.

- Chinese Emphasis [p. 141]
- Japanese Emphasis [p. 141]
- Sanskrit Emphasis [p. 142]

Chinese Emphasis

The minor in Asian languages with Chinese emphasis requires 15 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. The minor must include the following course work. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

Code	Title	Hours
Both of these sequences:		
CHIN:3101- CHIN:3102	Third-Year Chinese: First Semester - Third Year Chinese: Second Semester	6
CHIN:4103- CHIN:4104	Fourth-Year Chinese: First Semester - Fourth-Year Chinese: Second Semester	6
One of these:		
CHIN:3202	Chinese Literature: Prose	3
CHIN:3341	Chinese Literature: Poetry	3
CHIN:4203	Modern Chinese Writers	3
CHIN:4206	Transnational Chinese Cinemas	3

Japanese Emphasis

The minor in Asian languages with Japanese emphasis requires 15 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. Furthering Language Incentive Program (FLIP) credit may not be counted toward the Japanese emphasis.

The following courses are prerequisite to the Japanese emphasis; they do not count toward the minor.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

The minor with Japanese emphasis must include the following courses.

Code	Title	Hours
JPNS:3001	Third-Year Japanese I	3
JPNS:3002	Third-Year Japanese II	3

One course in literature and translation	3
One course in linguistics and advanced language studies	3
One course in literature and translation, or in linguistics and advanced language studies, or in cultural studies	3

Students select courses in literature and translation, linguistics and advanced language studies, and cultural studies from the lists below.

Literature and Translation

Code	Title	Hours
JPNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3202	Traditional Japanese Literature in Translation	3
JPNS:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
JPNS:3205	Major Authors in Modern Japanese Literature	3
JPNS:3206	Warriors' Dreams	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3208	Japanese Film	3
JPNS:3210	Japanese Theater	3
JPNS:3601	Contemporary Japanese Culture	3
JPNS:4201	The Tale of Genji	3

Linguistics and Advanced Language Studies

Code	Title	Hours
JPNS:3107	Classical Japanese: First Semester	3
JPNS:3128	Introduction to Japanese Linguistics	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
JPNS:3501	Japanese for Professional Purposes II	3

Cultural Studies

Code	Title	Hours
Asian and Slavic Languages and Literatures		
JPNS:1506	Asian Humanities: Japan	3
JPNS:3500	Japanese for Professional Purposes I	3
Anthropology		
JPNS:2175	Japanese Society and Culture	3
Art History		
JPNS:2250	Introduction to the Art of Japan	3
JPNS:3260	Japanese Painting	3
History		
JPNS:4610	Japan - Age of the Samurai	3

JPNS:4615	Modern Japan	3
JPNS:4620	Japan-U.S. Relations	3
Religious Studies		
JPNS:1115	Japanese Religions	3
JPNS:3660	Japanese Religion and Thought	3
World Languages, Literatures, and Cultures		
JPNS:3700	Topics in Global Cinema	3

Sanskrit Emphasis

The minor in Asian languages with Sanskrit emphasis requires 15 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. The course SOAS:2901 First-Year Sanskrit: First Semester does not count as an advanced course for the minor. The advanced courses must be chosen from the following list.

Code	Title	Hours
SOAS:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902	Second-Year Sanskrit: Second Semester	3
SOAS:4201	Third-Year Sanskrit: First Semester	3
SOAS:4202	Third-Year Sanskrit: Second Semester	3
SOAS:5201	Individual Sanskrit for Advanced Students	arr.

Korean Studies, Minor

The undergraduate minor in Korean studies requires a minimum of 15 s.h., with a minimum of 9 s.h. completed at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

A maximum of 6 s.h. in transfer course work may be selected from Ewha Womans University, the University of Seoul, Kyung Hee University, or other universities in South Korea. Prior approval of transfer course work by the Korean program coordinator is required.

Required Courses

Code	Title	Hours
One of these:		
KORE:1135	Korean Language in Culture and Society	3
KORE:1500	Asian Humanities: Korea	3
Two of these:		
KORE:3101	Third-Year Korean: First Semester	3
KORE:3102	Third-Year Korean: Second Semester	3
KORE:4000	Fourth Year Korean: First Semester	3
KORE:4001	Fourth Year Korean: Second Semester	3

Electives

Students proficient through upper-level Korean language courses (more advanced than third-year Korean or with a Test of Proficiency in Korean [TOPIK] level of 3 or higher) and who have an approved waiver from the Korean program coordinator may substitute 6 s.h. of other course work from the list below instead of completing the Korean language requirement.

Students who do not have a waiver must complete a minimum of 3 s.h. in a related area elective. They can select a course from the list below or consult with the Korean program coordinator for approval to take a different elective course.

Students select 6 s.h. from the following (consult Korean program coordinator for options involving study abroad or waivers).

Code	Title	Hours
KORE:1135	Korean Language in Culture and Society (if not already taken)	3
KORE:1500	Asian Humanities: Korea (if not already taken)	3
KORE:3070	Topics in Korean Studies	3
KORE:5102	Individual Korean for Advanced Students (with instructor approval)	arr.
HIST:1607	Civilizations of Asia: Korea	3-4
HIST:2687	Perspectives on Korea	3
HIST:3685	Modern Korean History	3
Related elective (approval required)		3

One or two Big Ten Academic Alliance (BTAA)
Korean e-school courses (delivered through video
conferencing from other Big Ten institutions)
Study abroad options (see "Study Abroad" below) arr.

Study Abroad

Students may select a maximum of 6 s.h. (one or two courses per year) from courses offered by Ewha Womans University, the University of Seoul, Kyung Hee University, or other universities in South Korea eligible for credit transfer. Consult the Korean program coordinator before undertaking study abroad work.

Russian, Minor

The undergraduate minor in Russian requires a minimum of 15 s.h. in Russian courses, including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. taught in English toward the minor. Either RUSS:3113 Beginning Composition and Conversation I or RUSS:3114 Beginning Composition and Conversation II may be applied toward the minor, but not both. Furthering Language Incentive Program (FLIP) credit can be applied toward the minor.

The department recommends that students choose courses numbered 3000 or above for the minor, such as the following.

Code	Title	Hours
15 s.h. from these:		
RUSS:3111	Third-Year Russian I	4
RUSS:3112	Third-Year Russian II	4
RUSS:3113	Beginning Composition and Conversation I	4
RUSS:3114	Beginning Composition and Conversation II	4
RUSS:4111	Fourth-Year Russian I	4

Russian and Eastern European Studies, Minor

The undergraduate minor in Russian and Eastern European studies requires a minimum of 15 s.h., including 12 s.h. earned in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. The minor does not require knowledge of the Russian language.

Students select courses from the following.

Code	Title	Hours
RUSS:1082	Youth Subcultures After Socialism	3
RUSS:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Religion and Culture of Slavs	3
RUSS:2100	Secrets of Russian Mentality	3
RUSS:2131	Women in Russian Society	3
RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
RUSS:2531	Topics in Russian, East European, and Eurasian Studies	arr.
RUSS:3100	West and East: Women in the Slavic World	3
RUSS:3122	Tolstoy and Dostoevsky	3-4
RUSS:3131	Health Care and Health Reforms in Russia	3
RUSS:3202	Russian Literature in Translation 1860-1917	3
POLI:3410	Russian Foreign Policy	3
POLI:3413	Russian Politics	3

Asian Civilizations, M.A.

Requirements

The Master of Arts program in Asian Civilizations requires a minimum of 30 s.h. of graduate credit, including 24 s.h. earned in residence at the University of Iowa. All students must maintain a g.p.a. of 3.00 or higher.

Detailed information on degree requirements is sent to all applicants. By the end of the first semester in residence, students propose a study plan developed in consultation with their advisor and in accordance with guidelines for specializations within the program.

M.A. students choose from two tracks: teaching Chinese as a foreign language and interdisciplinary Chinese studies. Currently, the department is not accepting applicants for Hindi, Sanskrit, or Japanese tracks.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. The Department of Asian and Slavic Languages and Literatures requires a g.p.a. of at least 3.00 for regular admission and a g.p.a. of at least 2.75 for conditional admission.

A B.A. in Chinese language and literature, teaching Chinese as a second language, or the equivalent is required for study in the M.A. in teaching Chinese as a second language track. Chinese language proficiency equivalent to third-year Chinese, as determined by examination, is required for the M.A. in Chinese studies track.

All international applicants must submit Test of English as a Foreign Language (TOEFL) TWE (Test of Written English) and the TOEFL TSE (Test of Spoken English) score and an essay in response to specific questions indicated in the application instructions. Applicants whose first language is not English must score at least 98 (internet-based) on the TOEFL.

Applicants must submit a statement of purpose, a research paper written in English, three letters of recommendation, and scores on the Graduate Record Exam (GRE) General Test.

Both international and U.S. graduate applications requesting financial support for the following academic year are due February 1. All other applications are accepted until April 15 for fall admission and October 1 for spring admission.

Application materials are available from the department.

Financial Support

Graduate students have access to the following financial aid and scholarship resources. Contact the Department of Asian and Slavic Languages and Literatures for application information.

Cheng/Liu Scholarship: Students currently majoring in Chinese in the Department of Asian and Slavic Languages and Literatures at the University of Iowa may apply for the Cheng/Liu Scholarship. The award can be used for summer Chinese language study.

Fairall Scholarship: Majors who have attended and/or graduated from Iowa elementary or secondary schools may be nominated by the department to receive a Fairall Scholarship.

Preference is given to Japanese studies students. Applications are available late spring, with scholarships to be awarded the following fall semester.

Foreign language and area studies fellowships: Only U.S. citizens are eligible. Graduate students combining work in Asian languages at an advanced level with interdisciplinary or professional programs may apply. The award is offered by International Programs for academic year and summer language study.

Graduate assistantships: The department offers teaching assistantships for graduate students in the program. All graduate applicants receive information on applying for an assistantship. Assistantships are awarded each spring for the following academic year.

Graduate international research: Opportunities for funding research abroad include Stanley Fellowships for Graduate Student Research Abroad, CIREH Research Scholarships in International Health, Fulbright Grants, and Foreign Language Area Scholarships.

Summer language scholarships: Currently enrolled students may compete for a Stanley-University of Iowa Foundation Support Organization Summer Language Scholarship to be used for intensive summer language study in Chinese, Japanese, or Sanskrit. Eight to ten awards of \$2,000-\$2,500 are made each summer. Applications are due March 1.

Career Advancement

The master's degree program in Asian civilizations prepares students for doctoral study in a variety of disciplines. It also may be a good choice for students planning nonacademic careers in which advanced knowledge of Asian civilizations could be useful. For example, students working toward professional degrees, such as an M.D. or J.D., may decide to earn the M.A. in Asian civilizations while completing the professional degree. The program also provides an excellent background for advanced study in the humanities.

The number of Americans who can speak Asian languages is relatively small, so many career opportunities exist for individuals trained in these areas.

The Pomerantz Career Center is a great resource for students researching internships and careers.

Biology

Chair

- Diane C. Slusarski

Undergraduate major: biology (B.A., B.S.)

Undergraduate minor: biology

Graduate degrees: M.S. in integrated biology; Ph.D. in integrated biology

Faculty: <https://biology.uiowa.edu/people/faculty>

Website: <https://biology.uiowa.edu/>

The Department of Biology offers undergraduate and graduate programs that prepare students for careers in a wide variety of fields such as health science or biological research, technology, and education. It also offers several courses that undergraduate students in all majors may use to satisfy the GE CLAS Core [p. 459] Natural Sciences requirement and other courses on topics of general interest for undergraduate non-biology majors, including a First-Year Seminar course, BIOL:1000 First-Year Seminar, designed for entering students. The department also administers the interdisciplinary Biomedical Sciences [p. 171] major and the Neuroscience [p. 790] major, both leading to a Bachelor of Science degree.

Programs

Undergraduate Programs of Study

Majors

- Major in Biology (Bachelor of Arts) [p. 152]
- Major in Biology (Bachelor of Science) [p. 157]

Minor

- Minor in Biology [p. 166]

Graduate Programs of Study

Majors

- Master of Science in Integrated Biology [p. 167]
- Doctor of Philosophy in Integrated Biology [p. 169]

Facilities

The department is housed in two contiguous buildings, with modern facilities and equipment for state-of-the-art research.

Facilities include the Keck Dynamic Image Analysis Facility, which couples sophisticated state-of-the-art microscopy and computerized motion analysis to permit three-dimensional real-time analysis of cell movement in vitro and in situ. The Roy J. Carver Center for Genomics houses the department's DNA sequencing, oligo synthesis, quantitative PCR, functional genomics/microarray facilities, and informatics facilities. The Roy J. Carver Center for Imaging is a microscopy and imaging facility; its confocal microscope is available for teaching and research.

A large greenhouse is used in plant research and education. The department also houses animal-care facilities suitable for mice, rats, rabbits, *Xenopus laevis*, and zebra fish. These facilities are managed by the University's animal care unit, which is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care. A central University

facility provides assistance in the preparation of transgenic mice.

The department is home to the Developmental Studies Hybridoma Bank, which is affiliated with the National Institutes of Health. The hybridoma bank collects and distributes monoclonal antibodies that originate in laboratories all over the world. Its collection now contains more than 3,500 monoclonal antibodies that are distributed to users internationally for a modest fee.

In addition to department facilities, the University offers a genomic sequencing service, a DNA oligonucleotide synthesis and enzyme lab, oligopeptide synthesis and sequencing equipment, and mass- and NMR spectroscopy facilities. The Center for Biocatalysis and Bioprocessing is available for growing large amounts of microorganisms (e.g., 100 liters) for use in protein isolation.

Iowa Lakeside Laboratory

The Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa. Located on West Lake Okoboji, in northwestern Iowa, the laboratory affords excellent conditions for summer study in field biology, limnology, phycology, aquatic ecology, pollination biology, and plant taxonomy. It offers a wide variety of summer courses at the undergraduate and graduate levels. Students should check with their advisors to determine whether specific courses may be counted toward requirements for graduation. See Iowa Lakeside Laboratory [p. 1822] (University College) in the Catalog or visit the Lakeside Laboratory website.

Courses

Many courses include laboratory, discussion, and/or field components.

The following courses are not open to graduate students and do not provide credit toward a biology major:

BIOL:1000 First-Year Seminar
 BIOL:1060 Big Ideas: Origins of the Universe, Earth, and Life
 BIOL:1061 Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe
 BIOL:1140 Human Biology
 BIOL:1141 Introductory Animal Biology
 BIOL:1251 How the Brain Works (and Why it Doesn't)
 BIOL:1260 Plants and Human Affairs
 BIOL:1261 Introduction to Botany
 BIOL:1311 Human Genetics in the Twenty-First Century
 BIOL:1370 Understanding Evolution
 BIOL:2211 Genes, Genomes, and the Human Condition

Biology Courses

BIOL:1000 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

BIOL:1060 Big Ideas: Origins of the Universe, Earth, and Life **3 s.h.**

Fundamental questions (How old is the universe? What is the nature of life? How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe?) that revolve around understanding origins from different perspectives (i.e., astronomy, physics, geoscience, biology, chemistry, anthropology); work with faculty from several departments to investigate these questions; inquiry-based activities to build success in critical thinking, teamwork, effective written and oral communication; origin of the universe, biochemistry of life, and origin of life on Earth; first of a two-part sequence. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as ASTR:1060, EES:1060.

BIOL:1061 Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe **4 s.h.**

How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe? These fundamental questions revolve around understanding the origins of life from different perspectives—astronomy and physics, geoscience, biology, chemistry, and anthropology; students will work together with faculty from across four different departments to investigate these questions using inquiry-based activities to build success in critical thinking, teamwork, and effective written and oral communication; second half of the origins sequence (though either course also may be taken alone). GE: Natural Sciences with Lab. Same as ANTH:1061, ASTR:1061, EES:1061.

BIOL:1140 Human Biology **4 s.h.**

Molecular and cellular basis of human life; integration of humans and the biosphere through photosynthesis, respiration; structure, function of human tissues, organs, organ systems; reproduction, genetics, impact of molecular biology and genetic engineering; lecture, laboratory. GE: Natural Sciences with Lab.

BIOL:1141 Introductory Animal Biology **4 s.h.**

Fundamental principles: cells and macromolecules, energy metabolism, organismic physiology, genetics, development, ecology, and evolution. Requirements: one year of high school chemistry. Recommendations: CHEM:1070. GE: Natural Sciences with Lab.

BIOL:1251 How the Brain Works (and Why it Doesn't) **3-4 s.h.**

Introductory survey of neuroscience; structure and function of the brain; nature of consciousness; brain function in mental illness and degenerative disorders; genes and the mind; perception, sensation, memory, and emotions. Requirements: non-biology major. GE: Natural Sciences without Lab.

BIOL:1260 Plants and Human Affairs **2-3 s.h.**

How plants are useful to people: food, clothing, shelter, medicines, psychoactive agents; plants' social, economic, ecological significance. GE: Natural Sciences without Lab.

BIOL:1261 Introduction to Botany **4 s.h.**

Biology of plant life; emphasis on structure, function, reproduction, inheritance, diversity, evolution. Requirements: one year of high school chemistry. GE: Natural Sciences with Lab.

BIOL:1295 Career Preparation and Life Design for Biology Majors **1 s.h.**

Exploration of career paths, employers, graduate programs; preparation for life after college; development of practical skills in job searching, writing, interviewing, and networking; for students who are unsure what they can do after graduation with a bachelor's degree in biology. Requirements: junior or senior standing.

BIOL:1311 Human Genetics in the Twenty-First Century **3 s.h.**

Organization and inheritance of human genes and genomes; genetic basis of simple and complex traits; genetic aspects of cancer; paleogenomics and tracing human migrations with DNA. GE: Natural Sciences without Lab. Same as ANTH:1310.

BIOL:1370 Understanding Evolution **3 s.h.**

Evolution and diversity of living things, their patterns on Earth, their organization in ecological systems; dynamics of evolutionary processes. GE: Natural Sciences without Lab.

BIOL:1411 Foundations of Biology **4 s.h.**

Unifying concepts of living systems; emphasis on common properties and processes; chemical and cellular basis of life, genetics, and evolution. Prerequisites: CHEM:1110 with a minimum grade of C- or CHEM:1070 with a minimum grade of A-. GE: Natural Sciences with Lab.

BIOL:1412 Diversity of Form and Function **4 s.h.**

Underlying unifying concepts of life; emphasis on diversity of living systems; the tree of life, cellular evolution, prokaryotic and eukaryotic diversity, plant and animal form and function; interactions among diverse forms of life and their environment. Prerequisites: BIOL:1411 with a minimum grade of C-. GE: Natural Sciences with Lab.

BIOL:1808 Ways of Knowing Science **1 s.h.**

Science as a powerful way of knowing based on experimentation and observation of natural world; introduction to subdisciplines of scientific research; scope and methods of scientific research; questions that scientific research seek answers for; methods that scientists use to obtain answers to their questions; how science affects us personally and how it affects the rest of society; research seminars, discussion, and exploration.

BIOL:2120 Good Genes Gone Bad: Genetic Disorders of Notable Celebrities **3 s.h.**

Introduction to a wide range of genetic disorders affecting notable celebrities; relevant genetic pathways in easy-to-understand language; exploration of mechanisms of disease and treatments.

BIOL:2211 Genes, Genomes, and the Human Condition **3 s.h.**

Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Prerequisites: BIOL:1411. Recommendations: BIOL:1412.

BIOL:2254 Endocrinology **3 s.h.**

Production and effect of hormonal chemical messengers of secretory glands; emphasis on cell signaling in vertebrate systems; actions of hormones in regulating growth, physiology, and reproduction; organ to molecular levels. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701). Recommendations: CHEM:2210.

BIOL:2346 Vertebrate Zoology 4 s.h.

Vertebrate diversity, success in relation to evolutionary history, and adaptive radiation of fish, amphibians, reptiles, birds, mammals; physiological, morphological, behavioral, life history adaptations; vertebrate zoogeography, systematics, patterns of reproduction, social systems. Prerequisites: BIOL:1411 and BIOL:1412.

BIOL:2374 Biogeography 3 s.h.

Introduction to processes that lead to the patterns of plant and animal distributions we see across the globe; processes of focus include plate tectonics, climate, and human-ecological interactions; species management and conservation in relationship to climate and change in human patterns of environment. Prerequisites: BIOL:1141 or BIOL:1370 or BIOL:1261 or GEOG:1020 or BIOL:1412. Same as GEOG:2374.

BIOL:2512 Fundamental Genetics 4 s.h.

Nature, function of genetic material: classical, molecular, developmental aspects. Prerequisites: BIOL:1411 with a minimum grade of C- and (BIOL:1412 with a minimum grade of C- or PSY:2701 with a minimum grade of C-) and CHEM:1120. Corequisites: CHEM:2210, if not taken as a prerequisite.

BIOL:2603 Mechanisms of Aging 3 s.h.

Evolutionary theories of aging, cellular and genetic basis of aging and repair, disruption of homeostasis in aging; focus on studies of biological and environmental causes of age-related diseases. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701).

BIOL:2673 Ecology 3 s.h.

Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: BIOL:1411 and BIOL:1412. Recommendations: a basic statistics or calculus course. Same as ENVS:2673.

BIOL:2723 Cell Biology 3 s.h.

Structures of cells and organelles in relation to their functions at molecular, cellular levels; emphasis on higher eukaryotic cells. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701) and CHEM:1120.

BIOL:2753 Introduction to Neurobiology 3 s.h.

Techniques of molecular biology, genomics, neuropharmacology, and functional brain imaging applied to understanding how the brain works. Prerequisites: (BIOL:1412 or HHP:3500) and BIOL:1411.

BIOL:3172 Evolution 4 s.h.

Nature, evidence, analysis, implications, molecular/genetic basis; historical record, phylogeny, speciation, adaptation, investigative methods. Prerequisites: BIOL:2512 with a minimum grade of C- and (STAT:2010 or STAT:3510 or MATH:1550 or MATH:1850 or MATH:1460).

BIOL:3233 Introduction to Developmental Biology 3 s.h.

Fundamental mechanisms in differentiation, organogenesis, morphogenesis; and pattern formation; mechanistic approach at molecular, cellular, tissue levels of organizations. Prerequisites: BIOL:1411 and CHEM:1120 and (BIOL:1412 with a minimum grade of C- or HHP:3500 with a minimum grade of C-). Recommendations: BIOL:2512.

BIOL:3244 Animal Behavior 3,5 s.h.

Genetics, sensory physiology, migration, development of behavior, circadian rhythms, foraging strategies, aggression, sexual and parental behavior, group selection, social behavior. Prerequisites: BIOL:1411 and (BIOL:1412 or PSY:2701).

BIOL:3253 Neurobiology 4 s.h.

Neurobiology from molecular/cellular to systems levels including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, sensory, motor and autonomic systems, emotion, memory, sleep, language, attention and cognition, neuronal development. Prerequisites: BIOL:2753 or (PSY:2701 and BIOL:3343). Recommendations: BIOL:2723 and BIOC:3110 and PHYS:1512.

BIOL:3314 Genomics 3 s.h.

Major areas of genomics, including DNA and protein sequence analysis, structural diversity of whole genomes, microarray applications, proteomics; computer workshop experience in applying bioinformatics tools. Prerequisites: BIOL:2512 or BIOC:3120. Same as IGPI:3314.

BIOL:3343 Animal Physiology 3 s.h.

Principles of cellular and systems physiology; emphasis on quantitative and experimental aspects. Prerequisites: BIOL:1411 and CHEM:1110 and CHEM:1120 and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850). Recommendations: (PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612).

BIOL:3363 Plant Developmental Biology 3 s.h.

Developmental processes throughout life cycle of vascular plants; current knowledge of mechanisms, control; emphasis on molecular and genetic approaches to studying development. Prerequisites: BIOL:2512.

BIOL:3373 Human Population Genetics and Variation 3 s.h.

Principles of evolutionary change of genes and genomes applied to human populations and to comparisons between humans and their closest primate relatives; emphasis on consequences of mutation, natural selection, and demographic changes. Prerequisites: BIOL:2512 with a minimum grade of C- or BIOL:2211 with a minimum grade of C-.

BIOL:3383 Introduction to Systems Biology 3 s.h.

Concepts and skills used to develop computer models that provide insight into the operation of cellular processes like metabolic pathways and genetic circuits. Prerequisites: BIOL:1412 and (MATH:1460 or MATH:1550 or MATH:1850).

BIOL:3626 Cell Biology Laboratory 4 s.h.

Conceptual understanding and technical skills in fluorescence microscopy and digital imaging, mammalian cell culture, tissue fractionation, centrifugation, electrophoresis, and expression of recombinant proteins. Prerequisites: BIOL:2723.

BIOL:3655 Neurogenetics Laboratory 4 s.h.

Emphasis on project-oriented training to develop fundamental hands-on experimental manipulations and techniques, problem-solving skills, and data analysis methodology; students utilize modern genetic, behavioral, and electrophysiological methods to explore how gene and environment influence nervous system function and behavioral expression using genetic model organisms. Prerequisites: BIOL:2512 or BIOL:2211. Recommendations: BIOL:2753 or PSY:2701.

BIOL:3656 Neurobiology Laboratory 4 s.h.

Principles and practice of neurobiology research, including microscopy and imaging, cellular and molecular neurobiology, and electrophysiology. Prerequisites: (BIOL:1411 and PSY:2701) or BIOL:2753.

BIOL:3663 Plant Response to the Environment 3 s.h.

Mechanisms of plant responses to environmental factors (biotic and abiotic) at organismal and molecular levels. Prerequisites: BIOL:2512 or BIOL:2723 or BIOL:3716 or BIOC:3120.

BIOL:3676 Evolution Lab 4 s.h.

Methods of sampling and describing variation in natural populations; application of molecular genetic, bioinformatic, and computational techniques to describe genetic variation through sequence analysis; use of controlled laboratory experiments and computer simulations to illustrate evolutionary principles. Prerequisites: BIOL:2512 or BIOL:2211. Corequisites: BIOL:3172 or BIOL:3373, if not taken as a prerequisite. Recommendations: grade of C or higher in BIOL:3172.

BIOL:3713 Molecular Genetics 4 s.h.

Mechanism, regulation of RNA, DNA, protein biosynthesis, with emphasis on methods of genetic analysis; application of modern recombinant DNA techniques to basic problems. Prerequisites: BIOL:2512 or BIOC:3120.

BIOL:3716 Genetics and Biotechnology Lab 4 s.h.

Expansion of genetic concepts introduced in BIOL:2512; introduction to genetic/molecular techniques currently used in genetic analysis and biotechnology. Prerequisites: BIOL:1411. Corequisites: BIOL:2512 or BIOL:2211, if not taken as a prerequisite. Recommendations: grade of C or higher in BIOL:2512.

BIOL:3736 Developmental Biology Lab 4 s.h.

Experimental manipulation of embryos to examine mechanisms of early development, including gametogenesis and fertilization, cleavage, gastrulation, pattern formation and organogenesis; in vivo imaging of development, methods to visualize gene expression and independent research; model organisms including sea urchin, fish, frog, chick, mouse. Prerequisites: BIOL:3233.

BIOL:3743 Basic Biology of Human Disease 2 s.h.

Basic problems of infectious disease; selected viral, bacterial, and fungal pathogens, with emphasis on fungal pathogenesis; DNA fingerprinting; epidemiological study of disease dynamics. Prerequisites: BIOL:2512.

BIOL:3753 Developmental Neurobiology 3 s.h.

Neural induction and nervous system patterning; neurogenesis, axon and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Prerequisites: BIOL:2753 with a minimum grade of C- or BIOL:3253 with a minimum grade of C-. Corequisites: BIOL:3253, if not taken as a prerequisite.

BIOL:3898 Teaching Internship in Biology 2 s.h.

Training in teaching the laboratory component of a large general education biology course; weekly session with instructor, shadowing and assisting a graduate teaching assistant in a lab section, leading laboratory exercises. Prerequisites: BIOL:1411 with a minimum grade of B and BIOL:1412 with a minimum grade of B. Requirements: junior or senior standing.

BIOL:3994 Introduction to Research 2-3 s.h.

Conduct independent scientific research related to the field of biology.

BIOL:4213 Bioinformatics 4 s.h.

Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BIOC:3120 or MICR:3170 or BIOL:2512. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as GENE:4213, IGPI:4213.

BIOL:4314 Introduction to Synthetic Biology in the Lab 4 s.h.

Introduction to theory and practice of large-scale design goals of synthetic biology in which various types of DNA instructions, known from decades of research and discovery on specific biological systems, are taken out of context and used to execute various novel tasks designed to solve real-world problems; basic laboratory instruction in standardized construction techniques for stringing together off-the-shelf DNA components that are then introduced into organisms capable of executing the instructional set; controlled experiments to investigate the degree of variability exhibited by engineered genetic constructs. Prerequisites: BIOL:1411. Same as BME:4314.

BIOL:4316 Summer Practicum in Genomics 2 s.h.

Major areas of genomics, including sequence similarity searching, whole genome comparisons, phylogenetic analysis, and regulatory informatics; computer workshop experience in application of bioinformatics tools. Prerequisites: BIOL:4213 or BIOL:3314.

BIOL:4333 Genes and Development 3 s.h.

Mechanisms by which genes control development of multicellular animals; methodology of scientific research applied to developmental genetics. Prerequisites: BIOL:2512 with a minimum grade of C-. Recommendations: BIOL:3233.

BIOL:4353 Neurophysiology: Cells and Systems 3-4 s.h.

Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: (BIOL:2753 or BIOL:3253) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850) and ((PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612)). Same as NSCI:4353.

BIOL:4373 Molecular Evolution: Genes, Genomes, and Organisms 3 s.h.

Theory underlying phylogenetic analysis with application of these methods to molecular data sets; analysis of multigene data, organellar, and nuclear genome sequences to reconstruct the history of cells. Prerequisites: BIOL:3172 with a minimum grade of C-. Same as IGPI:4373.

BIOL:4897 Teaching Internship in Biology 2-3 s.h.

Training and practical experiences in the teaching of biology; includes a weekly training session with a Ph.D. instructor or course supervisor, active assistance of the primary instructor in one or more class meetings each week, and/or providing constructive written feedback on laboratory or classroom exercises; additional experiences may include leading a training session, co-teaching or lead-teaching one or more lab or classroom exercises, and assisting with the development of classroom activities or resources; specific experiences will vary depending on the course and supervisor needs. Prerequisites: BIOL:1411 with a minimum grade of B and BIOL:1412 with a minimum grade of B. Requirements: third- or fourth-year standing and interview with instructor.

BIOL:4898 Communicating Research 1 s.h.

Independent, investigative research experience; research process and communication—establishing goals and expectations with a mentor, developing and framing a research hypothesis or question, communicating results in written and oral form to scientist and nonscientist audiences; supportive learning environment to share research experiences and develop identities as scientists, learn skills to become effective independent researchers and science communicators. Corequisites: BIOL:3994 or BIOL:4999.

BIOL:4995 Honors Research in Neuroscience arr.

Students conduct independent scientific research related to the field of neuroscience. Requirements: honors standing in neuroscience, UI g.p.a. of at least 3.33, and neuroscience g.p.a. of at least 3.33. Same as PSY:4995.

BIOL:4998 Honors Seminar in Biology 2 s.h.

Prerequisites: BIOL:1411 and BIOL:1412. Requirements: honors standing.

BIOL:4999 Honors Research in Biology arr.

Students conduct independent scientific research related to the field of biology. Requirements: honors standing in biology, UI g.p.a. of at least 3.33, and biology g.p.a. of at least 3.33.

BIOL:5117 Topics in Molecular Genetics 1-2 s.h.

Prerequisites: BIOL:2512 with a minimum grade of B-.

BIOL:5199 Critical Readings in Biology arr.**BIOL:5211 Genes, Genomes, and the Human Condition Graduate Lecture 3 s.h.**

Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Recommendations: BIOL:1411 highly recommended. Same as IGPI:5211.

BIOL:5218 Microscopy for Biomedical Research arr.

Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as ACB:5218, MICR:5218.

BIOL:5286 Monoclonal Antibody Technologies 2 s.h.

Provides knowledge of screening and characterization methods for monoclonal antibodies, a powerful tool in molecular cytology, immunohistochemistry, and studies of gene regulation; methods include screening for monoclonal antibodies (mAbs), fluorescence-activated cell sorting (FACS) analysis, enzyme-linked immunosorbent assay (ELISA), Southern blot hybridization, cytochemistry, histochemistry, and induced polarization (IP).

BIOL:5320 Computational Genomics 3 s.h.

Introduction to computational methods used in genome analysis and functional genomics; biological sequence analysis, sequence database search, microarray data analysis, biological network analysis; in-depth coverage of principal genome science challenges and recent solutions. Prerequisites: (BIOS:4120 or STAT:3510) and BME:5320 and (CS:5110 or ENGR:1300). Same as BME:5330, ECE:5220, GENE:5173, IGPI:5330.

BIOL:5412 Fundamental Genetics - Graduate Lecture 3 s.h.

Nature and function of genetic material; classical, molecular, and developmental aspects. Corequisites: BIOL:5512.

BIOL:5512 Fundamental Genetics - Graduate Discussion 1 s.h.

Critical evaluation of classic genetics papers. Requirements: biology graduate standing.

BIOL:5653 Fundamental Neurobiology 3 s.h.

Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, peripheral and CNS sensory systems, peripheral and CNS motor systems, autonomic systems, emotion, memory, sleep, language, attention and cognition, neuronal development. Same as NSCI:5653, PSY:5203.

BIOL:5658 Fundamental Neurobiology Discussion 1 s.h.

Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as NSCI:5658, PSY:5204.

BIOL:5753 Developmental Neuroscience 1 s.h.

Neural induction and nervous system patterning; neurogenesis, axon, and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Prerequisites: BIOL:5653. Same as NSCI:5753.

BIOL:6188 Seminar: Writing in Natural Sciences 2 s.h.

Writing and critiquing skills in the natural sciences.

BIOL:6199 Research: Biology arr.**BIOL:6265 Neuroscience Seminar 0-1 s.h.**

Research presentations. Same as ACB:6265, MPB:6265, NSCI:6265, PSY:6265.

BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar 1-2 s.h.

Analysis and presentation of primary research on central biological questions utilizing a full array of model and non-model organisms and analytical approaches; development of effective skills in public speaking, presentation, and scientific writing.

BIOL:6899 Independent Study in Biology arr.**BIOL:7270 Principles of Scholarly Integrity 1 s.h.**

Training in responsible conduct of research; student/mentor responsibilities; authorship and reviewing; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: enrollment in graduate psychology or biology program. Same as PSY:7270.

BIOL:7604 Principles of Scholarly Integrity 0 s.h.

Training in responsible conduct of research and scholarly activities; student/mentor responsibilities; authorship; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: postdoctoral standing in psychology or biology. Same as PSY:7604.

Biology, B.A.

Learning Outcomes

The graduate with a bachelor's degree in biology will be able to demonstrate the following.

- **Foundational Knowledge: Comprehension of Fundamental Principles and Concepts of Biology**

Graduates will be able to:

explain fundamental biological principles within and across levels of organization, from molecules to ecosystem;

apply foundational knowledge and conceptual frameworks to new situations;

recognize the consequences of evolutionary history in contrasts between living organisms;

appreciate the historical sequence and significant achievements of biological discovery; and

evaluate new information reported in the news and/or in scientific publications against prior knowledge.

- **New Discovery: Scientific Reasoning and Experimental Process in Biology**

Graduates will be able to:

perform basic laboratory procedures, including correct operation of devices;

formulate questions about biological processes based on current knowledge;

construct a hypothesis to guide experimental enquiry;

design experiments, identifying variables of analysis and controls for error;

consider appropriate strategies or technologies applicable to investigate a novel problem;

collect, organize, summarize, and interpret biological data;

analyze and evaluate experimental results to inform a hypothesis; and

distinguish between necessary and sufficient causes.

- **Quantitative Skills: Mathematical Reasoning and Basic Numeracy Applied to Biology**

Graduates will be able to:

perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;

apply mathematical concepts and rules of probability to make predictions;

select and apply appropriate statistical tests to determine significance of experimental results; and

use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

- **Information Literacy: Acquisition, Analysis, and Summary of Published Biological Information**

Graduates will be able to:

locate and evaluate the relevance and credibility of information from electronic and print sources;

navigate and obtain relevant information from public databases;

recognize and appropriately cite sources of information;

identify questions addressed and methodologies used; and

assess findings reported and conclusions drawn in published scientific articles.

- **Communication Proficiency: Written and Oral Presentation of Biological Information**

Graduates will be able to:

write concise scientific reports based on findings or literature searches;

construct visual presentations of results or findings from the scientific literature; and

orally present findings or results from the literature with appropriate media.

Overview

All biology majors complete a chemistry/mathematics foundation and the biology core. In addition, B.A. students choose courses from several breadth menus and have a wide selection of elective courses, while B.S. students complete physics foundation courses and choose one of four tracks.

The department acquaints undergraduate students with the nature of practicing scientists' work by offering BIOL:3994 Introduction to Research (requires a Department of Biology faculty sponsor), BIOL:4898 Communicating Research (a course supporting students involved in research), and BIOL:4999 Honors Research in Biology (requires membership in the Biology Honors Program). Students associate with one of the department's research groups in experiments, discussion of current research, study of specialized topics, and attendance at research seminars.

Students interested in field biology, zoology, or botany may take varied courses in those subjects offered during the summer at Iowa Lakeside Laboratory [p. 1822].

Requirements

The Bachelor of Arts with a major in biology requires a minimum of 120 s.h., including at least 71-80 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major for the Bachelor of Arts prepares students for graduate study in the biological sciences and is especially appropriate for those interested in careers in biological science education at all levels. It also provides suitable preparation for professional positions in laboratory or field research or for professional study in medicine and other health-related fields.

The B.A. program is broadly based. It introduces students to key concepts in important areas of biology and, compared to the B.S. program, provides more flexibility in choosing elective courses. Students working toward a Bachelor of Arts degree must complete the chemistry/math foundation; the biology core; three courses from the breadth menus; one course with

a laboratory; and six or seven elective courses, which may include one course in the history or philosophy of science.

Students who wish to apply transfer credit toward the biology major should consult their biology advisor.

The B.A. with a major in biology requires the following course work.

Code	Title	Hours
Chemistry/Mathematics Foundation Courses		18
Biology Core Courses		19
Breadth Menus		9-13
Course with a Laboratory		4-6
Electives		21-24
Total Hours		71-80

Chemistry/Mathematics Foundation

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
BIOC:3110	Biochemistry	3
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3510	Biostatistics	3

Biology Core

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:3172	Evolution	4

Breadth Menus

Code	Title	Hours
Genes and Genomes		
One of these:		
BIOL:3314	Genomics	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3713	Molecular Genetics	4
BIOL:4213	Bioinformatics	4
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
Biological Systems		
Two of these:		
BIOL:2254	Endocrinology	3
BIOL:2603	Mechanisms of Aging	3

BIOL:2673	Ecology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5
BIOL:3253	Neurobiology	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3663	Plant Response to the Environment	3
BIOL:4333	Genes and Development	3

Course with a Laboratory

Code	Title	Hours
One of these (must not have been used as a breadth menu course):		
BIOL:2346	Vertebrate Zoology	4
BIOL:3244	Animal Behavior	5
BIOL:3626	Cell Biology Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:4999	Honors Research in Biology	6
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory (both courses must be taken in the same semester)	5
Iowa Lakeside Laboratory courses (consult advisor)		4-5

Electives

Students complete at least three biology elective courses (prefix BIOL) for 9 s.h. plus 12 s.h. of course work outside the Department of Biology from the list below.

Biology courses may include courses chosen from the "Breadth Menus" list or the "Course with a Laboratory" list above that have not been used to satisfy those requirements; other 2-4 s.h. courses numbered 2000 or above offered by the Department of Biology except for BIOL:2120 Good Genes Gone Bad: Genetic Disorders of Notable Celebrities and BIOL:2211 Genes, Genomes, and the Human Condition; and approved advanced biology courses taught at Iowa Lakeside Laboratory with approval from the advisor.

Students may count BIOL:3994 Introduction to Research (2-3 s.h.) and BIOL:4897 Teaching Internship in Biology (maximum of 2 s.h.) only once toward the elective requirement.

Code	Title	Hours
Three to four courses from these (12 s.h.):		
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3307	Modern Human Origins	3
ANTH:3310	Primate Behavior: Sex Lives of Apes and Monkeys	3
ANTH:3325	Human Evolutionary Genetics	3

ASP:3160	Biology of Aging	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	3
EES:4700	Evolution of Ecosystems	3
GEOG:2374	Biogeography	3
GEOG:3310	Landscape Ecology	3
GEOG:3350	Urban Ecology	3
MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
MICR:3147	Immunology and Human Disease	3
MICR:3168	Viruses and Human Disease	3
From the physics courses, students may choose from the following (maximum of two courses); if they select PHYS:1511, they could take PHYS:1512; if they select PHYS:1611, they could take PHYS:1612:		
PHYS:1400	Basic Physics	3-4
or		
PHYS:1511	College Physics I	4
or PHYS:1611	Introductory Physics I	
PHYS:1512	College Physics II	3-4
or PHYS:1612	Introductory Physics II	
One of the electives may be chosen from these:		
GEOG:3110	Geography of Health	3
GHS:3111	Geography of Health	3
HIST:4162	History of Global Health	3
HIST:4419	Ancient and Medieval Science	3
PHIL:3604	Introduction to Philosophy of Science	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.A./M.A.T. (Science Education Subprogram)

Students interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn

a B.A. in biology and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see Science Education [p. 1277] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

B.A./M.P.H. (Epidemiology Subprogram) or M.S. in Epidemiology

Bachelor of Arts students majoring in biology who are interested in earning a Master of Science in epidemiology or a Master of Public Health with an epidemiology subprogram may apply to the combined B.A./M.P.H. or combined B.A./M.S. in epidemiology program offered by the College of Liberal Arts and Sciences and the College of Public Health. The combined programs permit students to count 12 s.h. of credit toward the requirements of both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. For information about the M.P.H., see "Epidemiology Subprogram" under Requirements [p. 1732] in the Master of Public Health section of the Catalog; for information about the M.S. program, see M.S. in epidemiology [p. 1763] in the Catalog.

Honors

Honors in the Major

Students majoring in biology have the opportunity to graduate with honors in the major. The Biology Honors Program introduces students to the pursuits of practicing scientists. Honors students associate with one of the department's research groups and participate in an independent research project guided by a faculty member (the research supervisor).

Biology honors students write a thesis based on an interesting biological problem, which is usually identified by the research supervisor. The thesis should clearly document that a student has acquired the necessary experimental skills to address specific questions and test specific hypotheses related to the research problem. Honors Seminar in Biology (BIOL:4998), or an equivalent seminar, provides students with an ideal opportunity to improve their skills in seminar presentation and in writing scientific English. Throughout undergraduate residence, departmental honors students also may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs.

To graduate with honors in the biology major, students must fulfill the following requirements:

- complete the requirements for a major in biology with a g.p.a. of at least 3.33 in all course work in the major taken at the University of Iowa (including all biology courses and cognates in chemistry, biochemistry, mathematics, and statistics);

- complete 1 s.h. in BIOL:4898 Communicating Research;

- complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;

- complete a minimum of 6 s.h. (taken over two or more semesters) of BIOL:4999 Honors Research in Biology;

- write a brief research proposal summarizing the background and goals of their proposed honors research;

upon completion of their research, submit an acceptable honors thesis; and

give a brief oral presentation of their research findings to other biology honors students.

Students may apply 6 s.h. of BIOL:4999 Honors Research in Biology toward the required course with a laboratory and count the 2 s.h. earned in BIOL:4998 Honors Seminar in Biology toward the elective requirement.

Biology majors interested in graduating with honors in the major should contact the biology honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Visit Biology Honors Program to learn more about honors study in the department.

Students who are interested in the University of Iowa Honors Program satisfy the level two requirements when they satisfy the biology honors requirements; see University Honors Program below.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the biology major also satisfy the Level Two: Learning by Doing requirement of the University honors curriculum.

Membership in the UI Honors Program is not required to earn honors in the biology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and BIOL:1411 Foundations of Biology

Before the fifth semester begins: BIOL:1412 Diversity of Form and Function, STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics, and four other courses in the major

Before the seventh semester begins: BIOL:2512 Fundamental Genetics, BIOL:2723 Cell Biology, BIOL:3172 Evolution, five or six more courses in the major, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biology, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Research: Iowa Lakeside Laboratory summer field courses ^a		
	Hours	0
First Year		
Fall		
CHEM:1070	General Chemistry I ^b	3
MATH:1440	Mathematics for the Biological Sciences ^{b, c}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
CSI:1600	Success at Iowa	2
	Hours	16-18
Spring		
CHEM:1110	Principles of Chemistry I ^{b, e}	4
MATH:1460	Calculus for the Biological Sciences	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Diversity and Inclusion ^f		3
	Hours	15-16
Second Year		
Fall		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts		3
	Hours	15-16
Spring		
BIOL:1412	Diversity of Form and Function	4
STAT:2010 or STAT:3510	Statistical Methods and Computing or Biostatistics	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course ^g		3
	Hours	17-19
Third Year		
Fall		
BIOL:2512	Fundamental Genetics	4
BIOC:3110	Biochemistry	3
Elective course ^g		3
GE CLAS Core: Historical Perspectives ^f		3
GE CLAS Core: Social Sciences ^f		3
	Hours	16

Spring

BIOL:3172	Evolution	4
BIOL:2723	Cell Biology	3
Major: biological systems requirement		3
Elective course ^g		3
GE CLAS Core: International and Global Issues ^f		3
Hours		16

Fourth Year**Fall**

Major: biological systems requirement	3
Major: biology elective I	3
GE CLAS Core: Values and Culture ^f	3
Elective course ^g	3
Elective course ^g	3
Hours	15

Spring

Major: course with a laboratory requirement	4 - 6
Major: genes and genomes requirement	3
Major: biology elective II	3
Major: biology elective III	3
Hours	13-15
Total Hours	123-131

- a After completing BIOL:1412 Diversity of Form & Function, students are eligible to enroll in Lakeside Laboratory summer field courses. Registration for these courses is in winter of each year.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in math courses requires completion of a placement exam.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Enrollment in chemistry courses requires completion of a placement exam.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students complete 12 s.h. of course work outside the Department of Biology by choosing courses from an approved list.

Career Advancement

The major in biology prepares students to enter research or service careers associated with private industry or government programs and for primary and secondary school teaching. It also prepares them to enter advanced degree programs leading to careers in higher education and to independent research in a variety of biological fields, or for practice in health professions such as medicine, dentistry, pharmacy, nursing, veterinary medicine, medical technology, and physical therapy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Biology, B.S.

Learning Outcomes

Graduates with a bachelor's degree in biology will be able to demonstrate the following.

- **Foundational Knowledge: Comprehension of Fundamental Principles and Concepts of Biology**

Graduates will be able to:

explain fundamental biological principles within and across levels of organization, from molecules to ecosystem;

apply foundational knowledge and conceptual frameworks to new situations;

recognize the consequences of evolutionary history in contrasts between living organisms;

appreciate the historical sequence and significant achievements of biological discovery; and

evaluate new information reported in the news and/or in scientific publications against prior knowledge.

- **New Discovery: Scientific Reasoning and Experimental Process in Biology**

Graduates will be able to:

perform basic laboratory procedures, including correct operation of devices;

formulate questions about biological processes based on current knowledge;

construct a hypothesis to guide experimental enquiry;

design experiments, identifying variables of analysis and controls for error;

consider appropriate strategies or technologies applicable to investigate a novel problem;

collect, organize, summarize, and interpret biological data;

analyze and evaluate experimental results to inform a hypothesis; and

distinguish between necessary and sufficient causes.

- **Quantitative Skills: Mathematical Reasoning and Basic Numeracy Applied to Biology**

Graduates will be able to:

perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;

apply mathematical concepts and rules of probability to make predictions;

select and apply appropriate statistical tests to determine significance of experimental results; and

use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

- **Information Literacy: Acquisition, Analysis, and Summary of Published Biological Information**

Graduates will be able to:

locate and evaluate the relevance and credibility of information from electronic and print sources;

navigate and obtain relevant information from public databases;

recognize and appropriately cite sources of information;

identify questions addressed and methodologies used; and

assess findings reported and conclusions drawn in published scientific articles.

- **Communication Proficiency: Written and Oral Presentation of Biological Information**

Graduates will be able to:

write concise scientific reports based on findings or literature searches;

construct visual presentations of results or findings from the scientific literature; and

orally present findings or results from the literature with appropriate media.

Overview

All biology majors complete the chemistry/mathematics foundation and the biology core. In addition, B.S. students complete physics foundation courses and choose one of four tracks, while B.A. students choose courses from several breadth menus and have a wider selection of elective courses.

The department acquaints undergraduate students with the nature of practicing scientists' work by offering BIOL:3994 Introduction to Research (requires a Department of Biology faculty sponsor), BIOL:4898 Communicating Research (a course supporting students involved in research), and BIOL:4999 Honors Research in Biology (requires membership in the Biology Honors Program). Students associate with one of the department's research groups for experiments, discuss current research, study specialized topics, and attend research seminars.

Students interested in field biology, zoology, or botany may take varied courses in those subjects offered during the summer at Iowa Lakeside Laboratory [p. 1822].

Requirements

The Bachelor of Science with a major in biology requires a minimum of 120 s.h., including at least 73-82 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students who wish to apply transfer credit toward graduation with a major in biology should consult their biology advisor. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students must complete the chemistry/mathematics/physics foundation, the biology core, and one of four tracks. The four tracks emphasize dynamic and active areas in the biological sciences. Three of the tracks—cell and developmental biology, genetics and biotechnology, and neurobiology—emphasize distinct areas. The fourth track—integrative biology—provides highly diverse content.

The B.S. with a major in biology requires the following course work.

Code	Title	Hours
Chemistry/Mathematics/Physics Foundation Courses		29
Biology Core Courses		15
Track Courses		29-38
Total Hours		73-82

Chemistry/Mathematics/Physics Foundation

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
One of these:		
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I (students who take BIOC:3120 also must take BIOC:3130 as one of their track courses)	3
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
STAT:2010	Statistical Methods and Computing (preferred for evolution track)	3
STAT:3510	Biostatistics	3

Biology Core

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3

Tracks

Bachelor of Science students must select a single track. Each track includes nine courses. The experiential elective requirement may be satisfied by taking an appropriate investigative lab for the track, or through several other options: students who use BIOL:4999 Honors Investigations to fulfill the experiential elective requirement must complete a minimum of 6 s.h. in that course; students who use BIOL:3994 Introduction to Research must complete a minimum of 5 s.h. in that course in combination with 1 s.h. in BIOL:4898 Communicating Research; and students who use BIOL:4897 Teaching Internship in Biology must complete a minimum of 4 s.h. in that course.

Cell and Developmental Biology Track

The cell and developmental biology track provides education in the structure and function of cells and in the principles of development as they apply to animals and plants. This track is appropriate for students who wish to pursue graduate study in cellular and developmental biology, to prepare for professional study in medicine and other health-related fields, or to take positions in laboratories and companies engaged in cancer research and related fields.

Code	Title	Hours
Track Courses		
Two of these:		
BIOL:3172	Evolution	4
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3363	Plant Developmental Biology	3
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3736	Developmental Biology Lab	4
One of these:		
BIOC:3130	Biochemistry and Molecular Biology II (students who take BIOC:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
Experiential Elective		
One of these:		
BIOL:3626	Cell Biology Laboratory (if not taken as a track course)	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab (if not taken as a track course)	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology (in cell/ developmental biology)	6

Electives

At least four of these, with a minimum of one course numbered 3000 or above:

BIOL:2254	Endocrinology	3
BIOL:2603	Mechanisms of Aging	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3172	Evolution (if not taken as a track course)	4

BIOL:3233	Introduction to Developmental Biology (if not taken as a track course)	3
BIOL:3253	Neurobiology	4
BIOL:3314	Genomics	3
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology (if not taken as a track course)	3
BIOL:3663	Plant Response to the Environment	3
BIOL:3713	Molecular Genetics	4
BIOL:3753	Developmental Neurobiology	3
BIOL:4333	Genes and Development	3

Genetics and Biotechnology Track

The genetics and biotechnology track provides education in the key principles of transmission, maintenance, regulation, and manipulation of genes. This track is appropriate for students who wish to pursue graduate study in fields related to genetics or to enter the modern biotechnology industry. It also provides excellent preparation for professional study in medicine and other health-related fields.

Code	Title	Hours
Track Courses		
All of these:		
BIOL:3172	Evolution	4
BIOL:3314	Genomics	3
BIOL:3713	Molecular Genetics	4
BIOL:3716	Genetics and Biotechnology Lab	4
One of these:		
BIOC:3130	Biochemistry and Molecular Biology II (students who take BIOC:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
Experiential Elective		
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology	6
Electives		
At least three of these, with a minimum of one course numbered 3000 or above:		

BIOL:2254	Endocrinology	3
BIOL:2603	Mechanisms of Aging	3
BIOL:2673	Ecology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5
BIOL:3253	Neurobiology	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3663	Plant Response to the Environment	3
BIOL:4333	Genes and Development	3
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3

Integrative Biology Track

The integrative biology track offers a diverse, well-balanced introduction to the major fields of biology. This track prepares students for graduate study in the biological sciences and in science education and for work in laboratories that engage in research and applications in many fields of biology. It also provides broadly based preparation for professional study in medicine and other health-related fields.

Code	Title	Hours
Track Courses		
Both of these:		
BIOL:2673	Ecology	3
BIOL:3172	Evolution	4
One of these:		
BIOC:3130	Biochemistry and Molecular Biology II (students who take BIOC:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
Breadth Menus:		
Genes and Genomes		
Two of these:		
BIOL:3314	Genomics	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3713	Molecular Genetics	4
BIOL:4333	Genes and Development	3
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
Biological Systems		
Two of these:		
BIOL:2254	Endocrinology	3
BIOL:2603	Mechanisms of Aging	3
BIOL:2753	Introduction to Neurobiology	3

BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5
BIOL:3253	Neurobiology	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3663	Plant Response to the Environment	3
BIOL:3753	Developmental Neurobiology	3

Investigative Lab

One of these:

BIOL:3626	Cell Biology Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4

Experiential Elective

One of these:

BIOL:3626	Cell Biology Laboratory (if not used for investigative lab course)	4
BIOL:3656	Neurobiology Laboratory (if not used for investigative lab course)	4
BIOL:3676	Evolution Lab (if not used for investigative lab course)	4
BIOL:3716	Genetics and Biotechnology Lab (if not used for investigative lab course)	4
BIOL:3736	Developmental Biology Lab (if not used for investigative lab course)	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology (in plant biology)	6
An approved Iowa Lakeside Laboratory course		4

Neurobiology Track

The neurobiology track provides education in nervous system function at all levels, from molecular to systems biology. This track is appropriate for students who wish to pursue graduate study in neurobiology and related areas, including psychology and the social sciences; to enter laboratories that study the therapeutic basis of neurological disorders; or to work in pharmaceutical companies. It also provides good preparation for professional study in medicine and other health-related fields.

Code	Title	Hours
Track Courses		
All of these:		
BIOL:2753	Introduction to Neurobiology	3
BIOL:3244	Animal Behavior	5
BIOL:3253	Neurobiology	4
BIOL:3656	Neurobiology Laboratory	4
One of these:		
BIOC:3130	Biochemistry and Molecular Biology II (students who take BIOC:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CHEM:2220	Organic Chemistry II	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
PHYS:2703	Physics III	4
PHYS:3850	Electronics	4
PSY:3040	Psychology of Learning	3
PSY:3230	Psychopharmacology	3
PSY:3240	Motivation, Addiction, and the Brain	3
PSY:3250	Neuroscience of Learning and Memory	3
Other courses by permission of advisor		
Experiential Elective		
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology (in neurobiology)	6
Electives		
At least three of these, with a minimum of one course numbered 3000 or above:		
BIOL:2254	Endocrinology	3
BIOL:2603	Mechanisms of Aging	3
BIOL:3172	Evolution	4
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3343	Animal Physiology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3753	Developmental Neurobiology	3
BIOL:4333	Genes and Development	3

BIOL:4353	Neurophysiology: Cells and Systems	3
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Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning section of the Catalog.

Honors

Honors in the Major

Students majoring in biology have the opportunity to graduate with honors in the major. The Biology Honors Program introduces students to the pursuits of practicing scientists. Honors students associate with one of the department's research groups and participate in an independent research project guided by a faculty member (the research supervisor).

Biology honors students write a thesis based on an interesting biological problem, which is usually identified by the research supervisor. The thesis should clearly document that the student has acquired the necessary experimental skills to address specific questions and test specific hypotheses related to the research problem. Honors Seminar in Biology (BIOL:4998), or an equivalent seminar, provides students with an ideal opportunity to improve their skills in seminar presentation and in writing scientific English. Throughout undergraduate residence, departmental honors students also may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs.

To graduate with honors in the biology major, students must fulfill the following requirements:

complete the requirements for a major in biology with a g.p.a. of at least 3.33 in all course work in the major taken at the University of Iowa (including all biology courses and cognates in chemistry, physics, biochemistry, mathematics, and statistics);

complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;

complete a minimum of 6 s.h. (taken over two or more semesters) of BIOL:4999 Honors Research in Biology;

write a brief research proposal summarizing the background and goals of their proposed honors research;

upon completion of their research, submit an acceptable honors thesis; and

give a brief oral presentation of their research findings to other biology honors students.

Students pursuing a B.S. in biology may apply 6 s.h. of BIOL:4999 Honors Research in Biology toward the experiential elective requirement in an appropriate track.

Biology majors interested in graduating with honors in the major should contact the biology honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Visit Biology Honors Program to learn more about honors study in the department.

Students who are interested in the University of Iowa Honors Program satisfy the level two requirements when they satisfy the biology honors requirements; see University Honors Program below.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the biology major also satisfy Level Two: Learning by Doing of the University Honors Requirements.

Membership in the UI Honors Program is not required to earn honors in the biology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and BIOL:1411 Foundations of Biology

Before the fifth semester begins: BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics, and two other courses in the major

Before the seventh semester begins: BIOL:2512 Fundamental Genetics; PHYS:1511 College Physics I and PHYS:1512 College Physics II, or equivalents; six or seven more courses in the major; and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biology, B.S.

- Cell and Developmental Biology Track [p. 162]
- Genetics and Biotechnology Track [p. 162]
- Integrative Biology Track [p. 163]
- Neurobiology Track [p. 164]

Cell and Developmental Biology Track

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSL:1600	Success at Iowa	2
Hours		13-15

Spring

BIOL:1411	Foundations of Biology ^b	4
CHEM:1120	Principles of Chemistry II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
MATH:1460	Calculus for the Biological Sciences ^{b, d}	4
Hours		16-17

Second Year

Any Semester

Research: students interested in research should begin the placement search process in the second year.

Hours		0
Fall		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:3510 or STAT:2010	Biostatistics or Statistical Methods and Computing	3
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		17-18

Spring

BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
PHYS:1511	College Physics I	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		15-16

Third Year

Fall

Major: Cell & Developmental Biology core I		3
PHYS:1512	College Physics II	4
BIOC:3110 or BIOC:3120	Biochemistry or Biochemistry and Molecular Biology I	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE CLAS Core: Social Sciences ^e	3
Hours	16-17

Spring

Major: Cell & Developmental Biology core II	3
Major: Cell and Developmental Biology elective I ^g	3
Major: biochemistry course or alternative option ^h	3 - 5
GE CLAS Core: Historical Perspectives ^e	3
GE CLAS Core: Diversity and Inclusion ^e	3
Hours	15-17

Fourth Year

Fall

Major: Cell and Developmental Biology elective II ^g	3
Major: investigative lab or elective course ^g	3 - 4
Major: experiential elective or elective course ^{g, i}	2 - 4
GE CLAS Core: International and Global Issues ^e	3
Elective course ^j	3
Hours	14-17

Spring

Major: Cell & Developmental Biology elective III ^g	3
Major: Cell & Developmental Biology elective IV ^g	3
Major: experiential elective or elective course ^{g, i}	2 - 4
Major: investigative lab or elective course ^g	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^e	3

Hours	14-17
Total Hours	120-134

- Enrollment in chemistry courses requires completion of a placement exam.
- Fulfills a major requirement and may fulfill a GE requirement.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Enrollment in math courses requires completion of a placement exam.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Students who take BIOC:3120 also must take BIOC:3130 as one of their track courses.
- At least one elective in the major must be numbered 3000 or above.
- Choose either BIOC:3130 (must choose this if BIOC:3120 was taken) or CS:2110 or both MICR:2157 and MICR:2158.
- The experiential elective requirement may be satisfied by taking an appropriate investigative lab for the track, or through several other options: students who use BIOL:4999 to fulfill the experiential elective requirement must complete a minimum of 6 s.h. in that course; students who use BIOL:3994 must complete a minimum of 5 s.h. in that course in combination with 1 s.h. in BIOL:4898; and students who use BIOL:4897 must complete a minimum of 4 s.h. in that course.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Genetics and Biotechnology Track

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5

GE CLAS Core: Literary, Visual, and Performing Arts ^d	3
CSI:1600 Success at Iowa	2
Hours	16-18

Spring

BIOL:1411 Foundations of Biology ^b	4
CHEM:1120 Principles of Chemistry II ^b	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c	4 - 5
MATH:1460 Calculus for the Biological Sciences ^{b, e}	4
Hours	16-17

Second Year**Any Semester**

Research: students interested in research should begin the placement search process in the second year.

Hours	0
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Fall

BIOL:1412 Diversity of Form and Function ^b	4
CHEM:2210 Organic Chemistry I	3
STAT:3510 Biostatistics	3
or STAT:2010 or Statistical Methods and Computing	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c	4 - 5
GE CLAS Core: Historical Perspectives ^d	3
Hours	17-18

Spring

BIOL:2512 Fundamental Genetics	4
BIOL:2723 Cell Biology	3
PHYS:1511 College Physics I ^b	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c	4 - 5
Hours	15-16

Third Year**Fall**

BIOL:3172 Evolution	4
PHYS:1512 College Physics II ^b	4
BIOC:3110 Biochemistry	3
or BIOC:3120 or Biochemistry and Molecular Biology I	
GE CLAS Core: Social Sciences ^d	3
Hours	14

Spring

BIOL:3314 Genomics	3
Major: genetics elective I ^g	3
Major: biochemistry course or alternative option ^h	3 - 5
ENGL:1200 The Interpretation of Literature	3 - 4
or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion ^d	3
Hours	15-18

Fourth Year**Fall**

BIOL:3713 Molecular Genetics	4
Major: genetics elective II ^g	3
Major: experiential elective or elective course ^{g, i}	2 - 4
GE CLAS Core: International and Global Issues ^d	3

Elective course ^j	1 - 3
Hours	13-17

Spring

BIOL:3716 Genetics and Biotechnology Lab	4
Major: genetics elective III ^g	3
Major: experiential elective or elective course ^{g, i}	2 - 4
GE CLAS Core: Values and Culture ^d	3
Hours	12-14
Total Hours	118-132

- a Enrollment in chemistry courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Enrollment in math courses requires completion of a placement exam.
- f Students who take BIOC:3120 also must take BIOC:3130 as one of their track courses.
- g At least one elective must be numbered 3000 or above.
- h Choose either BIOC:3130 (must choose this if BIOC:3120 was taken) or CS:2110 or both MICR:2157 and MICR:2158.
- i The experiential elective requirement may be satisfied by taking an appropriate investigative lab for the track, or through several other options: students who use BIOL:4999 to fulfill the experiential elective requirement must complete a minimum of 6 s.h. in that course; students who use BIOL:3994 must complete a minimum of 5 s.h. in that course in combination with 1 s.h. in BIOL:4898; and students who use BIOL:4897 must complete a minimum of 4 s.h. in that course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Integrative Biology Track

Course	Title	Hours
Academic Career		
Any Semester		
Research: Iowa Lakeside Laboratory summer field courses ^a		
Hours		0
First Year		
Fall		
CHEM:1110 Principles of Chemistry I ^{b, c}		4
RHET:1030 Rhetoric		4
or ENGL:1200 or The Interpretation of Literature		
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
CSI:1600 Success at Iowa		2
Hours		14-15
Spring		
BIOL:1411 Foundations of Biology ^b		4
CHEM:1120 Principles of Chemistry II ^b		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
MATH:1460 Calculus for the Biological Sciences ^{b, f}		4
Hours		16-17

Second Year**Any Semester**

Research: students interested in research should begin the placement search process in the second year.

	Hours	
		0
Fall		
BIOL:1412	Diversity of Form and Function ^b	4
CHEM:2210	Organic Chemistry I	3
STAT:2010	Statistical Methods and Computing	3
or STAT:3510	or Biostatistics	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-15

Spring

BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
PHYS:1511	College Physics I ^b	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
	Hours	15-16

Third Year**Fall**

BIOL:2673	Ecology	3
PHYS:1512	College Physics II ^b	4
BIOC:3120	Biochemistry and Molecular	3
or BIOC:3110	Biology I	
	or Biochemistry	
RHET:1030	Rhetoric	3
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Social Sciences ^d		3
	Hours	16

Spring

BIOL:3172	Evolution	4
Major: biological systems course I		3
Major: biochemistry course or alternative option ^h		3 - 5
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Diversity and Inclusion ^d		3
	Hours	16-18

Fourth Year**Fall**

Major: biological systems course II		3
Major: genes and genomes course I		3
Major: investigative lab or elective course		3 - 4
Major: experiential elective or elective course		2 - 4
GE CLAS Core: International and Global Issues ^d		3
	Hours	14-17

Spring

Major: genes and genomes course II		3
Major: experiential elective or elective course		2 - 4
Major: investigative lab or elective course		3 - 4
GE CLAS Core: Values and Culture ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
	Hours	14-17
	Total Hours	119-131

- a After completing BIOL:1412 Diversity of Form & Function, students are eligible to enroll in Lakeside Laboratory summer field courses. Registration for these courses is in winter of each year.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in chemistry courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Enrollment in math courses requires completion of a placement exam.
- g Students who take BIOC:3120 also must take BIOC:3130 as one of their track courses.
- h Choose either BIOC:3130 (must choose this if BIOC:3120 was taken) or MICR:2157 and MICR:2158 or CS:2110.

Neurobiology Track

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
	Hours	13-15
Spring		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
MATH:1460	Calculus for the Biological Sciences ^{a, d}	4
	Hours	16-17

Second Year**Any Semester**

Research: students interested in research should begin the placement search process in the second year.

	Hours	
		0
Fall		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:2010	Statistical Methods and Computing	3
or STAT:3510	or Biostatistics	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
	Hours	14-15

Spring

BIOL:2753	Introduction to Neurobiology	3
BIOL:2512	Fundamental Genetics	4
PHYS:1511	College Physics I ^a	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
	Hours	15-16

Third Year**Fall**

BIOL:2723	Cell Biology	3
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PHYS:1512	College Physics II ^a	4
BIOC:3120 or BIOC:3110	Biochemistry and Molecular Biology I or Biochemistry	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences ^f		3
Hours		16-17

Spring

Major: neurobiology elective I ^g	3
Major: neurobiology elective II ^g	3
Major: biochemistry course or alternative option ^h	3
GE CLAS Core: Historical Perspectives ^f	3
GE CLAS Core: Diversity and Inclusion ^f	3
Hours	15

Fourth Year**Fall**

BIOL:3253	Neurobiology	4
BIOL:3244	Animal Behavior	5
Major: experiential elective or elective course ⁱ		2 - 4
GE CLAS Core: International and Global Issues ^f		3
Hours		14-16

Spring

BIOL:3656	Neurobiology Laboratory	4
Major: neurobiology elective III ^g		3
Major: experiential elective or elective course ⁱ		2 - 4
GE CLAS Core: Values and Culture ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
Hours		15-17
Total Hours		118-128

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who take BIOC:3120 also must take BIOC:3130.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g At least one elective in the major must be numbered 3000 or above.
- h Choose either BIOC:3130 (must choose this if BIOC:3120 was taken) or CS:2110 or both MICR:2157 and MICR:2158.
- i The experiential elective requirement may be satisfied by taking an appropriate investigative lab for the track, or through several other options: students who use BIOL:4999 to fulfill the experiential elective requirement must complete a minimum of 6 s.h. in that course; students who use BIOL:3994 must complete a minimum of 5 s.h. in that course in combination with 1 s.h. in BIOL:4898; and students who use BIOL:4897 must complete a minimum of 4 s.h. in that course.

practice in health professions such as medicine, dentistry, pharmacy, nursing, veterinary medicine, medical technology, and physical therapy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Career Advancement

The major in biology prepares students to enter research or service careers associated with private industry or government programs and for primary and secondary school teaching. It also prepares them to enter advanced degree programs leading to careers in higher education and to independent research in a variety of biological fields, or for

Biology, Minor

The undergraduate minor in biology requires a minimum of 15 s.h. in biology course work, including 12 s.h. in courses numbered 2000 or above offered by the Department of Biology at the University of Iowa or in approved Iowa Lakeside Laboratory [p. 1822] courses. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may not use transfer course work to count as courses numbered 2000 or above.

Either BIOL:2512 Fundamental Genetics or BIOL:2211 Genes, Genomes, and the Human Condition will count toward the minor, but not both. Good Genes Gone Bad: Genetic Disorders of Notable Celebrities (BIOL:2120) and Honors Research in Neuroscience (BIOL:4995) do not count toward the minor.

Students may count BIOL:3994 Introduction to Research (maximum of 3 s.h.) and BIOL:4897 Teaching Internship in Biology (maximum of 3 s.h.) only once toward the minor requirement.

Integrated Biology, M.S.

The Department of Biology's graduate programs in integrated biology (iBio) emphasize original research and developing the skills essential for publishing and communicating research findings to the scientific community. Research programs in the department cover many areas of the biological sciences: cell biology, developmental biology, ecology, evolution, genetics, and neurobiology. Graduate study in the department provides students with a broad understanding of these basic areas.

Newly admitted graduate students are assigned a temporary advisor and together they discuss the student's educational background to formulate a first-semester study plan before registration. The programs allow each student to tailor course work to their own research interests. Students may be advised to take specific course work in order to enhance their background in certain areas.

During the first year, students whose preparation in chemistry, genetics, mathematics, or physics is insufficient may need to remedy deficiencies by taking appropriate course work.

Entering students typically will have taken the following courses: fundamental genetics, organic chemistry, biochemistry, calculus or physics, and 20 s.h. of course work in biology.

Students with bachelor's degrees outside the biological sciences may request modification of certain area requirements. The Graduate Affairs Committee decides whether portions of the requirements may be waived.

Requirements

The Master of Science program in integrated biology requires 30 s.h. of graduate credit with thesis or 34 s.h. of graduate credit without thesis. Entering students are typically admitted only to the thesis program; however, students who decide not to continue their studies may opt for the nonthesis program.

Students must enroll in at least two advanced lecture courses (or courses approved by the Graduate Affairs Committee). In the first year, students enroll in BIOL:5512 Fundamental Genetics - Graduate Discussion in the fall semester and BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar in the fall and spring semesters. In subsequent years, students continue to enroll in BIOL:6298 for 1 s.h.

At the end of the first year, students take a qualifying exam that consists of essay questions based on major themes in biology. Students must perform satisfactorily on this exam in order to continue in the program. In the second year, students take one seminar course (2 s.h.) with significant writing and oral presentation components, as well as BIOL:6188 Seminar: Writing in Natural Sciences in the fall and spring semesters.

Thesis students may count a maximum of 9 s.h. of research credit toward the 30 s.h. required for the master's degree with thesis. Remaining course work is tailored to a student's background and career goals and is selected in consultation with the student's advisory committee. The thesis is based on original research. After the thesis is accepted by the student's supervisor and advisory committee, the student must pass an oral examination based on the thesis research and on related subjects. Nonthesis students must write a library research report for a maximum of 4 s.h. of credit. They may apply up

to 8 s.h. of research credit toward the 34 s.h. required for the master's degree without thesis.

Visit the iBio Graduate Program web page for more detailed information about the Master of Science program.

Admission

Individuals who wish to pursue graduate study in integrated biology may apply to the Master of Science with thesis program. The M.S. without thesis is an exit program and does not admit entering graduate students.

Application materials for the graduate program must be uploaded to the University's Office of Admissions website. These are reviewed by the Department of Biology Graduate Recruitment and Admissions Committee. For detailed instructions, visit iBio Application on the integrated biology graduate program website.

Applicants must hold a valid B.A. or B.S. from an accredited institution. They should supply official transcripts from each undergraduate and graduate institution they have attended plus scores from their Graduate Record Examination (GRE) General Test (verbal, quantitative, and analytical writing). The GRE Subject Test in biology or biochemistry is optional but not required.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) and have their score sent to the Office of Admissions. International applicants who received their degrees (either bachelor's or master's) from a U.S. institution are exempt from this requirement. All international students whose first language is not English are required to take the on-campus English Proficiency Evaluation before they first enroll for classes.

Successful applicants for graduate admission typically have a g.p.a. of at least 3.00 (on a 4.00 scale) and a Graduate Record Examination (GRE) General Test score above 308 (combined verbal and quantitative) or 1200 (combined verbal and quantitative) on the older GRE. The admissions committee also considers letters of recommendation, the personal statement, and other appropriate criteria, especially prior research experience.

Although most applicants will have completed undergraduate programs in biology, the department also considers applicants with backgrounds in related sciences, providing they have taken the required course work.

Students applying for admission to the M.S. with thesis program should have a bachelor's degree in one of the biological sciences. Students with bachelor's degrees in other areas may need to register as nondegree students and complete the equivalent of the department's bachelor's degree program prior to consideration for admission. Nondegree students must complete chemistry, physics, and calculus requirements in addition to the biology courses listed in the undergraduate program. Nondegree students should consult the department's graduate program administrator before applying for admission.

Applications are reviewed on a rolling basis prior to January 1 (visit the Integrated Biology Graduate Program for updated deadline information) and must include the applicant's GRE test scores. In order to meet the deadline, applicants must take the GRE in October or earlier.

Applicants must meet the minimum admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Students generally are supported by available research or teaching assistantships. Offers of admission include information about offers of financial support.

Career Advancement

The graduate program in integrated biology prepares students for careers in academic research, science education, industry, government, and a variety of other careers in which their scientific expertise can be used.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Integrated Biology, Ph.D.

The Department of Biology's graduate programs in integrated biology (iBio) emphasize original research and developing the skills essential for publishing and communicating research findings to the scientific community. Research programs in the department cover many areas of the biological sciences: cell biology, developmental biology, ecology, evolution, genetics, and neurobiology. Graduate study in the department provides students with a broad understanding of these basic areas.

Newly admitted graduate students are assigned a temporary advisor and together they discuss the student's educational background to formulate a first-semester study plan before registration. The programs allow each student to tailor course work to their own research interests. Students may be advised to take specific course work in order to enhance their background in certain areas.

During the first year, students whose preparation in chemistry, genetics, mathematics, or physics is insufficient may need to remedy deficiencies by taking appropriate course work.

Entering students typically will have taken the following courses: two semesters of organic chemistry, or one semester of organic chemistry and one semester of biochemistry; one semester of calculus; two semesters of college physics; and 20 s.h. of course work in biology, including genetics.

Students with bachelor's degree outside the biological sciences may request modification of certain area requirements. The Graduate Affairs Committee decides whether portions of the requirements may be waived.

Requirements

The Doctor of Philosophy program in integrated biology requires a minimum of 72 s.h. of graduate credit.

New Ph.D. students go through three laboratory rotations with different faculty during their first semester (August-December). Students consult with their temporary advisor and prospective faculty research sponsors before identifying their preferences for research rotations. Based on their rotations, they choose a laboratory affiliation for their thesis late in the first semester.

During the first year, students are required to enroll in BIOL:5512 Fundamental Genetics - Graduate Discussion in the fall semester and BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar in the fall and spring semesters. The course, BIOL:6298, introduces them to multiple levels of biological analysis and provides them with significant opportunities to hone their skills in written and oral communication. At the end of the first year, students take a qualifying exam that consists of essay questions based on major themes in biology. Students must perform satisfactorily on this exam in order to continue in the program.

During the first two years, students must enroll in at least two advanced lecture courses (or courses approved by the Graduate Affairs Committee)—one elective and one approved data informatics or statistics course.

Prior to the comprehensive examination, students also take BIOL:6188 Seminar: Writing in Natural Sciences (2 s.h.) and a seminar course with significant writing and oral presentation components.

The comprehensive examination is taken in the summer of the second year in residence. Students prepare a National Institutes of Health/National Science Foundation-style grant application on their planned thesis work and orally defend this work in front of a review committee. They must demonstrate knowledge of biology fundamentals and the analytic and synthetic skills necessary to become creative, independent scientists. Once they complete the course work and proficiency requirements and pass the comprehensive examination, students may be admitted to full candidacy for the Ph.D.

Following the comprehensive examination, students must take at least two additional seminar courses (2 s.h. each). Seminar courses from other departments may be approved by the Graduate Affairs Committee in consultation with the faculty advisor to satisfy the requirement.

Students must serve as teaching assistants for at least two semesters in order to develop and demonstrate teaching proficiency. The first teaching semester takes place during the spring of a student's first year and is preceded by extensive departmental training in effective teaching skills.

The department also offers career seminars that explore types of employment outside of academic research, including teaching careers and other topics.

The program culminates in students' preparation of a dissertation based on original independent research. Students must pass a final examination that covers the thesis and its specialized field before the Ph.D. is awarded.

Visit the iBio Graduate Program web page for more detailed information about the Ph.D. program.

Admission

Application materials for the graduate program must be uploaded to the University's Office of Admissions website. These are reviewed by the Department of Biology Graduate Recruitment and Admissions Committee. For detailed instructions, visit iBio Application on the integrated biology graduate program website.

Applicants must hold a valid B.A. or B.S. from an accredited institution. They should supply official transcripts from each undergraduate and graduate institution they have attended plus scores from their Graduate Record Examination (GRE) General Test (verbal, quantitative, and analytical writing). The GRE Subject Test in biology or biochemistry is optional but not required.

Applicants whose first language is not English must score at least 100 (internet-based test) on the Test of English as a Foreign Language (TOEFL) and have their score sent to the Office of Admissions. International applicants who received their degrees (either bachelor's or master's) from a U.S. institution are exempt from this requirement. All international students whose first language is not English are required to take the on-campus English Proficiency Evaluation before they first enroll for classes or serve as a teaching assistant.

Successful applicants for graduate admission typically have a g.p.a. of at least 3.00 (on a 4.00 scale) and a Graduate Record Examination (GRE) General Test score above 308 (combined verbal and quantitative) or 1200 (combined verbal and quantitative) on the older GRE. The admissions committee also considers letters of recommendation, the personal statement, and other appropriate criteria, especially prior research experience.

Although most applicants will have completed undergraduate programs in biology, the department also considers applicants with backgrounds in related sciences, providing they have taken the required course work. Students with bachelor's degrees in other areas may need to register as nondegree students and complete the equivalent of the department's bachelor's degree program prior to consideration for admission. Nondegree students may be asked to complete chemistry, physics, and calculus in addition to the biology courses listed in the undergraduate program. Nondegree students should consult the department's graduate program administrator before applying.

Review of applications typically begins by December 1, but see the iBio Graduate Program web page for updated application information and instructions. Applications must include the applicant's GRE test scores. In order to meet the deadline, applicants must take the GRE in October or earlier. Applications are reviewed on a rolling basis until available slots for the interview weekend (typically held in late February) are filled.

Applicants must meet the minimum admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

All graduate students making satisfactory progress toward the Ph.D. receive stipend and tuition support from non-University of Iowa fellowships and from teaching assistantships or research assistantships available through individual research grants administered by faculty members or by the University. First-year Ph.D. students are supported by department fellowships during the research rotation period and by teaching assistantships during the spring semester. Offers of admission include information about offers of financial support.

Career Advancement

The graduate program in integrated biology prepares students for careers in academic research, science education, industry, government, and a variety of other careers in which their scientific expertise can be used.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Biomedical Sciences

Chair, Department of Biology

- Diane C. Slusarski

Director, Biomedical Sciences

- Bryant F. McAllister (Biology)

Undergraduate major: biomedical sciences (B.S.)

Biomedical sciences is an interdisciplinary major designed for students who plan to attend medical school or conduct biomedical research in graduate school and beyond.

The curriculum stretches broadly across scientific and mathematical fields. The major is selective, with a limited number of students admitted, and the curriculum is challenging, requiring dedication by its students, who are mentored by faculty members from the participating disciplines.

The Departments of Biochemistry, Biology, Chemistry, and Microbiology and Immunology collaborate to offer the major in biomedical sciences; the major is administered by the Department of Biology [p. 147].

Programs

Undergraduate Program of Study

Major

- Major in Biomedical Sciences (Bachelor of Science)
[p. 172]

Biomedical Sciences, B.S.

Learning Outcomes

Graduates of the biomedical sciences program will achieve the following.

- **Foundational Knowledge: Comprehension of Fundamental Principles and Concepts in the Natural and Social Sciences**

Graduates will be able to:

- integrate across the natural and social sciences;
- apply foundational knowledge and conceptual frameworks to biomedicine;
- recognize the consequences of evolutionary history in the understanding of human biology and disease; and
- evaluate new information reported in the news and/or in scientific publications against prior knowledge.

- **New Discovery: Scientific Reasoning and Experimental Process in Biomedicine**

Graduates will be able to:

- perform basic laboratory procedures, including correct operation of devices;
- formulate questions about natural processes based on current knowledge;
- construct a hypothesis to guide experimental enquiry;
- design experiments, identifying variables of analysis and controls for error;
- consider appropriate strategies or technologies applicable to investigate a novel problem;
- collect, organize, summarize, and interpret data; and
- analyze and evaluate experimental results to inform a hypothesis; and
- distinguish between necessary and sufficient causes.

- **Quantitative Skills: Mathematical Reasoning and Basic Numeracy Applied to Biomedicine**

Graduates will be able to:

- perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;
- apply mathematical concepts and rules of probability to make predictions;
- select and apply appropriate statistical tests to determine significance of experimental results; and
- use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

- **Information Literacy: Acquisition, Analysis, and Summary of Published Biomedical Information**

Graduates will be able to:

- locate and evaluate the relevance and credibility of information from electronic and print sources;

navigate and obtain relevant information from public databases;

recognize and appropriately cite sources of information;

identify questions addressed and methodologies used; and

assess findings reported and conclusions drawn in published scientific articles.

- **Communication Proficiency: Written and Oral Presentation of Biomedical Information**

Graduates will be able to:

- write concise scientific reports based on findings or literature searches;
- construct visual presentations of results or findings from the scientific literature; and
- present findings or results from the literature orally with appropriate media.

Requirements

The Bachelor of Science with a major in biomedical sciences requires a minimum of 120 s.h., including at least 78-83 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The interdisciplinary major provides an excellent foundation for medical training and for research and/or practice in the chemical, genetic, cellular, and physiological bases of human disease. The curriculum includes required and elective course work in biochemistry, biology, chemistry, health and human physiology, mathematics, microbiology and immunology, physics, psychology, sociology, and statistics. Students who wish to apply transfer credit toward the major should consult their departmental advisor.

The B.S. with a major in biomedical sciences requires the following course work.

Code	Title	Hours
Required Courses		62-63
Elective Courses		16-20
Total Hours		78-83

Required Courses

Students complete the following course work (62-63 s.h.).

Code	Title	Hours
Chemistry		
All of these:		
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
Life Sciences		
All of these:		
BIOL:1411	Foundations of Biology	4

BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:3373	Human Population Genetics and Variation	3
HHP:3500	Human Physiology	3
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory (both courses must be taken in the same semester)	5

Mathematics

One of these:

MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

Statistics

This course:

STAT:3510	Biostatistics	3
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Physics

One of these sequences:

PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

Social Sciences

All of these:

PSY:1001	Elementary Psychology	3
PSY:2130	Advanced Psychology for Pre-Medical Track	3
SOC:1010	Introduction to Sociology	3-4

Elective Courses

Students complete a total of 16-20 s.h. of elective course work chosen from the following lists.

Code	Title	Hours
Lecture Courses		
Two of these:		
BIOC:5241	Biophysical Chemistry I	3
BIOL:2254	Endocrinology	3
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3343	Animal Physiology	3
BIOL:4213	Bioinformatics	4
MICR:3147	Immunology and Human Disease	3
MICR:3168	Viruses and Human Disease	3
Chemistry Lab		
One of these:		
BIOC:3140	Experimental Biochemistry	2
CHEM:2410	Organic Chemistry Laboratory	3
Investigative Lab		
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3656	Neurobiology Laboratory	4

BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4

Experiential Learning

One of these (4-6 s.h.):

BIOL:4999	Honors Research in Biology	arr.
	Another approved honors research course	6
	An additional lab course	4

Honors

Honors in the Major

Students majoring in biomedical sciences are encouraged to graduate with honors in the major. Honors students in the major may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs. They also are advised to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

To graduate with honors, students must fulfill the following requirements:

complete the requirements for a major in biomedical sciences with a g.p.a. of at least 3.33 in all University of Iowa course work in the major;

complete 1 s.h. in BIOL:4898 Communicating Research;

complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;

complete a minimum of 6 s.h. (taken over two or more semesters) of BIOL:4999 Honors Research in Biology;

write a brief research proposal summarizing the background and goals of their proposed honors research;

upon completion of their research, submit an acceptable honors thesis; and

give an oral presentation of their research findings.

Biomedical sciences majors interested in graduating with honors in the major should contact the biomedical sciences honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Contact the Department of Biology to learn more about honors in the major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biomedical sciences major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, BIOL:1411 Foundations of Biology, PSY:1001 Elementary Psychology, SOC:1010 Introduction to Sociology, MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:2210 Organic Chemistry I, CHEM:2220 Organic Chemistry II, MICR:2157 General Microbiology, MICR:2158 General Microbiology Laboratory, PHYS:1511 College Physics I, PHYS:1512 College Physics II, and HHP:3500 Human Physiology

Before the seventh semester begins: BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, BIOC:3140 Experimental Biochemistry or CHEM:2410 Organic Chemistry Laboratory, BIOL:2211 Genes, Genomes, and the Human Condition, BIOL:3373 Human Population Genetics and Variation, and STAT:3510 Biostatistics.

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biomedical Sciences, B.S.

Course	Title	Hours
First Year		
Any Semester		
Begin volunteering at a hospital or other healthcare facility in the first year or as early as possible.		
	Hours	0
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
SOC:1010	Introduction to Sociology ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1460	Calculus for the Biological Sciences _{a, c}	4
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
BIOL:1411	Foundations of Biology ^a	4
CHEM:1120	Principles of Chemistry II ^a	4
PSY:1001	Elementary Psychology	3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
	Hours	15-16
Second Year		
Any Semester		
Shadow a doctor and learn more about the field of medicine in the second year.		
Start the search process for a research lab in the second year.		
	Hours	0

Fall

MICR:2157	General Microbiology ^e	3
MICR:2158	General Microbiology Laboratory ^e	2
PHYS:1511	College Physics I	4
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
	Hours	16-17

Spring

HHP:3500	Human Physiology	3
PHYS:1512	College Physics II	4
CHEM:2220	Organic Chemistry II	3
STAT:3510	Biostatistics	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
	Hours	17-18

Third Year

Any Semester

Students should request letters of reference for medical school applications in the third year.

	Hours	0
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Fall

BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOC:3120	Biochemistry and Molecular Biology I	3
Major: chemistry lab option or elective course ^f		2 - 3
GE CLAS Core: Historical Perspectives ^g		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
	Hours	15-17

Spring

BIOL:3373	Human Population Genetics and Variation	3
BIOC:3130	Biochemistry and Molecular Biology II	3
PSY:2130	Advanced Psychology for Pre-Medical Track	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: chemistry lab option or elective course ^f		2 - 3
Exam: Take MCAT in spring or summer		
	Hours	14-16

Summer

Admission Application: Apply to medical school

	Hours	0
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Fourth Year

Fall

Major: elective lecture I course ^f		3
Major: experiential elective or elective course ^{f, h}		3 - 4
GE CLAS Core: International and Global Issues ^g		3
GE CLAS Core: Diversity and Inclusion ^g		3
	Hours	12-13

Spring

Major: elective lecture II course ^f		3
Major: investigative lab ⁱ		3 - 4
Major: experiential elective or elective course ^{f, h}		3 - 4

g GE CLAS Core: Literary, Visual, and Performing Arts 3

GE CLAS Core: Values and Culture ^g 3

Hours	15-17
Total Hours	120-131

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e MICR:2157 and MICR:2158 must be taken in the same semester.
- f Students complete a total of 16-20 s.h. of elective course work from approved lists of courses.
- g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- h Experiential elective is honors in the major or a second investigative lab course.
- i Students complete an investigative lab course selected from: BIOL:3626, BIOL:3656, BIOL:3676, BIOL:3716, BIOL:3736.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Chemistry

Chair

- James B. Gloer

Undergraduate major: chemistry (B.A., B.S.)

Undergraduate minor: chemistry

Graduate degrees: M.S. in chemistry; Ph.D. in chemistry

Faculty: <https://chem.uiowa.edu/people>

Website: <https://chem.uiowa.edu/>

The Department of Chemistry is committed to providing its undergraduate students with the skills needed to comprehend and confront the scientific challenges of the new century. The department's strong and vibrant undergraduate chemistry program is an environment where students can develop and ultimately find success in their chosen career paths.

The graduate programs in chemistry train scholars to lead efforts in chemistry research and teaching. One of the primary goals is to train students to become independent scientists. The department offers course work to provide the foundational knowledge that enhances student efforts in the laboratory.

Student Organizations

A number of organizations are open to undergraduate students for support and enrichment.

Students may join the University of Iowa undergraduate student chapter of the American Chemical Society (ACS). Chapter activities include dinner meetings with guest speakers, field trips to local industries, participation in local and national meetings of the ACS, and participation in chemistry outreach programs. Students in the ACS student chapter develop leadership, organization, and speaking skills valuable during their college experience and throughout their careers.

The department has a chapter of Alpha Chi Sigma, a coed chemistry fraternity. The Alpha Theta Chapter is open to students in chemistry, biochemistry, chemical engineering, and related fields. Alpha Chi Sigma sponsors many social and professional events throughout the year.

The department endorses the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), which is committed to discovery, transmittal, and application of knowledge in science and engineering and to increasing the participation of underrepresented populations in these fields. NOBCChE sponsors diverse programs designed to foster professional development and to encourage students to pursue careers in science and technical fields.

The department also supports the activities of Women in Science and Engineering (WiSE), whose aim is to increase women's participation and advancement as students, faculty members, and professional staff; promote a supportive study and work environment for women; integrate women's ideas, strengths, and approaches into research, teaching, and service; and inform the public of educational and career opportunities for women in scientific and technical fields. WiSE sponsors a living learning community in a University residence hall for first-year female students majoring in science or engineering, the Student-to-Student Support in Science mentoring program, a service learning program, and the WiSE Discourse and Dining series.

Programs

Undergraduate Programs of Study

Majors

- Major in Chemistry (Bachelor of Arts) [p. 181]
- Major in Chemistry (Bachelor of Science) [p. 185]

Minor

- Minor in Chemistry [p. 189]

Graduate Programs of Study

Majors

- Master of Science in Chemistry [p. 190]
- Doctor of Philosophy in Chemistry [p. 191]

Facilities

The Department of Chemistry's main office, support facilities, and faculty offices are located in the Chemistry Building, as is laboratory and classroom space dedicated to teaching and research activities. Several faculty members have offices and laboratories in the Iowa Advanced Technology Laboratories across the street from the Chemistry Building. Extensive resources are readily accessible such as NMR, mass spectrometry, and X-ray analysis facilities, advanced computational resources, and complete machine, electronics, and glass shops. See the Department of Chemistry website for information about facilities and advanced instrumentation available for instruction and research.

The Chemistry Center serves all students who take chemistry courses as well as the department's instructors. The center offers assistance with registration, returns examinations and homework assignments, schedules alternative exams, and provides information about all lower-level chemistry courses. Information about student organizations and departmental scholarships and awards also is available at the Chemistry Center.

Courses

Students planning to take more than one year of chemistry should take CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II.

Students who require only one year of chemistry with no laboratory component may take CHEM:1070 General Chemistry I and CHEM:1080 General Chemistry II.

Students who have not had high school chemistry or do not have strong math and/or chemistry preparation should consider taking CHEM:1070 General Chemistry I before CHEM:1110 Principles of Chemistry I; academic advisors and the Chemistry Diagnostic Test can help students determine which of these courses to take first.

Chemistry Courses

CHEM:1000 First-Year Seminar

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

- CHEM:1050 Technology and Society** 3 s.h.
Nonmathematical exploration of selected areas of technology; basic science background, current technological applications, implications for society; for nonscience majors. Recommendations: closed to students who have taken college chemistry courses. GE: Natural Sciences without Lab.
- CHEM:1060 Technology and Society Laboratory** 1 s.h.
Laboratory for CHEM:1050; demonstrations, student experiments. Corequisites: CHEM:1050 if not taken as a prerequisite. Requirements: closed to students who have earned more than 3 s.h. in chemistry courses. GE: Natural Sciences Lab only.
- CHEM:1070 General Chemistry I** 3 s.h.
Atomic structure, chemical bonds, mole relations, stoichiometry, states of matter, acids and bases, reaction rates, electrochemistry, nuclear chemistry. Requirements: elementary algebra. GE: Natural Sciences without Lab.
- CHEM:1080 General Chemistry II** 3 s.h.
Organic chemistry and biochemistry. Requirements: CHEM:1070 or high school chemistry. GE: Natural Sciences without Lab.
- CHEM:1090 Supplemental Chemistry Lab** 1 s.h.
Lab techniques, elementary synthesis, measurement, analysis, case-study lectures and experiments; safety glasses, appropriate dress, compliance with laboratory safety protocols required.
- CHEM:1100 Chemistry in Industry and the Economy** 3 s.h.
Atomic structure, chemical bonding, acid and bases, polymers, pharmaceuticals, DNA, proteins, and basic economics. Requirements: non-science major. GE: Natural Sciences without Lab.
- CHEM:1110 Principles of Chemistry I** 4 s.h.
Chemical bonding and chemical reactions; atomic and molecular structure, chemical equations, stoichiometry, gases, liquids, thermodynamics of phase changes, solutions, equilibrium, acids, bases, pH, elementary organic chemistry; the solid state, including modern materials; lecture, discussion, laboratory. Requirements: MATH:1005 with a minimum grade of C-, or ACT math subscore of 24, or ALEKS score above 60%. Recommendations: Chemistry Diagnostic Test score of 16. GE: Natural Sciences with Lab.
- CHEM:1120 Principles of Chemistry II** 4 s.h.
Continuation of CHEM:1110; colligative properties of solutions, chemical thermodynamics, electrochemistry, chemical kinetics, chemical bonding, aspects of industrial chemistry, nuclear chemistry; lecture, discussion, laboratory. Requirements: CHEM:1110. GE: Natural Sciences with Lab.
- CHEM:1160 Principles of Chemistry Lab** 2 s.h.
Laboratory techniques. Requirements: grades of C or higher in CHEM:1180 and CHEM:1190. GE: Natural Sciences Lab only.
- CHEM:1180 Chemical Science I** 3 s.h.
GE: Natural Sciences without Lab.
- CHEM:1190 Chemical Science II** 3 s.h.
GE: Natural Sciences without Lab.
- CHEM:1200 Chemical Science Laboratory** 2 s.h.
GE: Natural Sciences Lab only.
- CHEM:2021 Fundamentals of Chemical Measurements** 3 s.h.
Introduction to experimental and data analysis techniques used in performing quantitative chemical measurements; topics include titrations, spectrophotometry, potentiometry, chromatography, and statistical techniques for use in data processing and interpretation; laboratory. Prerequisites: CHEM:1120. Requirements: chemistry major.
- CHEM:2210 Organic Chemistry I** 3 s.h.
Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, ethers, alcohols, and alkyl halides. Prerequisites: CHEM:1120.
- CHEM:2220 Organic Chemistry II** 3 s.h.
Continuation of CHEM:2210; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, aromatics, amino acids, carbohydrates, nucleosides. Prerequisites: CHEM:2210 or CHEM:2230.
- CHEM:2230 Organic Chemistry I for Majors** 3 s.h.
Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, alcohols, alkyl halides, aromatics. Prerequisites: CHEM:1120. Requirements: chemistry, biochemistry, or chemical engineering major.
- CHEM:2240 Organic Chemistry II for Majors** 3 s.h.
Continuation of CHEM:2230; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, ethers, amino acids, carbohydrates, and nucleosides. Prerequisites: CHEM:2210 or CHEM:2230. Requirements: chemistry, biochemistry, or chemical engineering major.
- CHEM:2410 Organic Chemistry Laboratory** 3 s.h.
Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: CHEM:1120 and (CHEM:2210 or CHEM:2230). Corequisites: CHEM:2220 or CHEM:2240.
- CHEM:2420 Organic Chemistry Laboratory for Majors** 3 s.h.
Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: CHEM:1120 and (CHEM:2210 or CHEM:2230). Corequisites: CHEM:2220 or CHEM:2240. Requirements: chemistry, biochemistry, or chemical engineering major.
- CHEM:3110 Analytical Chemistry I** 3 s.h.
Modern theory and practice; emphasis on chemical equilibria (acid-base chemistry, solubility, complexation) and electroanalytical chemistry (potentiometry, voltammetry, coulometry). Requirements: CHEM:1120 and (MATH:1460 or MATH:1850) and (PHYS:1511 or PHYS:1611).
- CHEM:3120 Analytical Chemistry II** 3 s.h.
Modern theory and practice; emphasis on atomic and molecular spectroscopy, mass spectrometry, chemical separations. Requirements: CHEM:1120 and (MATH:1460 or MATH:1850) and (PHYS:1511 or PHYS:1611).
- CHEM:3250 Inorganic Chemistry** 3 s.h.
Modern principles; emphasis on descriptive chemistry of the main group and transition elements, ionic and covalent chemical bonding theories, symmetry, inorganic stereochemistry. Corequisites: CHEM:2220 or CHEM:2240. Requirements: CHEM:1120.

CHEM:3430 Analytical Measurements 3 s.h.

Modern theory and practice of laboratory methods; emphasis on experimental techniques and data analysis in spectroscopy, chromatography, electrochemistry. Requirements: CHEM:2021, CHEM:3110, and CHEM:3120.

CHEM:3440 Physical Measurements 3 s.h.

Laboratory experience using advanced instrumental and computational methods to generate and analyze data relevant to modern physical chemistry. Requirements: chemistry major, CHEM:2021 and (CHEM:4431 or CHEM:4432).

CHEM:3530 Inorganic Chemistry Laboratory 3 s.h.

Preparation and characterization of a variety of inorganic, organometallic, and coordination compounds of the main group and transition elements; emphasis on synthetic techniques, methods for characterization of inorganic species. Requirements: CHEM:2021 and (CHEM:2410 or CHEM:2420) and CHEM:3250.

CHEM:3560 Advanced Methods in Chemical Research: Special Topics 1-3 s.h.

Introduction to advanced research methods.

CHEM:3994 Undergraduate Research 1-4 s.h.**CHEM:4171 Advanced Analytical Chemistry 3 s.h.**

Emphasis on fundamental aspects of electrochemistry, atomic and molecular spectroscopy, chemical separations. Requirements: CHEM:3110 and CHEM:3120. Recommendations: CHEM:4431 and CHEM:4432.

CHEM:4261 Selected Topics in Chemistry 1-3 s.h.**CHEM:4270 Advanced Inorganic Chemistry 3 s.h.**

Modern principles, including crystal field/ligand field/molecular orbital theory, inorganic reaction mechanisms, coordination chemistry, bioinorganic chemistry, main group and transition metal organometallic chemistry, solid-state inorganic chemistry. Requirements: CHEM:3250 and CHEM:4432.

CHEM:4372 Advanced Organic Chemistry 3 s.h.

Basic concepts from perspectives of structure, mechanism, synthesis, stereochemistry. Requirements: CHEM:2220 or CHEM:2240.

CHEM:4430 Principles of Physical Chemistry 3 s.h.

Kinetics, transport properties, elementary thermodynamics, and selected topics in quantum mechanics and spectroscopy; emphasis on application of chemistry to areas of science including health and biosciences, environmental sciences, and related areas. Requirements: CHEM:1120 and (MATH:1460 or MATH:1850) and (PHYS:1512 or PHYS:1612).

CHEM:4431 Physical Chemistry I 3 s.h.

Chemical thermodynamics and its application to chemical equilibrium, phase changes and chemical equilibria; ideal and real gases; kinetic theory; surface absorption and electrochemistry; thermodynamics. Requirements: CHEM:1120 and (MATH:1560 or MATH:1860) and (PHYS:1512 or PHYS:1612).

CHEM:4432 Physical Chemistry II 3 s.h.

Quantum mechanics and its application to atomic and molecular structure; determination of structure and bonding by various spectroscopic methods; chemical kinetics. Requirements: CHEM:1120 and (MATH:1560 or MATH:1860) and (PHYS:1512 or PHYS:1612).

CHEM:4450 Synthesis and Measurement 3 s.h.

Laboratory investigations integrating synthesis and measurement techniques from inorganic, analytical, and physical chemistry; emphasis on modern applications of chemistry in biology, medicine, environmental science, catalysis, and materials science. Prerequisites: (CHEM:4432 or CHEM:4430 or CHEM:4431) and (CHEM:2420 or CHEM:2410) and (CHEM:3120 or CHEM:3110) and CHEM:3250 and CHEM:2021.

CHEM:4480 Introduction to Molecular Modeling 3 s.h.

Theory and application of *ab initio* quantum mechanics, semiempirical molecular orbital theory, and molecular mechanics force fields to chemical research problems; underlying theory of these methods (with emphasis on *ab initio* theory) and their practical application to chemical problems; computational chemistry projects using modeling software. Corequisites: CHEM:4432, if not taken as a prerequisite. Requirements: CHEM:4432.

CHEM:4760 Radiochemistry: Energy, Medicine, and the Environment 3 s.h.

Fundamental theoretical concepts of radiochemistry and their application in energy, medicine, and environmental sectors. Requirements: CHEM:1120 and (CHEM:2210 or CHEM:2230).

CHEM:4850 Upstream Biotechnology Processes 2 s.h.

Introduction to fermentation, fermenter preparation, cell growth and medium requirements, inoculation, sampling, process termination, separation of cells, fermentation case study, enzyme activity, and biocatalysis. Same as PHAR:4850.

CHEM:4873 Atmospheric and Environmental Chemistry 3 s.h.

Fundamental chemical processes of importance in the atmosphere, soil, and water, with emphasis on kinetics and photochemistry of homogeneous and heterogeneous reactions, atmospheric structure and dynamics, global geochemical cycling, chemistry-climate relationships, environmental remediation strategies; experimental methods in field and laboratory studies. Corequisites: CHEM:4431 or CHEM:4432, if not taken as a prerequisite. Requirements: CHEM:4431 or CHEM:4432.

CHEM:4875 Introduction to Polymer Chemistry 2-3 s.h.

Synthesis, structures, characterization, properties, and applications of polymers. Requirements: CHEM:2220 or CHEM:2240.

CHEM:5091 Graduate Chemistry Orientation 2-3 s.h.

Pedagogy, safety, and research issues relevant to advanced chemistry careers.

CHEM:5092 Ethics in Chemical Sciences 1 s.h.

Scholarly integrity for being a responsible chemist on graduate-level research; introduction to infrastructure of scientific scholarship with emphasis on interacting with peers, funding agencies, industrial entities; responsible conduct in research in the context of creation of knowledge, dissemination of scientific findings, intellectual property, and conflict of interest; workshops to study cases in chemical research to illustrate the principles of scholarly integrity.

CHEM:5107 Electrochemistry 2-3 s.h.

Fundamental aspects, including mass transport and electron transfer, electrochemical methodology (e.g., voltammetry and potentiometry), determination of homogeneous and heterogeneous reaction mechanisms. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.

- CHEM:5108 Spectroscopy** 3 s.h.
Principles of atomic and molecular absorption and emission spectroscopy in ultraviolet, visible, and infrared regions of the spectrum, including fluorescence, phosphorescence, Raman spectroscopy; applications to analytical problems, with emphasis on modern instrumentation and methodology. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5109 Separations** 3 s.h.
Analytical separations; basic theory, practical applications, instrumentation, modern techniques (extractions, gas and liquid chromatography, capillary electrophoresis), and detection (mass spectrometry). Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5110 Chemical Sensors** 2 s.h.
Theory, practical limitations, analytical utility based on immobilized reagents with electrochemical, thermal, optical transduction mechanisms. Recommendations: CHEM:3110 and CHEM:3120, or CHEM:4171.
- CHEM:5114 Chemical Systems Modeling** 3 s.h.
Basic processes and techniques; these methods applied to systems relevant to students' own research. Recommendations: CHEM:3110 or CHEM:3120 or CHEM:4171.
- CHEM:5115 Biophotonics** 3 s.h.
Structure, dynamics of biomolecules and their optical spectroscopy; ultrasensitive fluorescence spectroscopy, vibrational spectroscopy, optical activity and circular dichroism, time-resolved spectroscopy. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5118 Nanomaterials** 3 s.h.
Basic principles associated with nanoscience and nanotechnology; fabrication and synthesis, size dependent properties, characterization, applications of materials at nanometer length scales, recent technological breakthroughs in the field. Requirements: graduate standing or advanced undergraduate standing in engineering and science. Recommendations: knowledge of basic chemistry.
- CHEM:5120 Electrochemistry of Polymer Films** 1 s.h.
Use of electrochemical methods to characterize polymer and thin films; transport through polymer films and composites, electrochemistry of polymer films. Requirements: physical chemistry course.
- CHEM:5150 Chemometrics** 3 s.h.
Mathematical, statistical, and signal processing methods for analytical chemistry; hypothesis testing, experimental design, model building, optimization, digital filtering. Recommendations: CHEM:4171.
- CHEM:5190 Seminar: Analytical Chemistry** 0-1 s.h.
- CHEM:5199 Special Topics in Analytical Chemistry** arr.
Content varies.
- CHEM:5202 Coordination Chemistry and Spectroscopy** 1,3 s.h.
Structure and bonding of d-block metal complexes, theory and application of relevant spectroscopic methods, inorganic reaction mechanisms, transition metals in catalysis. Recommendations: CHEM:4270.
- CHEM:5203 Organometallic Chemistry** 3 s.h.
Emphasis on organometallic compounds of transition metal elements. Corequisites: CHEM:4270.
- CHEM:5204 Physical Methods in Inorganic Chemistry** 2 s.h.
Application of physical methods to problems; recent developments; emphasis on magnetic resonance spectroscopy. Recommendations: CHEM:4270.
- CHEM:5205 Bioinorganic Chemistry** 2-3 s.h.
The role of metal ions in biology from an inorganic chemical perspective; emphasis on structure and mechanism for transition metal-containing metallo-enzymes.
- CHEM:5206 Solid-State and Materials Chemistry** 3 s.h.
Introduction to the chemical concepts of solid-state chemistry; focus on synthesis and characterization of various inorganic materials; structure/property relationships, real-world examples. Recommendations: CHEM:4270.
- CHEM:5212 Mass Spectrometry** 3 s.h.
Examination of mass spectrometry in terms of basic theory, instrumentation, qualitative and quantitative analysis, and its application to the environmental and biological sciences. Recommendations: CHEM:3110 or CHEM:3120.
- CHEM:5290 Seminar: Inorganic Chemistry** 0-1 s.h.
- CHEM:5299 Special Topics in Inorganic Chemistry** 1-3 s.h.
Recommendations: CHEM:4270.
- CHEM:5321 Spectroscopic Methods in Organic Chemistry** 3-4 s.h.
Methods and techniques of structure determination for organic compounds. Recommendations: CHEM:4372.
- CHEM:5326 Organic Reactions** 3 s.h.
Survey of organic reactions used in contemporary organic synthesis; emphasis on C-C bond forming reactions, functional group interconversions, oxidations and reductions; mechanistic details of reaction types; innovations in catalytic and asymmetric organic reactions. Recommendations: CHEM:4372.
- CHEM:5328 Mechanisms of Organic Reactions** 3 s.h.
Application of basic mechanistic concepts.
- CHEM:5329 Advanced Organic Synthesis** 1-3 s.h.
Preparation of complex organic compounds. Recommendations: CHEM:4372.
- CHEM:5390 Seminar: Organic Chemistry** 0-1 s.h.
- CHEM:5399 Organic Chemistry Special Topics** 1,3 s.h.
Recommendations: CHEM:4372.
- CHEM:5431 Statistical Thermodynamics I** 3 s.h.
Fundamentals of classical thermodynamics and equilibria; ensembles; noninteracting systems; theory of phase transitions; Monte-Carlo methods; classical fluids; nonequilibrium systems. Recommendations: CHEM:4431.
- CHEM:5433 Quantum and Computational Chemistry** 3 s.h.
Fundamental principles of quantum chemistry; angular momentum; approximation methods; theory of atomic and molecular electronic structure; applications of computational quantum mechanics to chemical systems. Corequisites: CHEM:4432, if not taken as a prerequisite.
- CHEM:5434 Molecular Spectroscopy** 3 s.h.
Quantum mechanical theory of molecular spectroscopy; time-dependent perturbation theory, selection rules, lineshapes; selected applications in microwave, vibrational (infrared and Raman), electronic, optical, and magnetic resonance spectroscopy. Recommendations: CHEM:5433.
- CHEM:5435 Chemical Kinetics** 3 s.h.
Potential energy surfaces, transition state theory, diffusion limited rates, linear free energy relationships, isotope effects, solvent effects, RRKM theory; connection between experiment and various theories in the gas and solution phases; emphasis on assignment of experimental error to derived quantities. Recommendations: CHEM:4432.

CHEM:5436 Electronic Structure and Informatics in Chemistry 3 s.h.

Basic principles of molecular electronic structure theory; molecular structure and reactivity; molecular orbital theory; density functional theory; introduction to informatics and data science; how calculations can be used to enhance experimental research projects. Prerequisites: CHEM:4432.

CHEM:5438 Surface Chemistry and Heterogeneous Processes 3 s.h.

Fundamental and applied aspects of surface chemical processes; theories of molecular adsorption/desorption and surface complexation; kinetics; surface analysis and instrumentation; applications of surface chemistry in heterogeneous catalysis, heterogeneous environmental/atmospheric processes, and materials chemistry. Recommendations: CHEM:4431.

CHEM:5490 Seminar: Physical and Environmental Chemistry 0-1 s.h.**CHEM:5499 Physical Chemistry Topics 1-3 s.h.**

Advanced topics relevant to modern physical chemistry. Recommendations: CHEM:4432 and MATH:1860.

CHEM:5599 Special Topics in Chemistry Education 3 s.h.

Special topics related to chemistry education; topics vary.

CHEM:5875 Perspectives in Biocatalysis 1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BIOC:5875, CBE:5875, CEE:5875, MICR:5875, PHAR:5875.

CHEM:5890 Research Frontiers in Chemistry 1 s.h.**CHEM:5990 Chemistry Colloquium 0-1 s.h.**

Presentation and discussion of research by invited presenters.

CHEM:6990 Research Seminar 0-1 s.h.

Presentation and discussion of thesis research for advanced degrees.

CHEM:7270 Ethics in Chemical Sciences 1 s.h.

Scholarly integrity for being a responsible chemist on graduate-level research; introduction to infrastructure of scientific scholarship with emphasis on interacting with peers, funding agencies, industrial entities; responsible conduct in research in the context of creation of knowledge, dissemination of scientific findings, intellectual property, and conflict of interest; workshops to study cases in chemical research to illustrate the principles of scholarly integrity.

CHEM:7604 Ethics in Chemical Sciences for Postdocs 0 s.h.

Introduction to infrastructure of scientific scholarship; emphasis on interacting with peers, funding agencies, industrial entities; scholarly integrity for being a responsible chemist on graduate-level research; responsible conduct in research in context of creation of knowledge, dissemination of scientific findings, intellectual property, conflict of interest; workshop cases in chemical research that illustrate principles of scholarly integrity.

CHEM:7999 Research in Chemistry arr.

Thesis work for advanced degrees.

Chemistry, B.A.

Learning Outcomes

The Department of Chemistry is committed to maintaining excellence in teaching and mentoring, and to providing the maximum educational benefit to each chemistry graduate. The desired outcomes will prepare students for success in graduate or professional school, industry or government employment, and a wide variety of career choices.

The graduate with a bachelor's degree in chemistry will be able to use the knowledge and skills obtained in the program to demonstrate the following.

- Knowledge and Understanding of Chemistry

Graduates will be able to demonstrate:

mastery of major concepts, theoretical principles, and experimental findings in chemistry;

an understanding of the relationship between molecular structure and physical/chemical properties;

an understanding of the relationship between the microscopic, macroscopic, and symbolic descriptions of matter and the changes it undergoes; and

an understanding of the conditions that affect stability and factors that control rates of change.

- Laboratory Skills

Graduates will be able to:

assess chemical and procedural hazards involved in laboratory work;

use strategies to minimize the risks associated with laboratory work;

maintain a clearly organized laboratory notebook;

use a variety of synthetic techniques;

use instrumentation and laboratory techniques to separate, purify, identify, quantify, and characterize chemical species; and

use computers as tools for data acquisition, management, and analysis.

- Scientific Thinking

Graduates will be able to:

pose scientific questions with a clear hypothesis;

plan and carry out scientific investigations;

analyze data in order to make inferences about chemical and physical behavior and properties, and construct scientific arguments to support conclusions;

use scientific theory and/or interpretations of experimental results to explain chemical phenomena;

use mathematics and computational thinking to understand and predict chemical behavior;

identify and quantify uncertainties in measurements and limitations in methods; and

use graphs, diagrams, and other models to communicate chemical information.

- Chemical Information Skills

Graduates will be able to:

use modern library search tools to locate and retrieve chemical information;

read, analyze, and critically evaluate journal articles; and

reference and cite chemical literature appropriately using designated citation styles.

- Professional Skills

Graduates will be able to:

report scientific findings in oral presentations in a clear and organized fashion using appropriate visual tools;

report on experimental work and scientific findings in written reports;

communicate results of scientific work to nontechnical audiences;

work collaboratively with peers to plan and conduct experiments, interpret chemical information, and solve problems; and

engage in responsible and ethical scientific conduct.

Requirements

The Bachelor of Arts with a major in chemistry requires a minimum of 120 s.h., including 53-54 s.h. of work for the major (20 s.h. in foundation chemistry courses, 12 s.h. in advanced chemistry, and 21-22 s.h. in supporting course work). Students must earn at least 11 s.h. in advanced chemistry courses at the University of Iowa. They must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The B.A. degree is a good choice for students interested in medical or other professional schools, or those interested in a teaching career (see Teacher Licensure" below). The program provides students with the flexibility to earn a degree in chemistry while they also complete related courses required for medical school, such as biology and biochemistry. Compared to the B.S. degree, the B.A. has modified mathematics requirements that include a one-semester physical chemistry course, an analytical chemistry course, and a single, integrated capstone laboratory that incorporates analytical, inorganic, and physical chemistry experiments.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Advanced chemistry courses are built on the chemistry foundation courses. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year.

Students may not use a course to fulfill more than one requirement.

The B.A. with a major in chemistry requires the following course work.

Code	Title	Hours
Chemistry Foundation Courses		20
Advanced Chemistry Courses		12
Mathematics Courses		7-8
Introductory Physics Courses		8
Science Electives		6
Total Hours		53-54

Chemistry Foundation Courses

Students complete the following foundation courses.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2021	Fundamentals of Chemical Measurements	3
One of these sequences:		
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2230 & CHEM:2240	Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6
One of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors (preferred)	3

Advanced Chemistry

Code	Title	Hours
One of these:		
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II (preferred)	3
All of these:		
CHEM:3250	Inorganic Chemistry	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4450	Synthesis and Measurement	3

Mathematics

Code	Title	Hours
One of these:		
MATH:1460	Calculus for the Biological Sciences (preferred)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
STAT:2010	Statistical Methods and Computing	3

STAT:3510/IGPI:3510	Biostatistics (preferred)	3
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Introductory Physics

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (preferred)	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

Science Electives

Some of these courses may be used to fulfill other requirements for the major, as listed above; students who have used a course from this list to fulfill another requirement for the major may not use that course as an elective. Students should consult their advisor to gain approval for a course that is not on the list. Undergraduate Research (CHEM:3994) may not be used to satisfy the science electives requirement.

Code	Title	Hours
A total of 6 s.h. from these:		
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3430	Analytical Measurements	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4171	Advanced Analytical Chemistry	3
CHEM:4270	Advanced Inorganic Chemistry	3
CHEM:4372	Advanced Organic Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
CHEM:4480	Introduction to Molecular Modeling	3
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
CHEM:4875	Introduction to Polymer Chemistry	2-3
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3
CEE:4150/CBE:4420	Environmental Chemistry	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education

courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors who plan to use their work toward a minor in chemistry as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Combined Programs

B.A./M.A.T. (Science Education Subprogram)

Students who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "Combined B.A./M.A.T." under Science Education [p. 1277] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

Honors

Honors in the Major

Majors are able to graduate with departmental honors. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33. In addition, they must complete an undergraduate research project acceptable to their research advisor and must write an honors thesis based on their research. Students should register for CHEM:3994 Undergraduate Research or HONR:3994 Honors Research Practicum to earn credit for their research. They are encouraged but not required to present their research at local and regional meetings and to publish their results in professional journals.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the chemistry major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses

are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year. Typical chemistry course schedules and a regression list are available at Undergraduate Program in Chemistry on the Department of Chemistry website.

Before the third semester begins: math through MATH:1460 Calculus for the Biological Sciences or calculus I; CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II, or equivalent course work

Before the fifth semester begins: CHEM:2021 Fundamentals of Chemical Measurements; organic chemistry I, II, and lab; and biostatistics or calculus II

Before the seventh semester begins: two more courses in the major; physics I and II; and at least 90 s.h. earned toward the degree

Before the eighth semester begins: CHEM:4430 Principles of Physical Chemistry and one more course in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Chemistry, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
Elective course ^c		3
MATH:1020	Elementary Functions ^{a, d}	4
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
CHEM:1120	Principles of Chemistry II ^a	4
MATH:1850	Calculus I	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
Elective course ^c		3
	Hours	15-16
Second Year		
Fall		
CHEM:2230	Organic Chemistry I for Majors ^f	3
CHEM:2021	Fundamentals of Chemical Measurements	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^c		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
	Hours	16-18

Spring

CHEM:2240	Organic Chemistry II for Majors ^g	3
CHEM:2420	Organic Chemistry Laboratory for Majors ^g	3
STAT:3510	Biostatistics	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Historical Perspectives ^h		3
Hours		16-17

Third Year**Fall**

CHEM:3110	Analytical Chemistry I	3
or CHEM:3120	or Analytical Chemistry II	
Major: advanced chemistry elective course ^j		3
PHYS:1511	College Physics I ^a	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Values and Culture ^h		3
Hours		17-18

Spring

CHEM:3250	Inorganic Chemistry ^g	3
PHYS:1512	College Physics II ^a	4
Major: upper level chemistry elective course ^j		3
GE CLAS Core: Literary, Visual, and Performing Arts ^h		3
GE CLAS Core: Diversity and Inclusion ^h		3
Hours		16

Fourth Year**Fall**

CHEM:4430	Principles of Physical Chemistry ^f	3
Major: advanced chemistry elective course ^j		3
GE CLAS Core: International and Global Issues ^h		3
Major: upper level chemistry elective course ^j		3
Elective course ^c		3
Hours		15

Spring

CHEM:4450	Synthesis and Measurement ^g	3
Major: advanced chemistry elective course ^j		3
GE CLAS Core: Social Sciences ^h		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Total Hours		126-132

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

- i Typically CHEM:3110 is offered in fall semesters only and CHEM:3120 is offered spring semesters only. Check MyUI for course availability since offerings are subject to change.
- j Students are required to complete 6 s.h. of science electives chosen from a list of approved courses. Students who have used a course to fulfill another requirement for the major may not use that course as a science elective.

Financial Support**Scholarships and Awards**

A number of awards and scholarships are available to chemistry majors, including the American Institute of Chemists Award, the Undergraduate Award in Analytical Chemistry, the Chemistry Alumni Awards (one each for a sophomore, a junior, and a senior), the Merck Index Award, and the Viksnins, Harris & Padys PLLP Award.

Chemistry majors also may apply for the Donald J. and Margaret Burton Scholarship, Ken Sando Scholarship, Shoemaker-Strickler Scholarship, E. David Cater Scholarship, and Russell K. Simms Scholarship.

Visit Undergraduate Scholarships and Awards on the Department of Chemistry website.

Career Advancement

The undergraduate major in chemistry provides a strong foundation for success in graduate and professional study and for positions in academic or industrial chemistry.

Students with a chemistry degree can pursue careers or graduate study in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Chemistry, B.S.

Learning Outcomes

The Department of Chemistry is committed to maintaining excellence in teaching and mentoring, and to providing the maximum educational benefit to each chemistry graduate. The desired outcomes will prepare students for success in graduate or professional school, industry or government employment, and a wide variety of career choices.

The graduate with a bachelor's degree in chemistry will be able to use the knowledge and skills obtained in the program to demonstrate the following.

- Knowledge and Understanding of Chemistry

Graduates will be able to demonstrate:

mastery of major concepts, theoretical principles, and experimental findings in chemistry;

an understanding of the relationship between molecular structure and physical/chemical properties;

an understanding of the relationship between the microscopic, macroscopic, and symbolic descriptions of matter and the changes it undergoes; and

an understanding of the conditions that affect stability and factors that control rates of change.

- Laboratory Skills

Graduates will be able to:

assess chemical and procedural hazards involved in laboratory work;

use strategies to minimize the risks associated with laboratory work;

maintain a clearly organized laboratory notebook;

use a variety of synthetic techniques;

use instrumentation and laboratory techniques to separate, purify, identify, quantify, and characterize chemical species; and

use computers as tools for data acquisition, management, and analysis.

- Scientific Thinking

Graduates will be able to:

pose scientific questions with a clear hypothesis;

plan and carry out scientific investigations;

analyze data in order to make inferences about chemical and physical behavior and properties, and construct scientific arguments to support conclusions;

use scientific theory and/or interpretations of experimental results to explain chemical phenomena;

use mathematics and computational thinking to understand and predict chemical behavior;

identify and quantify uncertainties in measurements and limitations in methods; and

use graphs, diagrams, and other models to communicate chemical information.

- Chemical Information Skills

Graduates will be able to:

use modern library search tools to locate and retrieve chemical information;

read, analyze, and critically evaluate journal articles; and

reference and cite chemical literature appropriately using designated citation styles.

- Professional Skills

Graduates will be able to:

report scientific findings in oral presentations in a clear and organized fashion using appropriate visual tools;

report on experimental work and scientific findings in written reports;

communicate results of scientific work to nontechnical audiences;

work collaboratively with peers to plan and conduct experiments, interpret chemical information, and solve problems; and

engage in responsible and ethical scientific conduct.

Requirements

The Bachelor of Science with a major in chemistry requires a minimum of 120 s.h., including 69 s.h. of work for the major (20 s.h. in foundation chemistry courses, 27 s.h. in advanced chemistry, and 22 s.h. in supporting course work). Students must earn at least 20 s.h. in advanced chemistry courses at the University of Iowa. They must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The B.S. degree with a major in chemistry is certified by the American Chemical Society (ACS) when a biochemistry course is included. An ACS-approved program offers a broad-based and rigorous chemistry education that provides students with the intellectual, experimental, and communication skills to become effective scientific professionals in chemical and other related fields. The program also provides all the prerequisites for graduate work in chemistry or biochemistry and in other biomedical areas with a molecular focus.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Advanced chemistry courses are built on the chemistry foundation courses. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year.

Students may not use a course to fulfill more than one requirement.

The B.S. with a major in chemistry requires the following course work.

Code	Title	Hours
	Chemistry Foundation Courses	20
	Advanced Chemistry Courses	27

Mathematics Courses	8
Introductory Physics Courses	8
Science Electives and Research Courses	6
Total Hours	69

Chemistry Foundation Courses

Students complete the following foundation courses.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2021	Fundamentals of Chemical Measurements	3
One of these sequences:		
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2230 & CHEM:2240	Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6
One of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors (preferred)	3

Advanced Chemistry

Code	Title	Hours
All of these:		
CHEM:3110 & CHEM:3120	Analytical Chemistry I-II	6
CHEM:3250	Inorganic Chemistry	3
CHEM:3430	Analytical Measurements	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4270	Advanced Inorganic Chemistry	3
CHEM:4431- CHEM:4432	Physical Chemistry I-II	6

Mathematics

Code	Title	Hours
One of these sequences:		
MATH:1550 & MATH:1560	Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus	8
MATH:1850 & MATH:1860	Calculus I-II (preferred)	8

Introductory Physics

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II (preferred)	8

Science Electives and Research

Code	Title	Hours
A total of 6 s.h. from these:		
CHEM:3994	Undergraduate Research	1-4
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3

Advanced science elective courses

ACS Certification Requirement

Students who want an ACS certified degree complete one of these optional courses (also listed above under "Science Electives and Research").

Code	Title	Hours
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors who plan to use their work toward a minor in chemistry as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, and all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning section of the Catalog.

Honors

Honors in the Major

Majors are able to graduate with departmental honors. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33. In addition, they must complete an undergraduate research project acceptable to their research advisor and must write an honors thesis based on their research. Students should register for CHEM:3994 Undergraduate Research or HONR:3994 Honors Research Practicum to earn credit for their research. They are encouraged but not required to present their research at local and regional meetings and to publish their results in professional journals.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the chemistry major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year. Typical chemistry course schedules and a regression list are available at Undergraduate Program in Chemistry on the Department of Chemistry website.

Before the third semester begins: math through calculus I; CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II, or equivalent course work

Before the fifth semester begins: CHEM:2021 Fundamentals of Chemical Measurements; inorganic chemistry; organic chemistry I, II, and lab; calculus II; and physics I and II

Before the seventh semester begins: six more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Chemistry, B.S.

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
MATH:1850	Calculus I ^{b, c}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences ^d		3
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
CHEM:1120	Principles of Chemistry II ^b	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1860	Calculus II	4

GE CLAS Core: World Languages First Level Proficiency or elective course ^e

Hours 15-17

Second Year

Fall

CHEM:2230	Organic Chemistry I for Majors ^f	3
CHEM:2021	Fundamentals of Chemical Measurements ^g	3
PHYS:1611	Introductory Physics I ^b	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-15

Spring

CHEM:2240	Organic Chemistry II for Majors ^h	3
CHEM:2420	Organic Chemistry Laboratory for Majors ^h	3
CHEM:3250	Inorganic Chemistry ^h	3
PHYS:1612	Introductory Physics II ^b	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	16-18

Third Year

Fall

CHEM:3110	Analytical Chemistry I ^f	3
CHEM:4432	Physical Chemistry II	3
CHEM:3530	Inorganic Chemistry Laboratory ^f	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: International and Global Issues ^d		3
	Hours	16-17

Spring

CHEM:3120	Analytical Chemistry II ^h	3
CHEM:4431	Physical Chemistry I	3
Elective course ⁱ		3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
	Hours	15

Fourth Year

Fall

CHEM:3440	Physical Measurements ^f	3
CHEM:4270	Advanced Inorganic Chemistry ^f	3
BIOC:3110	Biochemistry ^{j, k}	3
CHEM:3994	Undergraduate Research ^j	2
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ⁱ		2 - 3
	Hours	16-17

Spring

CHEM:3994	Undergraduate Research ^j	2
CHEM:3430	Analytical Measurements ^h	3
GE CLAS Core: Values and Culture ^d		3
Elective course ⁱ		3
Elective course ⁱ		3
Elective course ⁱ		3
	Hours	17
	Total Hours	125-133

- a Enrollment in chemistry courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g Students should take CHEM:2021 during the first semester of the second year.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- j Students are required to complete 6 s.h. in science electives and research toward the major.
- k Students who want an ACS certified degree must complete one of these optional courses: BIOC:3110 or BIOC:3120.

Financial Support

Scholarships and Awards

A number of awards and scholarships are available to chemistry majors, including the American Institute of Chemists Award, the Undergraduate Award in Analytical Chemistry, the Chemistry Alumni Awards (one each for a sophomore, a junior, and a senior), the Merck Index Award, and the Viksnins, Harris & Padys PLLP Award.

Chemistry majors also may apply for the Donald J. and Margaret Burton Scholarship, Ken Sando Scholarship, Shoemaker-Strickler Scholarship, E. David Cater Scholarship, and Russell K. Simms Scholarship.

Visit Undergraduate Scholarships and Awards on the Department of Chemistry website.

Career Advancement

The undergraduate major in chemistry provides a strong foundation for success in graduate and professional study and for positions in academic or industrial chemistry.

Students with a chemistry degree can pursue careers or graduate study in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Chemistry, Minor

The undergraduate minor in chemistry requires a minimum of 15 s.h. in chemistry courses (prefix CHEM), including 12 s.h. in courses numbered 2210 or above taken in the Department of Chemistry at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The following courses do not count toward the minor.

Code	Title	Hours
CHEM:3560	Advanced Methods in Chemical Research: Special Topics	1-3
CHEM:3994	Undergraduate Research	1-4
CHEM:4261	Selected Topics in Chemistry	1-3

Chemistry, M.S.

Requirements

The Master of Science program in chemistry requires a minimum of 30 s.h. of graduate credit. The degree is offered with or without thesis. M.S. requirements include proficiency examinations and core courses as necessary in biochemistry; analytical, inorganic, organic, and/or physical chemistry; and additional advanced course work. Students must have a cumulative g.p.a. of at least 2.75 or higher to complete the M.S. degree.

Admission

Applicants for graduate admission should have a bachelor's degree with a major in chemistry or a related field, preferably with a g.p.a. of 3.00 or higher. For application information, contact the Department of Chemistry or visit its website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Students with a chemistry degree can pursue careers in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Chemistry, Ph.D.

Requirements

The Doctor of Philosophy program in chemistry requires a minimum of 72 s.h. of graduate credit. Degree requirements include proficiency examinations and core courses as necessary, a minimum of 11 s.h. of advanced course work, and research.

Students who meet the course requirements with a cumulative g.p.a. of 3.00 or higher are admitted to the oral comprehensive examination upon presentation and preliminary approval of their written research proposal and research progress report; they must take the oral comprehensive examination no later than the end of their second year of enrollment.

Upon completing Ph.D. research, candidates prepare the dissertation. The final examination consists of an oral defense of the thesis, at which time the candidates present at least one published or accepted paper in a peer-reviewed journal based on the publishable portion of the thesis.

Admission

Applicants for graduate admission should have a bachelor's degree with a major in chemistry or a related field, preferably with a g.p.a. of 3.00 or higher. Most admitted graduate students receive financial support. For application information, contact the Department of Chemistry or visit its website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Students with a chemistry degree can pursue careers in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Cinematic Arts

Interim Chair

- Steven R. Ungar

Undergraduate major: cinema (B.A.)

Undergraduate minor: cinema

Graduate degrees: M.A. in film studies; M.F.A. in film and video production; Ph.D. in film studies

Faculty: <https://clas.uiowa.edu/cinematic-arts/people/faculty>

Website: <https://clas.uiowa.edu/cinematic-arts/>

The Department of Cinematic Arts provides students with opportunities to explore and gain insight into cinema as a subject of international and interdisciplinary study as well as creative practice. The curriculum emphasizes film and related media in their historical and cultural contexts as well as film and video production in a variety of modes.

The department's faculty offer expertise in film and video production; film history and theory, with emphasis on international film cultures; and the history, theory, and production of documentary media. Students conduct projects using state-of-the-art equipment and software that is updated regularly.

The department offers an undergraduate degree (B.A.), an undergraduate minor, and three graduate degree programs (M.A., M.F.A., and Ph.D.). It also offers courses for all interested students under the Literary, Visual, and Performing Arts area of the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Resources

The Department of Cinematic Arts maintains up-to-date film and video equipment and facilities that allow students to acquire professional skills in a range of technical and creative areas, including cinematography, editing, sound design, screenwriting, and animation. The program also draws upon the extensive media holdings, and scholarly and archival resources relevant to the study of cinema held by the University of Iowa Libraries. The department regularly sponsors events, including film screenings, festivals, symposia, and presentations by notable visiting scholars and artists, that extend the study of film beyond the classroom and regular curriculum. Collaborations with Iowa City's independent cinema, FilmScene, and the Bijou, the University of Iowa's long-running student film society, also enhance local opportunities for students to view films outside of the classroom and mainstream venues.

Related Certificate

Arts Entrepreneurship

The Department of Cinematic Arts participates in offering the Certificate in Arts Entrepreneurship. The program is designed for students of art, art history, cinema, dance, music, and theatre arts who wish to learn about the business of the arts and entertainment fields and who want to develop the entrepreneurial skills necessary for promoting their artistic work. For more information, see the Certificate in Arts Entrepreneurship [p. 118] in the Catalog.

Programs

Undergraduate Programs of Study

Major

- Major in Cinema (Bachelor of Arts) [p. 196]

Minor

- Minor in Cinema [p. 199]

Graduate Programs of Study

Majors

- Master of Arts in Film Studies [p. 200]
- Master of Fine Arts in Film and Video Production [p. 201]
- Doctor of Philosophy in Film Studies [p. 202]

Courses

Cinematic Arts Courses

CINE:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

CINE:1100 The Art of Smartphone Filmmaking 3 s.h.

Introduction to filmmaking principles; how to shoot and edit short videos utilizing smartphone technology; methods to produce high-quality work without professional equipment. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

CINE:1185 Internship arr.

Opportunity to apply skills; faculty supervision, on or off campus. Requirements: cinema major.

CINE:1195 Video Games and Identity 3 s.h.

Structural and historical problems of representation and inclusion in video games (as text, industry, and culture) along lines of race, gender, sexuality, age, class, and ability; introduction to game studies as a discipline; guidance in learning college-level reading and writing. GE: Diversity and Inclusion.

CINE:1200 Screenwriting Fundamentals 3 s.h.

Introduction to basic storytelling strategies and principles; writing film treatments; adapting prose to professional screenplay format; story structure for features and short films; workshop original screenplays and critique student work; analyze professional screenplays.

CINE:1601 Introduction to Film Analysis 3 s.h.

Formal analysis of film; narrative cinema and approaches to narrative structure; authorship and genre issues, other major topics.

CINE:1602 Introduction to Film Studies 3 s.h.

Film history, theory, criticism; issues of form, technologies, and cultural functions of cinema; screenings of narrative, documentary, experimental films from varied periods and nations. GE: Literary, Visual, and Performing Arts.

- CINE:1610 Contemporary Cinema** 3 s.h.
Current cinema; key genres, movements, filmmakers, technological changes; recent cultural contexts, industrial and economic factors, changes in the film viewing experience. GE: Literary, Visual, and Performing Arts.
- CINE:1620 Writing Film Reviews and Criticism** 3 s.h.
Evaluation and analysis of film, from journalistic reviews to academic scholarship; principles and theoretical positions.
- CINE:1625 Race, Gender, and Sexuality on Screen** 3 s.h.
Introduction to key issues and debates regarding the representation of gender, race, and sexuality in cinema. GE: Diversity and Inclusion.
- CINE:1635 Styles and Genres** 3 s.h.
Major film types (musicals, science fiction, westerns, film noir) and their cultural significance.
- CINE:1640 Film Authors** 3 s.h.
A major director or comparison of directors; director's role in industrial and collaborative contexts, relations between biography and criticism, function of individual styles.
- CINE:1645 Film and Literature** 3 s.h.
Relationships among films, novels, plays, adaptations; shared and distinct formal elements of cinematic and literary texts, their cultural functions.
- CINE:1834 Modes of Film and Video Production** 4 s.h.
Introduction to filmmaking; how to shoot and edit short works of cinematic art; exposure to various working methods including nonfiction, fiction, and experimental modes of video production. Corequisites: for CINE:1834—CINE:1601, if not taken as a prerequisite. GE: Engineering Be Creative. Same as THTR:1834.
- CINE:2195 Individual Study** arr.
arr.
- CINE:2198 Honors Tutorial** arr.
arr.
- CINE:2199 Honors Project II** 3 s.h.
Completion of honors project, working with a designated cinematic arts faculty member; content varies depending on specific projects proposed by the student, approved by the faculty member, in consultation with the director of undergraduate studies and any additional cinematic arts faculty members relevant to the project. Prerequisites: CINE:2198. Requirements: standards met for honors in the major for the B.A. in cinema.
- CINE:2200 Film/Video Production: The Business of Filmmaking** 3 s.h.
Introduction to business-related arts production techniques and strategies; budgeting and basic accounting skills, grant writing, project conceptualization and planning, film producing and location scouting, distribution models, film festival submission, project summation.
- CINE:2615 Introduction to Film Theory** 3 s.h.
Classical film theory—formalist and realist theories, authorship, genre; contemporary film theory—semiotics, feminism, psychoanalysis, ideological criticism, postmodernism, queer theory.
- CINE:2620 U.S. Film** 3 s.h.
American film industry; social and artistic perspectives.
- CINE:2622 Introduction to World Film** 3 s.h.
Introduction to key movements, figures, and topics in international cinema.
- CINE:2623 Introduction to Documentary Film** 3 s.h.
Introduction to key issues and topics in the history and practice of nonfiction filmmaking.
- CINE:2627 Film Club** 1 s.h.
Theme-based film program comprising a weekly film screening followed by a guided group discussion intended to inspire debate and film literacy.
- CINE:2800 Digital Arts: An Introduction** 3 s.h.
Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.
- CINE:2861 Screenwriting: Short Form** 3 s.h.
Introduction to basic principles of screenwriting; develop, write, and workshop screenplays for short film/video projects including fiction, nonfiction, and experimental work. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2863 Film/Video Production: Film Festival** 3 s.h.
How to run a film festival; management and orchestration of annual Iowa City International Documentary Festival. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2864 Film/Video Production: Alternative Forms** 3 s.h.
Alternative or innovative video/film practices and technologies; varied topics. Prerequisites: INTM:2710 with a minimum grade of C or CINE:1834 with a minimum grade of C. Same as INTM:2864.
- CINE:2865 Film/Video Production: Material of 16mm Filmmaking** 3 s.h.
Individual and small-group work to create projects using 16mm filmmaking techniques including camera operation, editing, lighting, and sound production; intermediate production course. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2866 Film/Video Production: Nonfiction** 3 s.h.
Individual and small group work to create video projects using nonfiction filmmaking techniques, from camera and lighting to postproduction. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2867 Screenwriting: Long Form** 3 s.h.
Introduction to basic principles of screenwriting; develop, write, and workshop screenplays for longer form film/video projects including fiction, nonfiction, and experimental work. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2868 Film/Video Production: Fiction** 3 s.h.
Individual and small group work to create video projects using fiction filmmaking techniques, from camera and lighting to postproduction. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2869 Introduction to Intermedia** 3 s.h.
Interdisciplinary focus; emphasis on conceptual, installation, video, time-based media, performance art. Prerequisites: (ARTS:1510 and ARTS:1520) or CINE:1834. Requirements: for CINE:2869—grade of C or higher in CINE:1834. Same as INTM:2710.
- CINE:3195 Undergraduate Seminar** 3 s.h.
Focus on a significant text or critical problem. Requirements: cinema major, and junior or senior standing.

CINE:3750 Topics in Cinema and Culture 3 s.h.

One or more national cinemas in relation to social, historical, and cultural contexts. Prerequisites: CINE:1601.

CINE:3876 Video for Performance 3 s.h.

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:3890 or CINE:1834 or CINE:1834. GE: Engineering Be Creative. Same as DANC:3876, INTM:3876, THTR:3876.

CINE:3877 Advanced Screenwriting: Short Form 4 s.h.

Developing, writing, and workshoping screenplays for short film/video projects including fiction, nonfiction, and experimental work; introduction to preproduction activities; exercises and journal assignments. Prerequisites: CINE:2861 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2867 with a minimum grade of C or CINE:2868 with a minimum grade of C.

CINE:3878 Film and Media Practicum 1 s.h.

Research and production-oriented film and media practicum; individual and small-group work on a single film, video, or media production as determined by instructor; independent library and web-based research, group presentations, readings. Requirements: junior or senior standing.

CINE:4606 Topics in Asian Cinema 3 s.h.

Issues or topics in East or South Asian cinemas. Prerequisites: CINE:1601. Same as ASIA:4606.

CINE:4608 Topics in Documentary Film 3 s.h.

A period, type, or concern of nonfiction filmmaking. Prerequisites: CINE:1601.

CINE:4618 Topics in World Cinemas 3 s.h.

Issues in international film history and film theory. Prerequisites: CINE:1601.

CINE:4620 Topics in Film Form, Style, and Theory 3 s.h.

Special issues and topics relevant to film form, style, and/or theory. Prerequisites: CINE:1601.

CINE:4678 Topics in Latin American Cinema 3 s.h.

Taught in English. Prerequisites: CINE:1601. Requirements: one Spanish literature or culture course numbered above SPAN:3200 or one film studies course. Same as LAS:4678, SPAN:4810.

CINE:4821 Film/Video Production: Selected Topics 4 s.h.

Exploration of a particular genre, issue, or process; varied topics; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C or CINE:4862 with a minimum grade of C.

CINE:4825 Digital Production: Animation 4 s.h.

Intermediate 3-D modeling, motion graphics; student projects culminating in CDR or video presentation. Prerequisites: CINE:1834 with a minimum grade of C.

CINE:4836 Advanced Screenwriting: Long Form 4 s.h.

Write a feature screenplay (105-115 pages) within the industry standard contract guidelines for independent and studio projects; completion of outline, beat sheet, treatment, first draft; one rewrite. Prerequisites: CINE:2861 with a minimum grade of C or CINE:2867 with a minimum grade of C.

CINE:4841 Film/Video Production: Sound Design 4 s.h.

Exploration of sound design for film and video, from recording to editing and mixing; individual work on several audio and video projects. Prerequisites: CINE:4843 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:4862 with a minimum grade of C or CINE:4845 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:4864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2864 with a minimum grade of C or CINE:4821 with a minimum grade of C.

CINE:4843 Film/Video Production: Image Design 4 s.h.

Lighting strategies and techniques, camera work, composition, and postproduction; individual work on several video projects. Prerequisites: CINE:2863 with a minimum grade of C or CINE:2864 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or THTR:3876 with a minimum grade of C.

CINE:4845 Film/Video Production: Editing 4 s.h.

Development of editing techniques and strategies; editing for impact, mood, story; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or THTR:3876 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4862 with a minimum grade of C.

CINE:4862 Film/Video Production: Advanced Video 4 s.h.

Expanded narrative or nonfiction/documentary topics; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or THTR:3876 with a minimum grade of C or CINE:4821 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C.

CINE:4864 Film Production: Advanced 16mm 4 s.h.

Processes and approaches to short 16mm film; advanced cameras; sync-sound techniques; individual work on several projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2865 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or THTR:3876 with a minimum grade of C or CINE:4821 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C or CINE:4862 with a minimum grade of C.

CINE:4890 Media Production Workshop 4 s.h.

Development, production, and realization of a self-directed project; methods and projects may include film, video, screenwriting, or hybrid forms. Prerequisites: THTR:3876 with a minimum grade of B- or CINE:4821 with a minimum grade of B- or CINE:4841 with a minimum grade of B- or CINE:4843 with a minimum grade of B- or CINE:4845 with a minimum grade of B- or CINE:4862 with a minimum grade of B- or CINE:4864 with a minimum grade of B-. Requirements: submission and acceptance of written proposal by deadline.

CINE:5673 Advanced Film Theory 3 s.h.

A major figure, issue, or approach in film theory.

CINE:5675 Advanced Film History 3 s.h.

A major period or topic in film history; issues in film historiography, research.

CINE:5677 Studies in Sound and Image 3 s.h.

Theoretical and historical approaches to film sound, technology, style.

CINE:5890 Colloquium in Film and Video Production 4 s.h.

Projects and critical studies; focus on varied topics including process and theoretical issues; workshop, readings, production. Recommendations: previous experience with video production; prior cinema courses or filmmaking experience helpful, but not required.

CINE:6605 Special Topics in European Film 3 s.h.

Key issues, movements, periods, or figures in European film.

CINE:6635 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

CINE:6992 Individual Study arr.

Opportunity for prearranged independent study with faculty. Requirements: M.A., M.F.A., or Ph.D. candidate in cinematic arts.

CINE:7615 Seminar: Film Theory 3 s.h.

A major figure, issue, or approach in film theory.

CINE:7616 Seminar: Film History 3 s.h.

A major period or topic in film history; issues in film historiography, research.

CINE:7992 Thesis arr.

Cinema, B.A.

Learning Outcomes

Cinema graduates will be able to:

- develop a broad proficiency in cinematic creativity (in areas such as editing, cinematography, screenwriting, sound design, animation) as well as the business of filmmaking, while emphasizing their own expressive vision;
- display an understanding of preproduction, production, and postproduction in the filmmaking process; succinctly describe, pitch, and reflect on their own filmmaking practice; benefit from having assessed and evaluated their own and their peers' films in workshops that emphasize constructive critique;
- speak confidently, read critically, and research and write persuasively about the history and theory of cinema as a multifaceted medium with artistic, educational, and cultural implications;
- recognize and critically evaluate the variety of film styles and practices from historical and contemporary, as well as international perspectives;
- demonstrate the mutually beneficial skills developed across film production and film studies courses by making films informed by film studies and by writing essays informed by filmmaking;
- display critical thinking about the relationship between form and content in moving images;
- be in a position to apply this knowledge and skills to a range of 21st-century careers permeated by media production, whether in the film and culture industries, media, arts, and marketing professions, or higher education and other related areas; and
- understand and use cinema as a powerful tool for learning about the world and creating positive change as an engaged global citizen.

Overview

The major in cinema prepares students as engaged participants in the ever-changing media environment by offering them the conceptual and practical tools for analyzing and creating films informed by a dialogue between film studies and film production. Students build a comprehensive knowledge of motion pictures across topics ranging from studies courses focused on major film movements, directors, and critical debates in the history and theory of cinema, and production courses focused on narrative, documentary, and experimental films, using 16mm and digital technologies.

Requirements

The Bachelor of Arts with a major in cinema requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. A maximum of 9 s.h. of transfer credit may be counted toward the cinema major. Students may count a maximum of 6 s.h. of course work from another major, minor, or certificate toward the major in cinema.

The major in cinema is an individualized, interdisciplinary study of film and the production of creative work in film, video, and interactive multimedia. It is designed to promote

cultural and artistic awareness, to increase speaking and writing skills, and to develop capacities for systematic reasoning and effective production in cinema arts.

All students are expected to gain a perspective on the study and the production of film, video, or digital media while becoming acquainted with the historical, critical, and theoretical issues of the area. In conjunction with an appropriate overall curriculum, the major in cinema can offer effective preparation for continuing study or creative work in the humanities, arts, and cinema; provide a solid foundation for careers in film, video, television, and digital production; and lead to careers in arts administration, advertising, and business.

The course CINE:1834 Modes of Film and Video Production is the only production course required for the major. Students may use more advanced production courses to complete the major, but admission to these courses is limited and depends on the student's achievement in prerequisite production courses.

The B.A. with a major in cinema requires the following course work.

Code	Title	Hours
Core Courses		13
Elective Courses		20
Total Hours		33

Core Courses

Code	Title	Hours
All of these:		
CINE:1601	Introduction to Film Analysis	3
CINE:1834	Modes of Film and Video Production	4
CINE:2615	Introduction to Film Theory	3
CINE:3195	Undergraduate Seminar	3

Elective Courses

An additional 20 s.h. in elective cinematic arts (prefix CINE) course work is required. From the 20 s.h., students must select at least 6 s.h. in advanced film studies courses. Courses CINE:1100 The Art of Smartphone Filmmaking and CINE:1200 Screenwriting Fundamentals will not count toward the 20 s.h. of required elective credit.

Advanced Film Studies Courses

Advanced film studies courses may be selected from the following.

Code	Title	Hours
At least 6 s.h. from these:		
CINE:3750	Topics in Cinema and Culture	3
CINE:4606	Topics in Asian Cinema	3
CINE:4608	Topics in Documentary Film	3
CINE:4618	Topics in World Cinemas	3
CINE:4620	Topics in Film Form, Style, and Theory	3
CINE:4678	Topics in Latin American Cinema	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all UI course work and a cumulative g.p.a. of at least 3.50 in all cinematic arts course work. Once a student has earned 75 s.h., a student submits a written proposal for a honors thesis or production project. The proposal must be approved by the faculty member who heads the student's honors thesis/project committee; the committee must be composed of at least two faculty members from the Department of Cinematic Arts. For more specific honors thesis/project requirements in the cinema major, contact the Department of Cinematic Arts.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the cinema major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Students must take CINE:1601 Introduction to Film Analysis before or with CINE:1834 Modes of Film and Video Production.

Before the fifth semester begins: at least two courses in the major, including CINE:1601 Introduction to Film Analysis and CINE:1834 Modes of Film and Video Production

Before the seventh semester begins: at least five more courses in the major (total of seven), including CINE:2615 Introduction to Film Theory, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least three more courses in the major preferably including CINE:3195 Undergraduate Seminar

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Cinema, B.A.

Course	Title	Hours
First Year		
Fall		
CINE:1601	Introduction to Film Analysis	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^{a, b}		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
CINE:1834	Modes of Film and Video Production	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2
Hours		16-18
Second Year		
Fall		
Major or elective course ^{d, e}		3
GE CLAS Core: Literary, Visual, and Performing Arts ^{b, f}		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-17
Spring		
CINE:2615	Introduction to Film Theory	3
Elective course ^d		3
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2
Hours		16-17
Third Year		
Fall		
Major: cinema course ^e		3 - 4
Major: cinema course (advanced film studies) ^e		3
Elective course ^d		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: Historical Perspectives ^b		3
Hours		15-16
Spring		
Major: cinema course ^e		3 - 4
Major: cinema course (advanced film studies) ^e		3
GE CLAS Core: Social Sciences ^b		3
Elective course ^d		3
Elective course ^d		3
Hours		15-16

Fourth Year**Fall**

CINE:3195	Undergraduate Seminar	3
Major: cinema course ^e		3 - 4
Elective course ^d		3
Elective course ^d		3
GE CLAS Core: International and Global Issues ^b		3
Hours		15-16

Spring

Major: cinema course (elective course if cinema hours are complete) ^e		3 - 4
Major: cinema course (elective course if cinema hours are complete) ^e		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15-16
Total Hours		123-133

- a CINE:1625 fulfills the GE CLAS Core Diversity and Inclusion requirement and also counts as semester hours towards the Cinema requirements.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e CINE:1100 and CINE:1200 will not count toward the 20 s.h. of required elective cinematic arts credit.
- f Options include CINE:1602 and CINE:1610.

Career Advancement

Because the film and television industries include a wide array of jobs, the cinema degree is not a direct track to any one specific career, but it does provide a solid foundation for entry into this field.

University of Iowa graduates have found work on sets in Hollywood and New York as location managers, editors, camera assistants, writers, producer's assistants, location managers, casting agents, and more. Graduates also have found work in San Francisco, Chicago, Milwaukee, Seattle and many other cities, with jobs in distribution, programming, documentary research, and education, among others.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Cinema, Minor

The undergraduate minor in cinema requires a minimum of 15 s.h. Students must take CINE:1601 Introduction to Film Analysis and earn an additional 12 s.h. in courses numbered CINE:1620 or above. Transfer credit is not accepted toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Film Studies, M.A.

Requirements

The Master of Arts program in film studies requires 36 s.h. of graduate credit, of which 24 s.h. must be earned at the University of Iowa. Students must earn a minimum g.p.a. of 3.25. The 36 s.h. are typically acquired by taking 12 graduate-level courses that span two years. The program's focus is on advanced film theory and film history in an international context, with required distributions of course work in U.S. cinema, European cinema, world cinemas, and at least one of the following areas: film production, documentary film, animation, or experimental film.

Students meet formal degree requirements through course work and a written examination in their second year on key areas within film theory and film history, followed by an oral examination.

The M.A. with a major in film studies requires the following course work.

Code	Title	Hours
Core Requirements		
Both of these:		
CINE:5673	Advanced Film Theory	3
CINE:5675	Advanced Film History	3

Distribution Requirements

Students earn 2 s.h. in each of the following four areas:

U.S. cinema	2
European cinema	2
World cinemas	2
Production, documentary, animation, or experimental film	2

Language Study

Up to 6 s.h. in languages and literatures courses numbered 3000 or above in an area other than English

Students should consult their advisor for additional requirements. More information on the program is available on the Department of Cinematic Arts website.

Admission

A faculty committee chaired by the head of film studies evaluates applications to the M.A. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, a writing sample, three letters of recommendation, test scores, and samples of creative work when relevant. Admission decisions are based on the full range of an applicant's accomplishments and evidence that the applicant will fit the elements of the program and will thrive in the department.

Previous experience in the area of film studies is desirable but not required. Applicants usually enter the M.A. program with a B.A. in film studies or an M.A. in an unrelated field.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

Career Advancement

The Master of Arts degree typically prepares students for continued, advanced graduate work in film studies at the University of Iowa or elsewhere. However, students also have used their M.A. training in film theory and history to seek careers in other areas, including film criticism or positions at film archives or film festivals, or within various facets of the film industry.

The Graduate College also is prepared to help graduates explore careers related to or that build upon their training. In conjunction with the Graduate College, the Department of Cinematic Arts also is committed to helping graduate students explore a range of alternative careers that take advantage of their specific training. In addition, the Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Film and Video Production, M.F.A.

Requirements

The Master of Fine Arts program in film and video production requires 54 s.h. of graduate credit, 24 of which must be earned at the University of Iowa. Students must earn a minimum g.p.a. of 3.00. Graduate credit is typically acquired through advanced production courses, graduate colloquia, and advising-centered thesis courses taken over three years. With a focus on expanded documentary, experimental, hybrid, and narrative media forms, the curriculum combines creative and scholarly course work with the aim of producing a body of innovative, artistic work in film, digital media, multimedia installation, and/or animation. Degree requirements include advanced course work in film/media theory or history, annual public presentations and critiques, the development of an artist statement, a thesis paper, and a creative thesis project.

The M.F.A. with a major in film and video production requires the following course work.

Code	Title	Hours
Required Courses (taken before thesis clearance)		
All of these:		
CINE:4890	Media Production Workshop	4
CINE:5890	Colloquium in Film and Video Production	4
Advanced production courses		9-12
Two mid-level graduate courses in film theory/history		6
Two courses from related areas outside the Department of Cinematic Arts		6
Electives		2-5
Required Courses (taken after thesis clearance)		
All of these:		
M.F.A. thesis project		12
Additional electives		6

Students should consult their advisor for specific information related to M.F.A. requirements.

Admission

A faculty committee chaired by the head of film and video production evaluates applications to the M.F.A. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, three letters of recommendation, samples of creative work, test scores, and writing samples when relevant. Admission decisions are based on the full range of an applicant's accomplishments and evidence that the applicant will thrive in the department's program. Previous academic experience in moving image production is desirable but not required.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

Career Advancement

The film and video production program has a remarkable job placement record, with graduates located in faculty positions at major research universities and prestigious liberal arts colleges throughout the world. Through their creative work and published research, graduates are visible and productive contributors to film and video production and related disciplines.

Within the program, faculty mentor students toward professional careers by supervising their development as both innovative moving-image makers and scholars. Regular one-on-one advising sessions, group critiques, workshops on topics such as film festival submissions, job interviews, and related topics prepare students for academic and artistic careers. Students also are regularly advised on applying for grants and awards to facilitate their advanced research, whether conducted in Iowa or elsewhere.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Film Studies, Ph.D.

Requirements

The Doctor of Philosophy program in film studies requires a minimum of 72 s.h. of graduate credit, of which 39 s.h. must be earned at the University of Iowa after a student has received their M.A. degree. Semester hours are earned through course work, and eventually work focused on the completion of a dissertation. Students must earn a minimum g.p.a. of 3.25.

The program's course work is broadly concentrated in film history and film theory, with specific courses offered on a wide range of topics. With the regular consultation and guidance of a faculty advisor and committee, students formulate and pursue a plan of study during their first year in the program, prepare and conduct a written and oral comprehensive examination typically in their second or third year, write and present a dissertation prospectus to a carefully selected committee, and complete a dissertation in an area of advanced, original research that is defended orally in a meeting with the student's committee prior to final deposit. A detailed summary of the requirements for the Ph.D. in film studies is available on the Department of Cinematic Arts website.

The Ph.D. with a major in film studies requires the following course work.

Code	Title	Hours
Core Requirements		
The following courses must be taken at the University of Iowa:		
CINE:5673	Advanced Film Theory (taken twice)	3
CINE:5675	Advanced Film History (taken twice)	3
CINE:7615 or CINE:7616	Seminar: Film Theory Seminar: Film History	3
CINE:7992	Thesis	4
Seminar course numbered 7000 or above		
Distribution Requirements		
Students earn 2 s.h. in each of the following four areas:		
U.S. cinema		2
European cinema		2
World cinemas		2
Production, documentary, animation, or experimental film		2

Students also are required to participate in one year of supervised teaching or in independent research. They should consult their advisor for additional requirements.

Admission

A faculty committee chaired by the head of film studies evaluates applications to the Ph.D. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, a writing sample, three letters of recommendation, test scores, and samples of creative work when relevant. Admission decisions are based on the full range of an applicant's accomplishments and

evidence that the applicant will fit the elements of the program and thrive in the department.

Previous experience in the area of film studies is desirable but not required. Applicants usually enter the program with a B.A. in film studies, an M.A. in film studies from the University of Iowa, or an M.A. in an unrelated field.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

Career Advancement

The Ph.D. program in film studies has an impressive job placement record, with graduates located in faculty positions at major research universities and prestigious liberal arts colleges throughout the world. Graduates are, through their published research, visible and productive contributors to film studies and related disciplines, and many have served in leadership positions within professional organizations such as the Society for Cinema and Media Studies.

Within the program, faculty mentor students toward professional careers by supervising their development as both effective teachers and scholars. Regular workshops offered on topics such as journal and conference submissions, job interviews, and related topics help prepare students for careers within and beyond academia. Students also are regularly advised on applying for grants and awards to facilitate their advanced research, whether conducted in Iowa or elsewhere.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Classics

Chair

- Craig A. Gibson

Undergraduate majors: ancient civilization (B.A.); classical languages (B.A.)

Undergraduate minors: ancient civilization; classical languages; Greek; health and the human condition; Latin

Postbaccalaureate certificate: classics

Graduate degrees: M.A. in classics; M.A. in Greek; M.A. in Latin; Ph.D. in classics

Faculty: <https://clas.uiowa.edu/classics/people/faculty>

Website: <https://clas.uiowa.edu/classics/>

Classics is the study of ancient languages, literatures, and cultures of the Mediterranean basin from approximately 2000 B.C.E. to 800 C.E. It embraces three civilizations—the Minoan-Mycenaean, Greek, and Roman; two languages—Greek and Latin; and a geographical area including Europe, North Africa, Egypt, and the Near East. The Department of Classics provides a basis for understanding and interpreting the contribution of the ancient world to life in the present and the future.

The department offers a substantial selection of courses taught in English at the undergraduate and graduate levels; several are approved for the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Undergraduates in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in Greek, Latin, or Sanskrit; see "Language for GE CLAS Core" below. The department's First-Year Seminar introduces entering undergraduates to classics.

The Department of Classics also administers the interdisciplinary minor in health and the human condition for undergraduates.

Language for GE CLAS Core

The Department of Classics offers course sequences in Greek, Latin, and Sanskrit that students in all majors may use to fulfill the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students who have had previous course work or other experience with Greek or Latin should take the appropriate language placement test, which helps determine the level at which a student should begin Greek or Latin language study at the University of Iowa.

Students with previous knowledge of Sanskrit should consult the department about appropriate placement.

Greek

Students who wish to fulfill the GE CLAS Core World Languages requirement with Greek should complete the following sequence.

Code	Title	Hours
CLSG:1001	Classical and New Testament Greek I	3,5
CLSG:1002	Classical and New Testament Greek II	3,5
CLSG:2001	Second-Year Greek I	3
CLSG:2002	Second-Year Greek II	3

Latin

Students who wish to fulfill the GE CLAS Core World Languages requirement with Latin should complete the following sequence.

Code	Title	Hours
CLSL:1001	Elementary Latin I	3,5
CLSL:1002	Elementary Latin II	3,5
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

Sanskrit

Students who wish to fulfill the GE CLAS Core World Languages requirement with Sanskrit should complete the following sequence.

Code	Title	Hours
CLSA:2901	First-Year Sanskrit: First Semester	4
CLSA:2902	First-Year Sanskrit: Second Semester	4
CLSA:3901	Second-Year Sanskrit: First Semester	3
CLSA:3902	Second-Year Sanskrit: Second Semester	3

Programs

Undergraduate Programs of Study

Majors

- Major in Ancient Civilization (Bachelor of Arts) [p. 211]
- Major in Classical Languages (Bachelor of Arts) [p. 218]

Minors

- Minor in Ancient Civilization [p. 221]
- Minor in Classical Languages [p. 222]
- Minor in Greek [p. 223]
- Minor in Health and the Human Condition [p. 224]
- Minor in Latin [p. 225]

Postbaccalaureate Program of Study

Certificate

- Certificate in Classics [p. 226]

Graduate Programs of Study

Majors

- Master of Arts in Classics [p. 227]
- Master of Arts in Greek [p. 228]
- Master of Arts in Latin [p. 229]
- Doctor of Philosophy in Classics [p. 230]

Facilities

University of Iowa Libraries' Main Library and the Art Library house extensive collections of classical texts and uninterrupted runs of classical periodicals from 1850 that

facilitate research in the major areas of Greek and Roman civilization. The Department of Classics has a varied collection of slides on classical subjects and a small library of reference works, texts, and issues of classical and archaeological journals. The department's classical museum contains a small collection of coins, vases, and facsimiles in bronze from Mycenae, Pompeii, and Herculaneum periods.

The University is a supporting institution of the American School of Classical Studies at Athens, the American Academy in Rome, and the Intercollegiate Center for Classical Studies in Rome. Consult the director of undergraduate studies for more information.

The department offers students the opportunity to participate in an archaeological dig during the summer. Contact the Department of Classics in mid-February for details.

Courses

- Classics: Ancient Civilizations Courses [p. 204]
- Greek Courses [p. 208]
- Latin Courses [p. 209]

Classics: Ancient Civilizations Courses

All readings for these courses are in English; previous knowledge of Greek or Latin is not required.

CLSA:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

CLSA:1010 Hero, God, Mortal: Literature of Greece 3 s.h.

Ancient Greek literature and culture as it responded to Homer; may include genre (e.g., epic to tragedy), religion, changing concept of hero, interaction with Mediterranean cultures, myth versus history. GE: Literary, Visual, and Performing Arts.

CLSA:1020 Love and Glory: The Literature of Rome 3 s.h.

Main themes and works of ancient Roman literature; works reflecting conflict of personal desire and public self in Rome. GE: Literary, Visual, and Performing Arts.

CLSA:1040 Major Texts of World Literature, Antiquity to 1700 3 s.h.

Reading and analysis of major literary texts from writing's origins to 1700 in the Mediterranean, Asia, and Africa; interrelationship of literature and history. GE: Literary, Visual, and Performing Arts. Same as CL:1240.

CLSA:1045 Classics and Young Adult Fantasy Fiction 3 s.h.

Survey of young adult fantasy fiction influenced by classical (Greek and Roman) stories, plots, characters, names, events, and places.

CLSA:1100 Contraception Across Time and Cultures 3 s.h.

Methods and history of contraception and abortion; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Same as GHS:1100, GRMN:1100, GWSS:1100, WLLC:1100.

CLSA:1117 Intrigue and Command in Ancient Rome: From Julius Caesar to Nero 3 s.h.

Introduction to history, politics, and personalities of the first Caesars, the Julio-Claudians (Julius Caesar, Augustus, Tiberius, Caligula, Claudius, Nero); conditions of Roman social and political system that led to the Caesars; character of each emperor and changes each brought about in that system; primary and secondary sources.

CLSA:1181 Ancient Medicine 3 s.h.

Thematic examination of theories and practices of Greco-Roman physicians, which in turn became the medical tradition of medieval Islamic world and European medicine until mid-19th century; historical medical terms, theories, and practices. GE: Historical Perspectives. Same as GHS:1181.

CLSA:1323 Life in the Biblical World 3 s.h.

Examination of world depicted in Old and New Testaments of the Bible; archaeological evidence, ancient art, historical accounts, geography, and Bible text used to examine background of biblical text, shedding light on different aspects of daily life in antiquity from different points of view from Late Bronze Age through Roman period. Same as RELS:1323.

CLSA:1340 Magic in the Ancient World 3 s.h.

Ancient Greek and Roman writings on magic, including ancient spells and charms. GE: Values and Culture.

CLSA:1740 Writing Strategies: Word Origins and Word Choice 3 s.h.

Study of words, their meanings, and their origins combined with writing; words and word histories; role of English language in the world. GE: Literary, Visual, and Performing Arts. Same as WRIT:1740.

CLSA:1805 Legends and Heroes of Ancient Rome 1 s.h.

Introduction to narratives of Roman heroes from Livy, Ovid, and Plutarch; background information for further study in classics.

CLSA:1809 Classics and Cinema 3 s.h.

Cinematic depictions of the classical world compared with scholarly views; selected films and primary ancient sources of the same period.

CLSA:1830 Greek Civilization 3 s.h.

History, literature, art, architecture, religion, social life ca. 3000 B.C.E. to second century B.C.E. GE: Historical Perspectives.

CLSA:1840 Roman Civilization 3 s.h.

History, literature, politics, religion, social structure from eighth century B.C.E. to second century C.E. GE: Historical Perspectives.

CLSA:1875 Ancient Sports and Leisure 3 s.h.

Sports, games, and hobbies in the ancient world, primarily Greece and Rome, 1500 B.C.E. to 500 C.E.; ancient Olympic games, Roman festival games; anthropology of sport. GE: Values and Culture.

CLSA:1883 War 3 s.h.

Emotions soldiers have as they fight, what makes them continue voluntarily to face death, and how modern society memorializes these experiences; how literature and art transform the experience of war; human responses to war in Homer's *Iliad* and select Greek tragedies. GE: Values and Culture. Same as HONR:1883.

CLSA:2016 Classical Mythology 3 s.h.

Ancient Greek and Roman myths, their interpretation by Western civilization; emphasis on flexibility of myth and its importance for art, literature, anthropological, psychological studies. GE: Literary, Visual, and Performing Arts; Values and Culture.

CLSA:2018 Odysseus: The Image of a Trickster Hero in Literature and Film 3 s.h.

How the figure of Odysseus has long intrigued the West as glorified seeker of truth or damned treacherous deceiver; representations of hero by authors that include Greek tragedians, Virgil, Dante, Alfred Lord Tennyson, Margaret Atwood, and others with a point of departure from Homer's Odysseus; survey of Odysseus's depictions throughout the centuries to understand the fascination his character held, and continues to hold, over classical and modern writers; selected adaptations of Odysseus' adventures in art and contemporary cinema to understand the exuberance of the mythical hero.

CLSA:2048 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

CLSA:2127 Global Manuscript Cultures 3 s.h.

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. GE: Historical Perspectives. Same as JPNS:2127.

CLSA:2151 Roman Law, Order, and Crime 3 s.h.

Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Same as HIST:2431.

CLSA:2178 Training the Citizen: Philosophy as a Civic Virtue 3 s.h.

Practices of self-care from a variety of ancient Greco-Roman authors; practice of philosophy; opportunity to publicly engage with elementary students as mentors; readings and writing assignments focus on primary questions (What do ancient philosophers mean by "caring for yourself"? What are the purposes of philosophical self-care?); why it is more accurate to call ancient philosophy a way of life than a study; why Greek and Roman religious beliefs are inseparable from philosophy; what metaphors dominate and guide philosophical inquiry.

CLSA:2226 Introduction to Ancient Art 3 s.h.

Art and architecture of the Mediterranean world (ca. 3500 B.C.E.) to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. Same as ARTH:2320.

CLSA:2330 Introduction to Egyptian and Ancient Near Eastern Art 3 s.h.

Art and architecture of Egypt and the Near East (ca. 3500 B.C.E.) to advent of Islam; Egyptian, Sumerian, Assyrian, Babylonian, and Persian cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as ARTH:2330.

CLSA:2340 Introduction to Greek and Roman Art 3 s.h.

Art and architecture of Greece and Rome (ca. 3000 B.C.E.) to death of Constantine (337 C.E.); Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as ARTH:2340.

CLSA:2420 Jesus and the Gospels 3 s.h.

How Jesus was depicted in the writings of the early church; reasons for the different portrayals. Same as RELS:2320.

CLSA:2425 Messianic and Apocalyptic Prophecy in the Bible 3 s.h.

Literary, historical, and theological analysis of biblical prophecies and their impact. Same as RELS:2225.

CLSA:2461 Middle East and Mediterranean: Alexander to Suleiman 3 s.h.

GE: Historical Perspectives. Same as HIST:2461, RELS:2361.

CLSA:2482 Ancient Mediterranean Religions 3 s.h.

Introduction to major religious traditions of ancient Mediterranean world; Mesopotamia, the Levant (Hebrew Bible), Egypt, Greece, and Rome; central aspects of mythology, ritual, and archaeology, individually and in comparative perspective; ancient Judaism and Christianity considered in their various cultural contexts; basic concepts for understanding cultural exchange; fundamental theories in the study of religion. GE: Values and Culture. Same as RELS:2182.

CLSA:2489 Jerusalem: The Holy City 3 s.h.

Religious, political, and cultural history of Jerusalem over three millennia as a symbolic focus of three faiths—Judaism, Christianity, and Islam; integration of several digital learning technologies, including digital reconstructions and Google Earth tours of Jerusalem. Same as RELS:2289.

CLSA:2552 Atheism, Agnosticism, and Religion 3 s.h.

History and analysis of religious skepticism in Western culture from the classical period through modern times. Same as RELS:2552.

CLSA:2651 Gender and Sexuality in the Ancient World 3 s.h.

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of GE CLAS Core Rhetoric and sophomore standing. GE: Values and Culture. Same as GWSS:2651.

CLSA:2800 Race and Marginality in the Ancient World 3 s.h.

Exploration of the history of race and ethnicity in the ancient world; how people were defined, stereotyped, and outcast by Greeks and Roman culture.

CLSA:2901 First-Year Sanskrit: First Semester 4 s.h.

Grammar, basic vocabulary; elementary readings. Offered fall semesters of even years. Requirements: undergraduate standing. GE: World Languages First Level Proficiency. Same as SOAS:2901.

CLSA:2902 First-Year Sanskrit: Second Semester 4 s.h.

Readings in epic and story literature. Offered spring semesters of odd years. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency. Same as SOAS:2902.

CLSA:2913 Leadership in Greco-Roman Antiquity 3 s.h.

Introduction to ancient Greek and Roman approaches to leadership, specifically political, military, and household; identification of Greek and Roman theories and practices of leadership to strengthen understanding of leadership; examination of self-leadership through reflection on Greco-Roman ideals of self-control, justice, and ethics; aspects of group leadership, such as the balance between social hierarchy and teamwork as well as group decision making.

CLSA:3020 Doctors and Patients: A Global History 3 s.h.

How medicine increasingly requires that physicians consider subjective experience of patients inside health care system; what it means to be the object of medical treatment; exploration of global historical experience of diseased body within health care systems from antiquity to modern world using texts from doctors and patients; interaction between roles of doctor and patient—two individuals at center of health care literature. Requirements: completion of GE CLAS Core Rhetoric.

CLSA:3127 Global Manuscript Cultures 3 s.h.

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. Same as JPNS:3127.

CLSA:3227 Classical Greek Art 3 s.h.

Art, sacred architecture from early Classical through late fourth century B.C.E.; Athens in the Golden Age. Same as ARTH:3330.

CLSA:3232 Art of Early Rome: Patrons and Politics 3 s.h.

Examination of architecture, sculpture, and painting in central Italy from c. 800 B.C. to the end of the Roman Republic in 27 B.C.; art in the service of social ideology and political propaganda; funerary art and its relationship to the living; artistic interactions between Etruria, Greece, and Rome. Same as ARTH:3350.

CLSA:3233 Art of the Ancient Roman Empire 3 s.h.

Major developments in architecture, sculpture, and painting from the ascension of Augustus to sole ruler in 31 B.C. to the death of Constantine in A.D. 337; influence of individual emperors on the development of artistic forms; relationship between public and private art; interdependency of Rome and the provinces. Same as ARTH:3360.

CLSA:3234 Houses, Brothels, and Tombs: Life and Death in Ancient Pompeii 3 s.h.

Art and architecture, as documents of ancient society and religion in towns destroyed by Mount Vesuvius in C.E. 79. Same as ARTH:3370.

CLSA:3235 Greek Archaeology and Ethnohistory 3 s.h.

Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Same as ANTH:3276.

CLSA:3240 Roman Archaeology 3 s.h.

Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman empire in the West, A.D. 476. Same as ANTH:3277.

CLSA:3247 Banned from the Bible: Pseudepigrapha and Apocrypha 3 s.h.

Introduction to biblical Pseudepigrapha and Apocrypha; writings dating from third century B.C.E. to third century C.E. fictionally attributed to characters in the Hebrew Bible and New Testament, or written as though they originated in the First or Second Temple periods, not included in Jewish or major Christian canons of scripture; English translations of documents from this period; key themes and interpretative techniques common throughout biblical texts that provide tremendous insight into the worlds that produced the Hebrew Bible and New Testament. Same as RELS:3247.

CLSA:3250 Greek Vase Painting 3 s.h.

Greek ceramics as documents of religious beliefs, mythology, and daily life 1000-300 B.C.E. Same as ARTH:3340.

CLSA:3288 Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage arr.

London was a distant outpost of the Roman empire, but the Romans had an outsized influence on Shakespeare's plays and poems; students explore those works and their sources in classical authors, including Ovid and Plutarch. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3288.

CLSA:3380 Ancient Science 3 s.h.

Survey of Greek and Roman scientific practices from Homer to Constantine.

CLSA:3416 Greek Religion and Society 3 s.h.

From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. Same as RELS:3716.

CLSA:3440 Recovering Eden: The Afterlife in Early Judaism and Christianity 3 s.h.

Development of afterlife ideology in Jewish and Christian traditions; ideas that influenced this development, particularly as related to problem of suffering. Same as RELS:3340.

CLSA:3443 Pagans and Christians: The Church from Jesus to Muhammad 3 s.h.

Introduction to history of early Christianity, from time of Jesus to rise of Islam; focus on major movements, intellectuals, institutions in this period; growth of Christianity in different geographical areas including the Middle East, Greece, Western Europe, Africa; Christian relations with Jews, pagans, Muslims; conversion; orthodoxy, heresy, making of biblical canon; martyrdom; women and gender roles; asceticism, monasticism, sexuality; church and state; theological controversy and schisms; cult of saints; the Holy Land and pilgrimage. Same as RELS:3243.

CLSA:3445 Mythology of Otherworldly Journeys 3 s.h.

Examination of mythology of otherworldly journeys from earliest religions to Hellenistic period; historical context; comparison for common themes in their evolution over time; directed readings of mythological texts dealing with otherworldly journeys; ways in which past cultures confronted larger mysteries of life and death. Same as RELS:3245.

CLSA:3514 Roman Religion and Society 3 s.h.

Roman religion of the Republic, from ca. 753 B.C.E. to 44 B.C.E.; highly organized priesthood of politically powerful men and women in religious colleges in Rome who moderated and interpreted city-wide religious practice; how Romans worshipped their gods; Roman theology—what Romans thought about the divine world—and their religious response to crises; evidence from festival calendar, temple architecture, religious art, poetry, inscriptions, plays, and various other texts.

CLSA:3520 Dying for the Promised Land: Martyrdom and Warfare in the Western World 3 s.h.

How martyrdom evokes images of innocents who are killed for their faith and terrorists who commit suicide bombings; how these groups may appear distinct, but share a heritage that relates absolute obedience to God and (often human) sacrifice to conquest and possession of a Promised Land; development of martyrdom ideology and its uses in religious and political conflict in Western history; examination of the Crusades, Reformation, and modern religious and political conflicts beginning with works from the Bible, Greco-Roman culture, and early Jewish and Christian literature. Same as RELS:3520.

CLSA:3524 The Devil in Judaism and Christianity 3 s.h.

While known by many names, the Devil as a central figure in Western religious tradition; surprisingly, how he is not found in earliest texts in the Old Testament; the Devil as embodiment of evil that has his genesis in early Jewish and Christian sectarian conflicts; how he is used as a terrifying dragon or seductive stranger to demonize those perceived as threats to a group's existence; how the Devil is used to explain righteous suffering and create cultural boundaries throughout Western culture, from ancient texts and medieval witch trials to modern cinema and politics. Recommendations: some background in Judeo-Christian tradition. Same as RELS:3524.

CLSA:3596 The Archaeology of Ancient Egypt 3 s.h.

Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Same as ANTH:3275.

CLSA:3742 Word Power: Building English Vocabulary 3 s.h.

Analysis of unfamiliar English words through knowledge of the history and meaning of word parts. Same as WRIT:3742.

CLSA:3743 Word Power II: Building English Vocabulary - Advanced 3 s.h.

Continuation of CLSA:3742; vocabulary building through additional Latin and Greek bases; vocabulary recognition through analysis of Greek and Latin elements of English words; how words change over time. Prerequisites: CLSA:3742.

CLSA:3750 Medical and Technical Terminology 2 s.h.

Memorization of word stems and basic medical terms, practice on computer terminal; no formal classes.

CLSA:3821 City of Athens: Bronze Age to Roman World 3 s.h.

Athens from Bronze Age to end of Roman period; topics include the city's role in development of political democracy and religion, as well as the art and archaeology of the city.

CLSA:3836 Food in Ancient Mediterranean Society 3 s.h.

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as ANTH:3204, HIST:3436.

CLSA:3900 Special Topics in Classics 1-3 s.h.

Examination of a specific topic of interest related to classics.

CLSA:3901 Second-Year Sanskrit: First Semester 3 s.h.

Readings in epic and puranic texts. Offered fall semesters of odd years. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency. Same as SOAS:3901.

CLSA:3902 Second-Year Sanskrit: Second Semester 3 s.h.

The Bhagavad Gita and related religious/philosophical texts. Offered spring semesters of even years. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency. Same as SOAS:3902.

CLSA:3979 Undergraduate Translation Workshop 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CL:3179, ENGL:3850, TRNS:3179.

CLSA:3980 Teaching in the Classics 1,3 s.h.

Instructional approaches and issues in teaching ancient language and civilization at secondary and college levels. Prerequisites: CLSG:1002 or CLSL:1002.

CLSA:3982 Graduation Portfolio 0 s.h.

Submission of final graduation portfolio required for classical languages and ancient civilization majors. Requirements: classical languages or ancient civilization major, and senior standing.

CLSA:4085 Postbaccalaureate Seminar 0 s.h.

Current work of postbaccalaureate students; preparation of writing sample and portfolio. Requirements: postbaccalaureate certificate enrollment.

CLSA:4090 Private Assignments arr.

Readings in classical literature in translation.

CLSA:4095 Honors Readings arr.

Discussion, readings, research for a paper on ancient civilization. Requirements: ancient civilization major.

CLSA:4101 Ancient Egypt and the Ancient Near East 3 s.h.

Same as HIST:4401.

CLSA:4106 Warfare in Ancient Mediterranean Society 3 s.h.
Same as HIST:4406.

CLSA:4131 Digital Archaeological Modeling 1-3 s.h.
Introduction to foundational theory, methodology, programming skills, and conceptual understanding necessary to model remains and reconstructions of archaeological sites in various three-dimensional digital modeling environments. Recommendations: background in archaeology. Same as RELS:4124.

CLSA:4181 History of Western Medicine 3 s.h.
Development and systematization of medical thought and practice in European Middle Ages from late antiquity to Renaissance; transmission of ancient Greek and Arabic medieval thought into Latin; rise of hospitals; development of medical schools; influence of Christianity; special attention to university curricula (e.g., Articella, anatomy, semiotics, prognosis, therapeutics).

CLSA:4400 The Roman Empire 3 s.h.
History of Roman empire from assassination of Julius Caesar through 5th century A.D.; political, economic, cultural, and social developments from the transition to imperial power to the shift of power from west to east. Same as HIST:4400.

CLSA:4403 Alexander the Great 3 s.h.
History of Alexander the Great and the generals who succeeded him in ruling the lands he conquered; military, political, and social history. Same as HIST:4403.

CLSA:4452 The Dead Sea Scrolls 3 s.h.
Introduction to the Dead Sea Scrolls; reading of the scrolls in English translation; examination of Qumran site archaeology; survey of broader sociopolitical context of Second Temple Judaism (586 B.C.E. to 135 C.E.) out of which the scrolls emerged. Same as RELS:4352.

CLSA:4501 Archaeological Methodology and Field Research 3 s.h.
Beginning skills in archaeological site surveying and excavation, lab work, record keeping, pottery identification and classification, data visualization; basic archaeological theory and field methods for excavation, record keeping, and pottery identification for students with no prior archaeological experience; advanced archaeological field methods for students with prior archaeological field experience.

CLSA:4502 Archaeology and History of Judea 3 s.h.
History of the ancient province of Judea (modern Israel) from Early Bronze Age to Greco-Roman period.

CLSA:5010 Proseminar in Classics 1 s.h.
Texts, techniques, and trends in classical scholarship; areas and subtopics of classical scholarship.

CLSA:5151 Roman Law, Order, and Crime 3 s.h.
Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Recommendations: some background in Roman history.

CLSA:6200 Seminar: Problems in Ancient Art 3 s.h.
Key themes and issues in ancient art. Same as ARTH:6300.

CLSA:6585 Design, Visualization, and Mapping 3-D Environments 3 s.h.
Introduction to foundational modeling theory, methodology, and conceptual principles of design necessary to present information in visual formats; various software including data management solutions, database concepts, and simple programming skills that assist in visualizing and disseminating data through multiple digital and online media; basic graphing tools to map data; how to model physical properties and theoretical reconstructions of architectural elements in various 3-D digital modeling environments. Requirements: admission to public digital humanities certificate program. Same as SLIS:6585.

CLSA:6910 Graduate Pedagogy 1 s.h.
Pedagogical theories on teaching classics in translation, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in classics courses taught in English.

Greek Courses

Archaic Greece (CLSG:6011) and Hellenistic Greece (CLSG:6013) cover topics from the major genres and periods of Greek literature. They are offered on a four-year cycle.

Archaic Greece (CLSG:6011), Hellenistic Greece (CLSG:6013), and Classical Greece (CLSG:6012) cover authors, genres, and topics of the major periods of Greek history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of course work.

CLSG:1001 Classical and New Testament Greek I 3,5 s.h.
Introduction to ancient Greek; Greek readings from all periods, from Homer and classical Greek poetry and prose to Christian writings and beyond; focus on classical and New Testament works, Greek culture and thought; comprehension, vocabulary, structure of Greek words and sentences; first of two-semester sequence. GE: World Languages First Level Proficiency.

CLSG:1002 Classical and New Testament Greek II 3,5 s.h.
Continuation of CLSG:1001; focus on classical and New Testament works, Greek culture and thought, comprehension, vocabulary, structure of Greek words and sentences; increased emphasis on original texts. Prerequisites: CLSG:1001. GE: World Languages Second Level Proficiency.

CLSG:2001 Second-Year Greek I 3 s.h.
Focus on reading Greek prose authors, such as Xenophon and Plato. Prerequisites: CLSG:1002. GE: World Languages Second Level Proficiency.

CLSG:2002 Second-Year Greek II 3 s.h.
Continuation of CLSG:2001; focus on reading and interpretation of Greek poetry. Prerequisites: CLSG:2001. GE: World Languages Fourth Level Proficiency.

CLSG:3001 Archaic and Classical Periods I 3 s.h.
Readings in major Greek authors of the Archaic and Classical periods. Prerequisites: CLSG:2002.

CLSG:3002 Archaic and Classical Periods II 3 s.h.
Continuation of CLSG:3001. Prerequisites: CLSG:2002.

CLSG:3003 Classical and Hellenistic Periods I 3 s.h.
Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: CLSG:2002. Same as RELS:3003.

CLSG:3004 Classical and Hellenistic Periods II 3 s.h.
Continuation of CLSG:3003. Prerequisites: CLSG:2002.

CLSG:4076 Greek Composition 3 s.h.
Review of Greek morphology, syntax, sentence structure; composition of sentences, short passages in Greek.

CLSG:4090 Private Assignments 1-3 s.h.
Directed reading and study with faculty member.

CLSG:4095 Honors Readings arr.
Discussion, readings, research for a paper on Greek literature, history, or civilization. Requirements: classical languages major.

CLSG:5001 Archaic Greek Literature 3 s.h.
Introductory survey of Greek literature and language from Homer to end of the fifth century.

CLSG:5002 Classical and Hellenistic Literature 3 s.h.
Introductory survey of Greek literature and language in and after the fourth century B.C.E.

CLSG:6011 Archaic Greece arr.
Topics chosen from Homer, Hesiod, Homeric hymns or lyric poetry.

CLSG:6012 Classical Greece arr.
Authors, genres, and topics from the fourth and fifth centuries B.C.E.

CLSG:6013 Hellenistic Greece arr.
Authors, genres, and topics from the death of Alexander to the accession of Augustus.

CLSG:6014 Roman Greece arr.
Greek authors of the Second Sophistic, including Plutarch, Lucian, and Philostratus; seminar.

CLSG:6910 Graduate Pedagogy 1 s.h.
Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in Greek.

CLSG:7080 Greek Thesis arr.
For Ph.D. students writing a dissertation. Requirements: Ph.D. candidacy.

CLSG:7090 Advanced Reading arr.
Requirements: classics graduate standing.

Latin Courses

Augustan Rome (CLSL:6012) covers topics from the major genres and periods of Latin literature. It is offered on a four-year cycle.

Republican Rome (CLSL:6011), Later Empire (CLSL:6014), and Tiberius to Trajan (CLSL:6013) cover authors, genres, and topics of the major periods of Roman history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of course work.

CLSL:1001 Elementary Latin I 3,5 s.h.
Focus on reading Latin and on Roman culture. GE: World Languages First Level Proficiency.

CLSL:1002 Elementary Latin II 3,5 s.h.
Continuation of CLSL:1001. Prerequisites: CLSL:1001. GE: World Languages Second Level Proficiency.

CLSL:2001 World of Cicero 3 s.h.
Focus on reading Latin prose authors, such as Caesar and Cicero. Prerequisites: CLSL:1002. GE: World Languages Second Level Proficiency.

CLSL:2002 Golden Age of Roman Poetry 3 s.h.
Focus on reading and interpretation of Roman poets, such as Vergil and Catullus. Prerequisites: CLSL:2001. GE: World Languages Second Level Proficiency.

CLSL:3001 Latin Literature of the Republic I 3 s.h.
Prose or poetry by major authors of the republic. Prerequisites: CLSL:2002.

CLSL:3002 Latin Literature of the Republic II 3 s.h.
Continuation of CLSL:3001. Prerequisites: CLSL:2002.

CLSL:3003 Latin Literature of the Empire I 3 s.h.
Prose or poetry by major authors of the empire. Prerequisites: CLSL:2002.

CLSL:3004 Latin Literature of the Empire II 3 s.h.
Continuation of CLSL:3003. Prerequisites: CLSL:2002.

CLSL:3010 Later Latin Literature 3 s.h.
Rigorous study of cultural and historical context during late antiquity and medieval period through the lens of texts written in medieval Latin.

CLSL:3176 Elementary Latin Composition 3 s.h.
Review of Latin morphology, syntax, sentence structure; composition of sentences, short passages in Latin. Prerequisites: CLSL:2002.

CLSL:4090 Private Assignments 1-3 s.h.
Directed reading and study with faculty member for advanced students.

CLSL:4095 Honors Readings 3 s.h.
Discussions, readings, research for a paper on Roman literature, history, or civilization. Requirements: classical languages major.

CLSL:5001 Republican Literature 3 s.h.
Introductory survey of Latin literature and language from the early Republic to the end of the first century B.C.E.

CLSL:5002 Imperial Literature 3 s.h.
Introductory survey of Latin literature and language from the Augustan age through the second century C.E.

CLSL:6011 Republican Rome arr.
Authors and topics from the beginnings of Roman literature to the death of Julius Caesar.

CLSL:6012 Augustan Rome arr.
Authors and topics from the death of Caesar to the accession of Tiberius.

CLSL:6013 Tiberius to Trajan arr.
Authors and topics from the first and second centuries C.E. Same as RELS:6040.

CLSL:6014 Later Empire arr.
Authors and topics from the third through fifth centuries C.E.

CLSL:6076 Advanced Latin Composition arr.
Writing of extended prose passages in Latin.

CLSL:6910 Graduate Pedagogy 1 s.h.
Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: teaching assistant or instructor in Latin.

CLSL:7080 Latin Thesis

arr.

For Ph.D. students writing a dissertation. Requirements: Ph.D. candidacy.

CLSL:7090 Advanced Reading

arr.

Requirements: classics graduate standing.

Ancient Civilization, B.A.

Learning Outcomes

The Department of Classics studies the ancient civilizations of Greece, Rome, the Near East, and Egypt from 3000 B.C.E. to about 800 C.E. Ancient civilizations majors work primarily in the English language, distributed among the areas of classics, history, religion, philosophy, art, and material culture.

Ancient civilization majors:

- gain knowledge of major literary works and written sources of the ancient Mediterranean world;
- learn about the political, intellectual, and social lives of the people from the ancient Mediterranean that became the foundations for Western culture; and
- become acquainted with the physical world in which those people lived through the study of art and archaeology.

Students maintain a required portfolio that details their progress toward the major; see "Major Portfolio" under Requirements [p. 211] in this section of the Catalog.

Requirements

The Bachelor of Arts with a major in ancient civilization requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major concentrates on the ancient civilization of the Mediterranean world, draws on courses offered by various University departments, and allows students to create individual programs. It offers two optional tracks. The ancient Mediterranean religions track is for students with an interest in religions of the Mediterranean basin from the 10th century B.C. through the 8th century A.D. The Egypt and the ancient Near East track is for students with a particular interest in civilizations of the east Mediterranean from the earliest times through antiquity. See the "Ancient Mediterranean Religions Track" and the "Egypt and the Ancient Near East Track" below.

The major, including ancient Mediterranean religions track and Egypt and the ancient Near East track, is sponsored by the School of Art and Art History and the Departments of Classics, History, and Religious Studies.

Students choose courses in consultation with their advisors. They must earn at least 15 s.h. in courses which may include classics in English courses numbered 3000 or above, the Greek language courses numbered 2000 or above, and the Latin language courses numbered 2000 and above. Transfer credit is evaluated individually.

In addition to completing required course work, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

The B.A. with a major in ancient civilization requires the following course work.

Code	Title	Hours
	Material Culture Courses	6
	Ancient History Courses	6
	Ancient Philosophy and Religious Studies Courses	6

Classics in English and Language Courses	9
Additional Course	3
Major Portfolio	0
Total Hours	30

Material Culture

Code	Title	Hours
At least 6 s.h. from these:		
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
ANTH:3276/ CLSA:3235	Greek Archaeology and Ethnohistory	3
ANTH:3277/ CLSA:3240	Roman Archaeology	3
ARTH:2320/ CLSA:2226	Introduction to Ancient Art	3
ARTH:3161	Themes in Ancient Art	3
ARTH:3320/ RELS:3704	Egyptian Art	3
ARTH:3330/ CLSA:3227	Classical Greek Art	3
ARTH:3340/ CLSA:3250	Greek Vase Painting	3
ARTH:3350/ CLSA:3232	Art of Early Rome: Patrons and Politics	3
ARTH:3360/ CLSA:3233	Art of the Ancient Roman Empire	3
ARTH:3370/ CLSA:3234	Houses, Brothels, and Tombs: Life and Death in Ancient Pompeii	3

Ancient History

Code	Title	Hours
At least 6 s.h. from these:		
CLSA:1117	Intrigue and Command in Ancient Rome: From Julius Caesar to Nero	3
CLSA:1830	Greek Civilization	3
CLSA:1840	Roman Civilization	3
HIST:2431/ CLSA:2151	Roman Law, Order, and Crime	3
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:3436/ ANTH:3204/ CLSA:3836	Food in Ancient Mediterranean Society	3
HIST:4400/ CLSA:4400	The Roman Empire	3
HIST:4401/ CLSA:4101	Ancient Egypt and the Ancient Near East	3
HIST:4403/ CLSA:4403	Alexander the Great	3
HIST:4404	The World of Ancient Greece	3
HIST:4406/ CLSA:4106	Warfare in Ancient Mediterranean Society	3
HIST:4407	The Hellenistic World and Rome	3

Ancient Philosophy and Religious Studies

Code	Title	Hours
At least 6 s.h. from these:		
CLSA:1340	Magic in the Ancient World	3
CLSA:2461/ HIST:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
CLSA:3416/ RELS:3716	Greek Religion and Society	3
PHIL:2111	Ancient Philosophy	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:2182/ CLSA:2482	Ancient Mediterranean Religions	3
RELS:2320/ CLSA:2420	Jesus and the Gospels	3
RELS:2912	The Bible in Film: Hollywood and Moses	3
RELS:3103	Biblical Archaeology	1,3
RELS:3105	The World of the Old Testament	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3245/ CLSA:3445	Mythology of Otherworldly Journeys	3
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
RELS:3340/ CLSA:3440	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3

Classics in English and Language Courses

Code	Title	Hours
At least 9 s.h. from these:		
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5
ARAB:2030	Formal Spoken Arabic	2
ARAB:3011	Advanced Modern Standard Arabic I	3
RELS:4001	Biblical Hebrew I	4
RELS:4002	Biblical Hebrew II	4
SOAS:2902/ CLSA:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901/ CLSA:3901	Second-Year Sanskrit: First Semester	3

SOAS:3902/ CLSA:3902	Second-Year Sanskrit: Second Semester	3
Classics in English courses (prefix CLSA)		
Greek courses (prefix CLSG)		
Latin courses (prefix CLSL)		

Additional Course

Code	Title	Hours
	A course in material culture, history, philosophy, religion, or linguistics chosen in consultation with the advisor	3

Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to their undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

Ancient Mediterranean Religions Track

This track is intended for students who wish to study the ancient religions of the Mediterranean basin from the 10th century B.C.E. through the 9th century C.E. It offers an innovative curriculum for exploring and comparing the many religions of that region (Pagan, Jewish, Christian, Islamic) and their associated literatures, cultures, and languages.

The track is interdisciplinary; students select courses from archaeology, art, history, literature, and religion. The track provides a strong liberal arts foundation suitable for further study in law, medicine, and other professions. It also provides a sound basis for preparing individuals to teach ancient civilizations of the Mediterranean and the Near East, ancient history, and ancient art history at the secondary school and community college levels.

The Bachelor of Arts with a major in ancient civilization with the ancient Mediterranean religions track requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students also must earn at least 15 s.h. in courses which may include classics in English courses numbered 3000 or above, the Greek language courses CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, and the Latin language courses CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry. Transfer credit is evaluated individually.

It also is possible to take other languages, such as Biblical Aramaic, Syriac, and Targumic Aramaic, or Coptic as independent study through the Department of Religious

Studies. Contact the Department of Classics for more information.

In addition to completing required course work, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

To satisfy the requirements for the major in ancient civilization with the ancient Mediterranean religions track, 21 s.h. of the required 30 s.h. must be taken from the courses below. The remaining 9 s.h. may be taken from these lists or from the courses that count toward the ancient civilization major as listed above.

Material Culture

Code	Title	Hours
Up to 6 s.h. from these:		
CLSA:4501	Archaeological Methodology and Field Research	3
CLSA:4502	Archaeology and History of Judea	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3
ARTH:3375/ RELS:3375	Birth of the Holy Land: Art and Architecture in the Ancient Middle East	3

Ancient History

Code	Title	Hours
Up to 6 s.h. from these:		
CLSA:2461/ HIST:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:4400/ CLSA:4400	The Roman Empire	3
HIST:4401/ CLSA:4101	Ancient Egypt and the Ancient Near East	3

Ancient Philosophy and Religious Studies

Code	Title	Hours
Up to 6 s.h. from these:		
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:1113	Gateway to the Bible	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:1225/ HIST:1025	Medieval Religion and Culture	3
RELS:2182/ CLSA:2482	Ancient Mediterranean Religions	3
RELS:2225/ CLSA:2425	Messianic and Apocalyptic Prophecy in the Bible	3
RELS:2289/ CLSA:2489	Jerusalem: The Holy City	3
RELS:2320/ CLSA:2420	Jesus and the Gospels	3
RELS:3103	Biblical Archaeology	1,3

RELS:3105	The World of the Old Testament	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3245/ CLSA:3445	Mythology of Otherworldly Journeys	3
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
RELS:3340/ CLSA:3440	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
RELS:3716/ CLSA:3416	Greek Religion and Society	3
RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3

Classics in English and Language Courses

Code	Title	Hours
Up to 9 s.h. from these:		
CLSA:1010	Hero, God, Mortal: Literature of Greece	3
CLSA:1323/ RELS:1323	Life in the Biblical World	3
CLSA:2151/ HIST:2431	Roman Law, Order, and Crime	3
RELS:4001	Biblical Hebrew I	4
RELS:4002	Biblical Hebrew II	4
SOAS:2902/ CLSA:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901/ CLSA:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902/ CLSA:3902	Second-Year Sanskrit: Second Semester	3

Classics in English courses (prefix CLSA)

Greek courses (prefix CLSG)

Latin courses (prefix CLSL)

Additional Course

Code	Title	Hours
	A course in art, history, philosophy, religion, or linguistics chosen in consultation with advisor	3

Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to the undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

Egypt and the Ancient Near East Track

The Egypt and the ancient Near East track concentrates on the civilizations of the east Mediterranean, specifically Egypt and the cultures of Asia Minor, from the earliest times through late Antiquity.

The track is interdisciplinary; students select courses from archaeology, art, history, literature, and religion. The track provides a sound basis for preparing individuals to teach ancient civilizations of the Mediterranean and the Near East, ancient history, and ancient art history at the secondary school and community college levels. It also provides a strong liberal arts foundation suitable for further study in law, medicine, and other professions.

The Bachelor of Arts with a major in ancient civilization with the Egypt and the ancient Near East track requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students in the Egypt and the ancient Near East track choose courses in consultation with their advisors. They must earn at least 21 s.h. of the credit required for the ancient civilization major in courses listed under "Course Selection Requirements" below. They also must earn at least 15 s.h. in courses which may include classics in English courses numbered 3000 or above, the Greek language courses CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, and the Latin language courses CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry. Transfer credit is evaluated individually.

In addition to completing required course work, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

The major in ancient civilization with the Egypt and the ancient Near East track requires the following course work.

Material Culture

Code	Title	Hours
At least 6 s.h. from these:		
CLSA:3596/ ANTH:3275	The Archaeology of Ancient Egypt	3
ARTH:2320/ CLSA:2226	Introduction to Ancient Art	3
ARTH:3000	Digital Approaches to the Study of Art	3
ARTH:3320/ RELS:3704	Egyptian Art	3
ARTH:3375/ RELS:3375	Birth of the Holy Land: Art and Architecture in the Ancient Middle East	3

Ancient History

Code	Title	Hours
At least 6 s.h. from these:		
CLSA:1181/ GHS:1181	Ancient Medicine	3

CLSA:2461/ HIST:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:1401	The West and the World: Ancient	3-4
HIST:3436/ ANTH:3204/ CLSA:3836	Food in Ancient Mediterranean Society	3
HIST:4400/ CLSA:4400	The Roman Empire	3
HIST:4401/ CLSA:4101	Ancient Egypt and the Ancient Near East	3
HIST:4403/ CLSA:4403	Alexander the Great	3
HIST:4406/ CLSA:4106	Warfare in Ancient Mediterranean Society	3

Ancient Philosophy and Religious Studies

Code	Title	Hours
At least 6 s.h. from these:		
CLSA:1340	Magic in the Ancient World	3
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3
CLSA:3440/ RELS:3340	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
CLSA:3443/ RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSA:3445/ RELS:3245	Mythology of Otherworldly Journeys	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3

Classics in English and Language Courses

Code	Title	Hours
At least 9 s.h. from these:		
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5
ARAB:2030	Formal Spoken Arabic	2
ARAB:3011	Advanced Modern Standard Arabic I	3
RELS:4001	Biblical Hebrew I	4
RELS:4002	Biblical Hebrew II	4
SOAS:2902/ CLSA:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901/ CLSA:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902/ CLSA:3902	Second-Year Sanskrit: Second Semester	3
Classics in English courses (prefix CLSA)		
Greek courses (prefix CLSG)		
Latin courses (prefix CLSL)		

Additional Course

Code	Title	Hours
A course in material culture, history, philosophy, religion, or linguistics chosen in consultation with the advisor		3

Course Selection Requirements

Students in the Egypt and the ancient Near East track must earn at least 21 s.h. of the credit required for the ancient civilization major in courses chosen from the following list, with at least 15 s.h. required in courses numbered 3000 or above.

Code	Title	Hours
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3
CLSA:3443/ RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSG:2001	Second-Year Greek I	3
CLSG:2002	Second-Year Greek II	3
CLSG:3001	Archaic and Classical Periods I	3
CLSG:3002	Archaic and Classical Periods II	3
CLSG:3003	Classical and Hellenistic Periods I	3
CLSG:3004	Classical and Hellenistic Periods II	3
CLSG:4076	Greek Composition	3
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3
CLSL:3001	Latin Literature of the Republic I	3
CLSL:3002	Latin Literature of the Republic II	3
CLSL:3003	Latin Literature of the Empire I	3
CLSL:3004	Latin Literature of the Empire II	3
CLSL:3176	Elementary Latin Composition	3
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5
ARAB:2030	Formal Spoken Arabic	2
ARAB:3011	Advanced Modern Standard Arabic I	3
ARTH:2320/ CLSA:2226	Introduction to Ancient Art	3
HIST:1401	The West and the World: Ancient (with Egyptian/ Ancient Near Eastern component)	3-4
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
RELS:1001	Judaism, Christianity, and Islam	3

RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:4001	Biblical Hebrew I	4
RELS:4002	Biblical Hebrew II	4
SOAS:2902/ CLSA:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901/ CLSA:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902/ CLSA:3902	Second-Year Sanskrit: Second Semester	3

Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to their undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

Teacher Licensure

Students who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.50 in their first three years of classics courses. To graduate with honors in the major, they must complete two consecutive courses in honors reading, earning 3 s.h. of credit for each course. Honors work may be done in the student's fourth year, or spring of the third year and fall of the fourth year. The readings and discussions must be on an ancient author or a field in ancient history or literature chosen by the student and the instructor. At the end of the second semester, the student presents a substantial research project, which is evaluated for honors by two members of the department.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the ancient civilization major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: at least two courses in the major

Before the seventh semester begins: at least six courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least eight courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Ancient Civilization, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: classics course ^a		3
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: Values and Culture ^b		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: classics course ^a		3
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		4
Elective course ^c		2
Hours		15-16
Second Year		
Fall		
Major: ancient history course ^a		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: Social Sciences ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
Major: ancient history course ^a		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5

Elective course ^c	3
Elective course ^c	3
Hours	16-17

Third Year

Fall

Major: material culture course ^a	3
Major: ancient philosophy and religious studies course ^a	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d	4 - 5
Elective course ^c	3
Hours	16-17

Spring

Major: material culture course ^a	3
GE CLAS Core: International and Global Issues ^b	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d	4 - 5
Major: ancient philosophy and religious studies course ^{a, c}	3
Elective course ^c	3
Hours	16-17

Fourth Year

Fall

Major: classics course ^a	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

CLSA:3982	Graduation Portfolio	0
Major: art, history, philosophy, religion, or linguistics ^a		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Total Hours		124-130

- Students must earn at least 15 s.h. in courses which may include classics in English courses numbered 3000 or above, the Greek language courses numbered 2000 or above, and the Latin language courses numbered 2000 and above.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

Although the major is not preparation for graduate study in classics, it provides a sound basis for preparing individuals to teach at the secondary school and community college levels. It also provides a liberal arts and sciences foundation

appropriate for further study in law and medicine. Others go on to complete advanced work in library and information science, museum studies, archaeology, or business. A large proportion of its students pursue advanced degrees.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Classical Languages, B.A.

Learning Outcomes

The Department of Classics studies the ancient civilizations of Greece, Rome, the Near East, and Egypt from 3000 B.C.E. to about 800 C.E. Classical languages majors concentrate on learning ancient Greek, Latin, and/or Hebrew.

Classical languages majors:

- learn to read the ancient Greek, Latin, and/or Hebrew languages at an intermediate to advanced level;
- gain transferable linguistic and analytic skills by studying the ancient languages that stand behind the vocabulary and structure of English and the Romance languages;
- gain knowledge of major literary works and written sources of the ancient Mediterranean world;
- learn about the political, intellectual, and social lives of the people from the ancient Mediterranean that became the foundations for Western culture; and
- become acquainted with the physical world in which those people lived through the study of art and archaeology.

Students maintain a required portfolio that details their progress toward the major, see "Major Portfolio" under Requirements [p. 218] in this section of the Catalog.

Requirements

The Bachelor of Arts with a major in classical languages requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer credit is evaluated individually.

The major trains students to read the ancient Greek and/or Latin languages and acquaints them with the major works of Greek and/or Roman literature. Classical languages students learn about the history of ancient Greece of the eighth through the fourth centuries B.C.E., where most of the modern Western notions of political, artistic, and social life are rooted. They also develop an understanding of the Roman Republic and Empire (3 B.C.E. through 5 C.E.), when Rome established its hegemony over the Mediterranean basin, laid the foundation of law for the Western World, and spread Greece's culture to the West, and of the fall of the Empire and the rise of Medieval civilization from the sixth through the ninth centuries C.E.

In addition to completing required course work, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

The B.A. with a major in classical languages requires the following course work.

Code	Title	Hours
Required Courses		36
Major Portfolio		0
Total Hours		36

Required Courses

Code	Title	Hours
All of these:		
Intermediate or advanced Greek and/or Latin courses numbered CLSG:2001 through CLSG:4999, CLSL:2001 through CLSL:4999		18
Greek or Latin prose composition (CLSG:4076 or CLSL:3176)		3
Additional classics courses at any level, including a maximum of 9 s.h. in classics in English courses (prefix CLSA)		15

The following advanced undergraduate Greek courses are offered every other year and may be repeated or taken in any sequence. They cover a broad range of prose and poetry in historical context.

Code	Title	Hours
All of these:		
CLSG:3001	Archaic and Classical Periods I	3
CLSG:3002	Archaic and Classical Periods II	3
CLSG:3003/ RELS:3003	Classical and Hellenistic Periods I	3
CLSG:3004	Classical and Hellenistic Periods II	3

The following advanced undergraduate Latin courses are offered every other year and may be repeated or taken in any sequence. They cover a range of Latin prose and poetry in historical context from the mid-republic to the third century C.E.

Code	Title	Hours
All of these:		
CLSL:3001	Latin Literature of the Republic I	3
CLSL:3002	Latin Literature of the Republic II	3
CLSL:3003	Latin Literature of the Empire I	3
CLSL:3004	Latin Literature of the Empire II	3

Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to the undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

Teacher Licensure

Students who are interested in earning licensure to teach in elementary and/or secondary schools must complete

the College of Education's Teacher Education Program (TEP) in addition to the requirements for their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.50 in their first three years of classics courses. To graduate with honors in the major, they must complete two consecutive courses in honors reading, earning 3 s.h. of credit for each course. Honors work may be done in the student's fourth year, or spring of the third year and fall of the fourth year. The readings and discussions must be on an ancient author or a field in ancient history or literature chosen by the student and the instructor. At the end of the second semester, the student presents a substantial research project, which is evaluated for honors by two members of the department. Students who write an honors thesis in classical languages must be enrolled at the same time in the appropriate advanced language courses.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the classical languages major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Classical Languages—Greek and Latin

Before the third semester begins: CLSL:1001 Elementary Latin I and CLSL:1002 Elementary Latin II, or CLSG:1001 Classical and New Testament Greek I and CLSG:1002 Classical and New Testament Greek II

Before the fifth semester begins: CLSL:2001 World of Cicero, CLSL:2002 Golden Age of Roman Poetry, CLSG:1001 Classical and New Testament Greek I, and CLSG:1002 Classical and New Testament Greek II; or CLSG:2001 Second-Year Greek I, CLSG:2002 Second-Year Greek II, CLSL:1001 Elementary Latin I, and CLSL:1002 Elementary Latin II

Before the seventh semester begins: sixth semester of Latin and fourth semester of Greek, or sixth semester of Greek and fourth semester of Latin; two more courses in the major; and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Classical Languages—Greek Only

Before the third semester begins: CLSG:1001 Classical and New Testament Greek I and CLSG:1002 Classical and New Testament Greek II

Before the fifth semester begins: CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II

Before the seventh semester begins: three or four more courses in the major

Before the eighth semester begins: two or three more courses in the major and at least 90 s.h. earned toward the degree

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Classical Languages—Latin Only

Before the third semester begins: CLSL:1001 Elementary Latin I and CLSL:1002 Elementary Latin II

Before the fifth semester begins: CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry

Before the seventh semester begins: three or four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Classical Languages, B.A.

Greek and Latin

Course	Title	Hours
First Year		
Fall		
CLSL:1001	Elementary Latin I ^a	5
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Social Sciences ^b		3
Elective course ^c		1
CSI:1600	Success at Iowa	2
	Hours	14-15
Spring		
CLSL:1002	Elementary Latin II ^a	5
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Diversity and Inclusion ^b		3

GE CLAS Core: Values and Culture ^b	3
Elective course ^c	1
Hours	15-16
Second Year	
Fall	
CLSG:1001 Classical and New Testament Greek I	5
CLSL:2001 World of Cicero ^d	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
Elective course ^c	3
Elective course ^c	1
Hours	15
Spring	
CLSG:1002 Classical and New Testament Greek II	5
CLSL:2002 Golden Age of Roman Poetry ^d	3
GE CLAS Core: International and Global Issues ^b	3
Major: classics course	3
Elective course ^c	1
Hours	15
Third Year	
Fall	
CLSG:2001 Second-Year Greek I ^d	3
CLSL:3176 Elementary Latin Composition ^e	3
GE CLAS Core: Historical Perspectives ^b	3
GE CLAS Core: Natural Sciences without Lab ^b	3
Elective course ^c	3
Hours	15
Spring	
CLSG:2002 Second-Year Greek II ^d	3
GE CLAS Core: Quantitative or Formal Reasoning ^b	3
Major: advanced Latin course ^{c, d}	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Fourth Year	
Fall	
Major: advanced Latin course ^d	3
Major: advanced Greek course or classics course	3
GE CLAS Core: Natural Sciences with Lab ^b	4
Elective course ^c	3
Elective course ^c	2
Hours	15
Spring	
CLSA:3982 Graduation Portfolio	0
CLSG:4076 Greek Composition ^e	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	119-121

- a A student may also begin with Greek the first year and Latin in the second year.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Students are required to complete 18 s.h. in intermediate or advanced Greek and/or Latin courses: acronym CLSG or CLSL, numbered :2001 through :4999.

e Composition in the relevant language may be taken in the third or fourth year.

Career Advancement

The University of Iowa's classics program is recognized for the excellent preparation it offers for graduate study in classics. A large proportion of its students pursue advanced degrees. They are admitted to the finest public and private university programs in the country, many with full financial support.

Students who major in classical languages and complete the College of Education's Teacher Education Program may be able to find secondary school teaching positions quickly, due to a nationwide shortage of Latin teachers.

Graduates have gone on to become secondary or university teachers, librarians, museum curators, and bankers. The study of Latin and Greek also prepares students for study of law and medicine; classics graduates regularly enter these fields. Others go on to complete advanced work in library and information science, museum studies, religious studies, history, archaeology, or business.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Ancient Civilization, Minor

The undergraduate minor in ancient civilization requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Department of Classics courses with the prefix CLSA, CLSG, and CLSL count toward the minor. Courses considered advanced for the minor are: Greek courses numbered CLSG:2001 Second-Year Greek I or above, Latin courses numbered CLSL:2001 World of Cicero or above, and Classics courses numbered CLSA:3000 or above. Appropriate courses in art, religion, history, and philosophy may be counted toward the minor, if approved by the undergraduate advisor. Students who have taken high school Greek or Latin should consult the advisor.

Classical Languages, Minor

The undergraduate minor in classical languages requires a minimum of 18 s.h., including 12 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix CLSA) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequences CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry, and Department of Classics courses numbered 3000 or above are considered advanced for the minor. Students may satisfy the requirements for the minor by completing CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry, plus two courses numbered 3000 or above, one of which may be a relevant course in Greek or Roman history, culture, or literature (prefix CLSA). For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Greek or Latin should consult the advisor.

Greek, Minor

The undergraduate minor in Greek requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix CLSA) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequence CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, and Department of Classics courses numbered 3000 or above are considered advanced for the minor. Students may satisfy the advanced courses requirement for the minor by completing CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II plus two courses numbered 3000 or above, one of which may be a relevant course in Greek history, culture, or literature (prefix CLSA). For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Greek should consult the advisor.

Health and the Human Condition, Minor

The undergraduate minor in health and the human condition requires a minimum of 15 s.h., including at least 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor in health and the human condition is interdisciplinary. It is administered by the Department of Classics and draws on courses from several units in the College of Liberal Arts and Sciences. It requires the following course work.

Ethics and Values

Code	Title	Hours
At least 3 s.h. from these:		
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:2402	Introduction to Ethics	3
PHIL:2415/ GHS:2415	Bioethics	3
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2771/ GWSS:2771	Sexual Ethics	3

Historical Approaches

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:4181	History of Western Medicine	3
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
HIST:4160/ GHS:4160	History of Public Health	3
HIST:4162/ GHS:4162	History of Global Health	3
HIST:4203	Disability in American History	3
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3

Diversity and Global Perspectives

Code	Title	Hours
At least 9 s.h. from these:		
AMST:1070	Drugs in American Popular Culture	3
ANTH:2164/ GHS:2164	Culture and Healing for Future Health Professionals	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3

ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
GHS:3060	Studies in Complementary and Alternative Medicine	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
HHP:3000/ INTD:3020	Equity Issues in the Health Sciences	3
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	2-4
RELS:3431/ GWSS:3131	Gender and Sexuality in Asia	3
RHET:3610/ ASP:3610/ GWSS:3610	Writing in the Presence of Death: Rhetoric, Narrative, and Hospice	3
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span	3-4
WLLC:1100/ CLSA:1100/ GHS:1100/ GRMN:1100/ GWSS:1100	Contraception Across Time and Cultures	3

Latin, Minor

The undergraduate minor in Latin requires a minimum of 15 s.h., including at least 12 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count one relevant classics department course taught in English (prefix CLSA) toward the minor. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

The sequence CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry, and Department of Classics courses numbered 3000 or above are considered advanced for the minor. Students may satisfy the advanced courses requirement for the minor by completing CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry plus two courses numbered 3000 or above, one of which may be a relevant course in Roman history, culture, or literature (prefix CLSA). For a list of relevant courses, contact the undergraduate advisor. Students who have taken high school Latin should consult the advisor.

Classics, Postbaccalaureate Certificate

The Postbaccalaureate Certificate in Classics requires 18 s.h. in Department of Classics courses numbered 3000 or above (upper-level undergraduate and graduate courses). The program is designed for students who have a bachelor's degree and would like further study in Greek and Latin in order to be competitive for admission to a graduate program in classics. Entry to most graduate programs requires study of both Latin and Greek, normally a minimum of three years in one language and two years in the other. The certificate is designed to be completed in two semesters by students who enter with two years of Latin and one to two years of Greek, or vice versa.

At least 12 s.h. of the required credit must be earned in Greek and Latin language courses; the remaining 6 s.h. may be earned in approved advanced courses taught in English (prefix CLSA). Transfer credit is not accepted toward the certificate. Students must maintain a g.p.a. of at least 3.00 to remain in good standing and complete the program.

A suggested plan of study for a student who enters the program with two years of Latin and one year of Greek is as follows.

Code	Title	Hours
Fall		
CLSA:4085	Postbaccalaureate Seminar	0
CLSG:2001	Second-Year Greek I	3
CLSL:3001	Latin Literature of the Republic I	3
CLSL:3176	Elementary Latin Composition	3
Spring		
CLSG:2002	Second-Year Greek II	3
CLSL:3002	Latin Literature of the Republic II	3
One elective with prefix CLSA, CLSG, or CLSL numbered 3000 or above		3
Total Hours		18

A suggested plan of study for a student who enters the program with two years of Latin and two years of Greek is as follows.

Code	Title	Hours
Fall		
CLSA:4085	Postbaccalaureate Seminar	0
CLSG:3001	Archaic and Classical Periods I	3
CLSL:3001	Latin Literature of the Republic I	3
CLSL:3176	Elementary Latin Composition	3
Spring		
CLSG:3002	Archaic and Classical Periods II	3
CLSL:3002	Latin Literature of the Republic II	3

One elective with prefix CLSA, CLSG, or CLSL numbered 3000 or above	3
Total Hours	18

Students who complete the program successfully receive a certificate from the College of Liberal Arts and Sciences and a letter from the Department of Classics.

Admission

Applicants must have a baccalaureate degree from an accredited college or university and a minimum of two years of language study (two years of Latin or two years of Greek, or one year of each). In unusual circumstances, students with less language preparation may be admitted.

Applicants who are not enrolled in a graduate or professional program may apply to the University of Iowa as undergraduate transfer students; they must state on their application that they are applying to the College of Liberal Arts and Sciences for admission to the classics postbaccalaureate certificate program. They must submit transcripts confirming preparation for certificate language study, a statement of purpose, scores on the Graduate Record Examination (GRE) General Test, a writing sample, and three letters of recommendation from faculty members at their baccalaureate institution.

Classics, M.A.

Requirements

The Master of Arts program in classics requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. Courses taken to compete the Postbaccalaureate Certificate in Classics do not count toward the degree.

Students must pass a sight examination in the language(s) studied and an examination on literature and history.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Greek, M.A.

Requirements

The Master of Arts program in Greek requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. Courses taken to compete the Postbaccalaureate Certificate in Classics do not count toward the degree.

Students must pass a sight examination in Greek and an examination on Greek literature and history.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Latin, M.A.

Requirements

The Master of Arts program in Latin requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. Courses taken to compete the Postbaccalaureate Certificate in Classics do not count toward the degree.

Students must pass a sight examination in Latin and an examination on Roman literature and history.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Classics, Ph.D.

Requirements

The Doctor of Philosophy program in classics requires a minimum of 72 s.h. of graduate credit, including the courses listed below (18 s.h.). Students may count no more than 12 s.h. earned in courses numbered 3000-4999 toward the degree. Courses taken to complete the Postbaccalaureate Certificate in Classics do not count toward the degree.

Students also must take precomprehensive and comprehensive examinations and write a dissertation.

Required Courses

Code	Title	Hours
All of these:		
CLSG:4076	Greek Composition (or equivalent)	3
CLSG:5001	Archaic Greek Literature	3
CLSG:5002	Classical and Hellenistic Literature	3
CLSL:5001	Republican Literature	3
CLSL:5002	Imperial Literature	3
CLSL:6076	Advanced Latin Composition (or equivalent)	3

The remaining course work is made up of Department of Classics courses and other courses with approval of the graduate advisor.

Ph.D. Examinations

Ph.D. students must take precomprehensive exams in Latin sight reading and Greek sight reading and must attempt one sight reading exam by the end of their first year of graduate study. Competence in reading both German and French must be demonstrated by the end of the second year of study.

Students must take the second-year exam at the end of their second year. The remaining exams may be taken in any sequence. Students must file a request for the fourth-year comprehensive exam at least three weeks before the date of the exam.

Sight-reading exam:

Latin—four hours, written
Greek—four hours, written

Second-year exam:

Literature and history—four hours, written

Fourth-year comprehensive exam:

Greek and Roman history/material culture, based on reading list—three hours, written
Latin literature, based on reading list—three hours, written
Greek literature, based on reading list—three hours, written

If a student performs unsatisfactorily on either or both of the Latin and Greek reading list exams, the director of graduate studies sets up an oral exam in order to review questions on which the student did not exhibit sufficient knowledge.

Oral exam:

Special field or author (Greek)—four hours, written
Special field or author (Latin)—four hours, written

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The University of Iowa's classics program is recognized for the excellent program it offers for graduate study in classics. A large proportion of its students pursue advanced degrees and most go on to teach at the college level.

Communication Sciences and Disorders

Chair

- Jerald B. Moon

Undergraduate major: speech and hearing science (B.A.)

Undergraduate minor: communication sciences and disorders

Graduate degrees: M.A. in speech pathology and audiology; Au.D.; Ph.D. in speech and hearing science

Faculty: <https://clas.uiowa.edu/comsci/people>

Website: <https://clas.uiowa.edu/comsci/>

The courses and degree programs of the Department of Communication Sciences and Disorders are designed to meet the needs of students preparing for careers in clinical service, college and university teaching, and research concerned with speech, language and/or hearing processes and disorders. The department also offers courses for students with vocational and professional goals in other fields—for example, engineering, psychology, education, speech, theatre arts, dentistry, and medicine—whose preparation may be enriched by the study of speech and hearing processes and their disorders.

Advanced degree holders in communication sciences and disorders provide clinical services for people with speech, hearing, or language problems in hospitals, community clinics, rehabilitation facilities, elementary and secondary schools, and private practice. They teach in colleges and universities and conduct research in laboratories concerned with communication processes and disorders.

The department's programs leading to the M.A. with professional emphasis and the Au.D. are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA).

Programs

Undergraduate Programs of Study

Major

- Major in Speech and Hearing Science (Bachelor of Arts) [p. 237]

Minor

- Minor in Communication Sciences and Disorders [p. 240]

Graduate Programs of Study

Majors

- Master of Arts in Speech Pathology and Audiology [p. 241]
- Doctor of Audiology [p. 243]
- Doctor of Philosophy in Speech and Hearing Science [p. 245]

Facilities

Clinical Facilities

The clinical training program benefits greatly from Iowa City's standing as the most comprehensive health sciences center in Iowa and from the ready availability of health service facilities for clinical training of students in speech-language pathology and audiology.

The University of Iowa Affiliated Speech and Hearing Services include the Wendell Johnson Speech and Hearing Clinic; the division of speech and hearing in University of Iowa Hospitals and Clinics (UIHC) Department of Otolaryngology—Head and Neck Surgery; UIHC Consolidated Speech and Swallowing Services, which provides services to the Departments of Neurology and Otolaryngology—Head and Neck Surgery; child psychiatry, speech and hearing services in the Center for Disabilities and Development; and the audiology and speech pathology service in the Iowa City VA Health Care System.

The Wendell Johnson Speech and Hearing Clinic serves the University and the general public. Included in its services are outpatient evaluation and rehabilitation programs for speech, voice, swallowing, hearing, and language problems; intensive summer camps in stuttering, a six-week summer preschool program for hearing-impaired children, and group therapy for children working on speech sounds. These clinical programs give students supervised clinical experience with a wide variety of speech, hearing, and language disorders.

In addition to the clinical training in the Wendell Johnson Speech and Hearing Clinic, training also may be acquired in supervised clinical practice with elementary school children through various state area education agencies; and in supervised clinical practice in speech, language, and hearing services provided by University of Iowa Hospitals and Clinics Consolidated Speech and Swallowing Services, the Regional Child Health Specialty Clinics, Center for Disabilities and Development, and the Iowa City VA Health Care System.

Public and private departments and programs in addition to those mentioned above often contribute to the cooperative professional training, research, and service programs.

Research Facilities

Facilities in the Wendell Johnson Speech and Hearing Center include audiometric testing suites, diagnostic and remediation suites, equipment for diagnosis and therapy, a classroom video recording system, and laboratories and equipment for acoustic, physiologic, and perceptual studies of speech, and for audiologic, psychoacoustic, and neurophysiologic studies of hearing.

Cooperation with departments in the Carver College of Medicine, the Department of Psychological and Brain Sciences, and the University of Iowa DeLTA Center makes additional laboratory facilities available for research on problems in speech and hearing. The participation and cooperation of specialists from varied fields, including psychology, child development, education, engineering, statistics, and medicine, further broaden the scope of research activities in speech and hearing.

Courses

Communication Sciences and Disorders Courses

CSD:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

CSD:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

CSD:1015 Introduction to Speech and Hearing Processes and Disorders 2 s.h.

Introduction to communication sciences and disorders field; clinical and research works; wide range of readings; survey course with less emphasis on specific disorders.

CSD:1200 Intellectual and Developmental Disabilities 3 s.h.

Introduction and overview of issues pertaining to children and adults with intellectual or developmental disabilities (IDD); focus on their communication needs, relationship with the broader community, and careers which serve this population; interaction with individuals with IDD, their family members, professionals; lifespan and health issues, genetics, diagnosis, literacy, historical perspectives, adaptive arts and theater, disabilities in the media, social life and sexuality, issues specifically relevant to aging, and controversial topics. GE: Diversity and Inclusion.

CSD:1800 Aging Matters: Introduction to Gerontology 3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, NURS:1800, SSW:1800, TR:1800.

CSD:2110 Phonetics: Theory and Applications 3 s.h.

Basic concepts: articulatory and acoustic description of speech sound production, dialect variations, and language differences; development of phonetic transcription skills with emphasis on English phonetics and clinical applications to developing and disordered speech.

CSD:2111 Basic Acoustics for Speech and Hearing 3 s.h.

Principles of sound, simple harmonic motion, sound pressure and intensity, decibels, complex waves, Fourier analysis, resonance and filters, distortion, transmission of sound. Requirements: completion of departmental math requirement (MATH:1440 or MATH:1460 or MATH:1850).

CSD:2140 Manual Communication 1 s.h.

Training in use of sign systems in manual communication.

CSD:3097 Honors Seminar 2 s.h.

Research topics and procedures in speech and hearing sciences; ongoing faculty research, research opportunities, possible research projects. Requirements: honors standing with intent to complete an honors thesis.

CSD:3102 Basics of Hearing for the Non-Major 3 s.h.

Hearing is fundamental to successful functioning in life, yet few people understand the fundamentals of hearing, or the typical causes of hearing loss, such as excessive exposure to loud music; overview of mechanisms, breakdowns, and different rehabilitation options; beneficial for classroom teachers or healthcare professionals who work with hearing loss populations.

CSD:3112 Anatomy and Physiology of Speech Production 4 s.h.

Normal anatomy and physiology of structures used to produce speech; principles and methods for instrumental study of speech production.

CSD:3113 Introduction to Hearing Science 4 s.h.

Normal auditory process; anatomy and physiology of auditory system; subjective correlates of auditory stimuli.

CSD:3116 Basic Neuroscience for Speech and Hearing 3 s.h.

Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as LING:3116.

CSD:3117 Psychology of Language 3 s.h.

Introduction to scientific study of language use; language approached from a multidisciplinary perspective, integrating theories and methods of psycholinguistics, neuropsychology, and communication sciences and disorders. GE: Social Sciences. Same as LING:3117.

CSD:3118 Language Acquisition 1-3 s.h.

Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Requirements: for CSD:3118—LING:3001 and PSY:1001; for LING:3118—LING:3001 or LING:3117. GE: Social Sciences. Same as LING:3118.

CSD:3122 Speech Production: Anatomy and Physiology 4 s.h.

Anatomy and physiology of respiratory, phonatory, and articulatory systems; systems' roles during speech production; approaches to instrumental assessment of speech physiologic events. Requirements: nonmajor.

CSD:3185 Hearing Loss and Audiometry 3 s.h.

Introduction to profession of audiology; overview of hearing disorders, evaluation, and treatment; basic pure-tone and speech audiometry.

CSD:3187 Early Literacy Instruction for Young Children 3 s.h.

Service-learning involving lecture, class discussion, and student participation in an early literacy program for preschoolers; concepts and skills necessary to conduct story time groups with young children that target development of print knowledge; application of learning by reading to small groups of preschool children. Recommendations: CSD:3118.

CSD:3993 Research Practicum arr.

Individual or small group participation in faculty research projects.

- CSD:4098 Honors Thesis** 2 s.h.
Close work with a faculty mentor.
- CSD:4114 Introduction to Voice Disorders** 2 s.h.
Basic foundations for management of voice disorders.
- CSD:4115 Structural Disorders** 2 s.h.
Therapy approaches used to treat speech production and swallowing disorders associated with disorders that affect structure and physiology of the speech and swallowing mechanism; basic knowledge necessary for clinical practice by clinicians who do not specialize in management of patients with head and neck cancer, cleft palate, or neurological disorders.
- CSD:4120 Introduction to Clinical Methods and Observation** 2 s.h.
Observation of the diagnosis and treatment of a wide range of speech, language, or hearing disorders in a variety of settings; basic understanding of evaluation process, goal setting, behavior management, pacing of therapy, shaping of behavior, tracking performance/learning, and professional and ethical behavior through observation of clinical interactions; completion of 25 hours of observation as required by the American Speech-Language-Hearing Association for obtaining national certification. Recommendations: senior or graduate standing in communication sciences and disorders.
- CSD:4145 Developmental Language Disorders** 3 s.h.
Nature of developmental disorders; basic concepts including behavioral characteristics, developmental patterns, and etiology theories; assessment and intervention principles in semantics, morphology, and syntax.
- CSD:4148 Developmental Speech Disorders** 3 s.h.
Review of typical phonological development in children; introduction to assessment and intervention practices for articulation and phonological disorders in children; may include apraxia, cerebral palsy, and cleft palate.
- CSD:4165 Communication Disorders and Aging** 2 s.h.
Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for nonmajors and service providers other than speech-language pathologists and audiologists. Same as ASP:4165.
- CSD:4183 Introduction to Stuttering** 2 s.h.
Theoretical perspectives on the nature of stuttering including onset and development, basic phenomena, and beginning treatment principles.
- CSD:4186 Problems: Speech/Hearing Processes and Disorders** arr.
Independent readings or research experience through mutual arrangement between student and faculty; goals and requirements determined by participating faculty member.
- CSD:4244 Rehabilitative Audiology** 3 s.h.
Theory, procedures for assessment, and rehabilitation of speech, hearing, and language deficits of people with hearing impairment.
- CSD:5104 Language Disorders in School-Aged Children** 3 s.h.
Emphasis on elementary grades; usually taken in conjunction with EDTL:4192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors. Same as EDTL:5104.
- CSD:5135 Foundations of Clinical Practice I** 2 s.h.
Basic concepts of clinical practice including models of diagnosis, fundamentals of clinical data collection and measurement, treatment planning, and professional writing. Corequisites: CSD:4145.
- CSD:5136 Foundations of Clinical Practice II** 1 s.h.
Advanced concepts of clinical practice including professionalism, clinical decision making, developing client-clinician alliance, examining biases and prejudices in clinical practice, and developing empathy.
- CSD:5137 Foundations of Clinical Practice III** 1 s.h.
Advanced principles of clinical practice including risk management, public policy, and models of third-party reimbursement; professional issues.
- CSD:5146 Neurogenic Disorders of Language** 3 s.h.
Overview of communication disorders secondary to acquired brain damage in adults; focus on aphasia, communication disorders arising from dementia, right-hemisphere stroke, traumatic brain injuries; general principles of diagnosis and intervention.
- CSD:5203 Counseling in Communication Disorders** 1 s.h.
Development of appropriate intervention plans that meet client/patient needs in collaboration with client/patient and relevant others; communicating effectively and recognizing needs, values, preferred mode of communication, and cultural linguistic background of client/patient, family, caregivers, relevant others; providing counseling to clients/patients, family, and caregivers regarding communication and swallowing disorders.
- CSD:5206 Language Disorders: Birth to Five Years** 3 s.h.
Disorders resulting from phonological, semantic, pragmatic, and morphosyntactic deficits; receptive and expressive problems; special assessment and intervention procedures.
- CSD:5213 Voice Habilitation** 2 s.h.
Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Same as MUS:5555.
- CSD:5219 Fundamentals of Laboratory Instrumentation** 2 s.h.
Introduction to instrumentation commonly used in research in speech and hearing sciences; basic audiometric calibration.
- CSD:5222 Gross Anatomy of Speech/Voice Production** 2 s.h.
Anatomy of speech and hearing mechanisms; instruction in dissection techniques; laboratory.
- CSD:5223 Pediatric Feeding and Swallowing Disorders** 1 s.h.
Development of anatomy and physiology of feeding and swallowing in infants and children; assessment and treatment of pediatric feeding and swallowing disorders. Prerequisites: CSD:4115.
- CSD:5224 System and Signal Theory for Speech and Hearing Science** 2-3 s.h.
Introduction to signals and systems with emphasis on their relevance to the fields of audiology and speech-language pathology. Requirements: introductory calculus.

- CSD:5233 Aphasia** 2 s.h.
Assessment, diagnosis, and treatment of aphasia and other acquired language and cognition-based communication disorders. Corequisites: CSD:5136. Requirements: CSD:5146 or a course that provides an overview of acquired language disorders.
- CSD:5234 Acquired Cognitive-Communication Disorders** arr.
Cognitive, neuropsychological, and social aspects of communication and the management of acquired cognitive-communication disorders associated with traumatic brain injury, right hemisphere damage, and neurodegenerative diseases.
- CSD:5236 Neurogenic Disorders of Speech and Swallowing** 3 s.h.
Provides future speech-pathologists with a strong foundation for career-long learning about the nature and classification of neurogenic motor-speech and swallowing disorders, symptomatology, etiology, diagnosis, treatment, and management options.
- CSD:5237 Cleft Palate and Related Disorders** 2 s.h.
Nature, etiologies, and principles of treatment of common disorders associated with cleft lip and palate, associated disorders.
- CSD:5240 Hearing Aids I** 3 s.h.
Hearing aids and diagnostic procedures; laboratory emphasis on measurement procedures.
- CSD:5246 Advanced Audiology** 3 s.h.
Theory and procedures for assessment of hearing loss in adult and pediatric populations; experience in test administration through supervised laboratory sessions.
- CSD:5253 Speech Perception in Listeners with Hearing Loss** 1-2 s.h.
Introduction to study of speech perception in listeners with normal hearing and those with hearing loss; overview of speech acoustics; theories of speech perception; contributions of auditory, visual, and indexical (talker-specific) information in speech signal; assessment techniques; benefits of hearing aid and/or cochlear implant use; factors influencing speech perception by children and adults with hearing loss.
- CSD:5255 Educational Audiology** 2 s.h.
Training in skills necessary for working with school-age population; case management and aural rehabilitation, amplification and classroom hearing technology, identification and assessment practices, federal legislation that affects services. Requirements: CSD:5240 for Au.D. students.
- CSD:5256 Anatomy and Physiology of Hearing** 3-4 s.h.
Anatomy of auditory system, cochlear mechanics, and electrophysiology of peripheral and central auditory nervous system; laboratory emphasis on physiological techniques for study of ear.
- CSD:5260 Augmentative and Alternative Communication** 2 s.h.
Theories, assessment, and intervention in augmentative and alternative communication (AAC) for individuals with severe communication disorders resulting from a variety of developmental and acquired conditions.
- CSD:5282 Phonological Development and Disorders** 2 s.h.
Advanced topics in phonological development and disorders; current theoretical approaches to phonological analysis and typical phonological acquisition applied to assessment and intervention with children who have phonological disorders.
- CSD:5283 Clinical Problems** 1-2 s.h.
Issues and approaches to treatment of children and adults.
- CSD:5301 Practicum: Speech-Language Pathology** arr.
Supervised clinical practice. Corequisites: CSD:5135. Requirements: M.A. professional emphasis.
- CSD:5304 Speech Pathology Outplacement: School** 0-4 s.h.
Supervised teaching and observation in speech-language pathology in an elementary school setting.
- CSD:5305 Speech Pathology Outplacement: Non-School** 0-4 s.h.
Supervised clinical work and observation in speech-language pathology in a non-school setting.
- CSD:5310 Scientific Writing** 3 s.h.
Principles of writing for scientific posters, journal articles, grant proposals; effective communication of concepts and data.
- CSD:5311 Audiology Clinic Management and Community Engagement** 2 s.h.
Variety of professional issues important to clinical practice; incorporates professional and community engagement as well as service learning; topics directly related to clinical work and covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5313 Accounting and Marketing in Audiology Business Practice** 2 s.h.
Introduction to business aspects of developing and managing an audiology practice related to accounting and marketing; varied professional issues important to clinical practice; topics covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5314 Audiology Student Teaching** arr.
Supervised teaching and observation in an area of audiology in the elementary schools. Corequisites: CSD:5315. Requirements: Au.D. first-, second-, or third-year enrollment.
- CSD:5315 Clinical Rotations in Audiology** arr.
Supervised clinical practice in audiology. Corequisites: CSD:5311. Requirements: Au.D. first-, second-, or third-year enrollment.
- CSD:5316 Professional, Ethical, and Legal Issues in Audiology Business Practice** 2 s.h.
Introduction to business aspects of developing and managing an audiology practice related to professional liability, certification, and licensure; legal and ethical issues in business practice; varied professional issues important to clinical practice; topics directly related to clinical work and covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5317 Compliance, Billing, Coding, and Reimbursement in Audiology Business Practice** 2 s.h.
Introduction to business aspects of developing and managing an audiology practice related to compliance, billing, coding, and reimbursement; varied professional issues important to clinical practice; topics covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.

CSD:5320 Applied Statistics and Principles of Evidence-Based Practice in Audiology 2 s.h.

Combination of applied statistics and principles of evidence-based clinical practice with emphasis on applications in audiology and hearing science; review of statistical techniques widely used in audiology research including nonparametric and descriptive statistics, correlation, regression, and ANOVA; examples taken from studies published in scientific journals in communication sciences and disorders; principles of evidence-based practice that focus on topics and methods of establishing treatment efficacy, meta analyses, levels of evidence, and methods of assessing research quality. Requirements: introductory course in statistics.

CSD:5350 Seminar in Supervision 1 s.h.

Process and procedures in clinical education and supervision in a graduate program.

CSD:5511 Introduction to Doctoral Research 1 s.h.

Topics related to development and execution of research; doctoral program, use of library, human and animal subject issues, philosophy of science, use of common research tools, reading and writing research papers, and research grant preparation.

CSD:6101 Cognitive Science of Language Proseminar I 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as LING:6101, PSY:6101.

CSD:6102 Cognitive Science of Language Proseminar II 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as LING:6102, PSY:6102.

CSD:6202 Methods of Teaching Voice 3 s.h.

Attitude, musicianship, foreign language aptitude, physical and emotional characteristics; mental images used to modify respiratory, phonatory, articulatory behavior; vocal hygiene; performance anxiety; student-teacher relationships; administration in vocal schools, professional organizations. Same as MUS:6520.

CSD:6230 Advanced Hearing Science 2 s.h.

Basic properties of auditory perception or psychoacoustics from material covered in CSD:5256; perception of loudness, masking frequency selectivity, temporal processing, and spatial perception; basic perceptual properties, methods of measurement, and physiological basis for performance; properties of perception in normal ears, hearing impairment, and auditory prostheses (e.g., cochlear implants).

CSD:6242 Hearing Aids II 3 s.h.

Evaluation and verification procedures; emphasis on advanced technologies and strategies.

CSD:6245 Pediatric Audiology 3 s.h.

Theory and procedures for assessment and rehabilitation of pediatric populations; laboratory emphasis on test administration.

CSD:6247 Medical Audiology 2 s.h.

Review of a wide range of pathologic conditions that have an impact on hearing; focus on understanding the underlying pathophysiology and how the disorder is diagnosed and treated.

CSD:6249 Cochlear Implants 1-3 s.h.

Introduction to cochlear implants; history of cochlear implantation, introduction to cochlear implant technology, basics of device programming and troubleshooting, candidacy issues, outcomes in children and adults; auditory rehabilitation specific to cochlear implant recipients.

CSD:6290 Auditory Evoked Potentials 3 s.h.

Introduction to the wide range of electrophysiologic measures of auditory function used in clinical practice.

CSD:6291 Vestibular Assessment and Rehabilitation 1-3 s.h.

Introduction to otoacoustic emissions, vestibular theory, and testing techniques.

CSD:6292 Advanced Rehabilitative Audiology 1 s.h.

Current and developing procedures for assessment and habilitation of adults and children with hearing losses.

CSD:6293 Vestibular Rehabilitation 2 s.h.

Introduction to vestibular management and rehabilitation.

CSD:6311 Professional Issues in Audiology 1 s.h.

Information on a variety of professional issues important to clinical practice; topics directly related to clinical work; written assignments required as a means for students to reflect on and share clinical experiences related to topics. Corequisites: CSD:6316. Requirements: M.A. professional emphasis or Au.D. fourth-year enrollment.

CSD:6316 Advanced Externship in Audiology arr.

Advanced clinical externship in audiology. Corequisites: CSD:6311. Requirements: Au.D. fourth-year enrollment.

CSD:6317 Audiology Practice: Business Start-Up and Interprofessional Practice 1 s.h.

Introduction to business aspects of developing and managing an audiology practice related to business start-up as well as short- and long-range business planning; interprofessional education and practice; interprofessional education/interprofessional practice (IPE/IPP) training focuses on students' collaboration with multiple service providers from other professions in order to improve outcomes for individuals, families, and/or communities served; topics are covered by clinical faculty and guest speakers with special expertise in each area; presentations by students. Requirements: M.A. professional emphasis or Au.D. enrollment.

CSD:6318 Hearing Loss Prevention 2 s.h.

Incidence and prevalence of hearing loss; risk factors and assessment; noise exposure guidelines; hearing protection devices; education and motivation.

CSD:6515 Professional Seminar 0 s.h.

Weekly presentation of research projects, ideas, and clinical initiatives by faculty, students, and guests; required for Ph.D., Au.D., and M.A.-SLP first-year graduate students.

CSD:6519 Seminar: Evidence-Based Practice 2 s.h.

Introduction to design and conduct of research and evidence-based clinical practice. Offered fall semesters. Recommendations: clinical graduate standing in audiology or speech-language pathology.

CSD:6530 Seminar Language Acquisition on Multiple Time Scales **3 s.h.**

Understanding native language acquisition by considering change over shorter (minutes, hours, days, weeks) and longer (months, years, decades) time spans; use of evidence concerning the language acquisition of individuals with childhood language impairments (specific language impairment and language learning disabilities) as these conditions allow a sort of natural experiment wherein learning and development across domains and across time can be "pulled apart." Requirements: Ph.D. enrollment.

CSD:6538 Seminar: Hearing Science **1 s.h.**

Varied topics related to auditory function, assessment, and rehabilitation; discussion based.

CSD:7238 Capstone Requirement **1 s.h.**

Work with a faculty mentor to complete a project that focuses on an area of student's interest.

CSD:7590 Research **arr.**

Individual laboratory research training in speech-language pathology or audiology.

Speech and Hearing Science, B.A.

Learning Outcomes

Graduating B.A. students in speech and hearing science will have:

- a strong foundational understanding of the physical processes and biological substrates underlying normal audition, normal perception, and production of speech and language;
- a strong foundational understanding of the normal development of speech, language, and hearing; and
- finished all prerequisite course work needed to begin a graduate program in either speech-language pathology or audiology, and will be prepared to begin more advanced graduate course work focusing on disorders, diagnosis, and treatment.

Overview

The undergraduate major in speech and hearing science emphasizes the normal processes of speech, hearing, and language and does not qualify an individual to work professionally in the field. Instead, it is designed primarily to prepare students for graduate work. It also may be an appropriate major for students earning College of Liberal Arts and Sciences degrees who are not planning careers in speech pathology and audiology. Students who intend to pursue professional careers in communication sciences and disorders must complete a graduate program comparable to the department's Master of Arts in speech pathology and audiology or its Doctor of Audiology (Au.D.).

Requirements

The Bachelor of Arts with a major in speech and hearing science requires a minimum of 120 s.h., including 63-64 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Requirements include 12 core courses offered by the department and eight cognate courses offered by other departments. Transfer students must complete a minimum of 15 s.h. toward the major at the University of Iowa.

The B.A. with a major in speech and hearing science requires the following course work.

Code	Title	Hours
Core Courses		37
Cognate Courses		26-27
Clinical Observation		
Total Hours		63-64

Core Courses

Code	Title	Hours
All of these:		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2

CSD:2110	Phonetics: Theory and Applications	3
CSD:2111	Basic Acoustics for Speech and Hearing	3
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3117	Psychology of Language	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3

Cognate Courses

Students may choose cognate courses that help fulfill the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Code	Title	Hours
Both of these:		
LING:3001	Introduction to Linguistics	3
PSY:1001	Elementary Psychology	3
One of these:		
PSQF:1020/ STAT:1020	Elementary Statistics and Inference	3
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
PHYS:1400	Basic Physics (preferably with lab)	4
PHYS:1511	College Physics I	4
One of these:		
ASP:3150	Psychology of Aging	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2930	Abnormal Psychology: Health Professions	3
SSW:1800/ ASP:1800/ CSD:1800/ NURS:1800/ TR:1800	Aging Matters: Introduction to Gerontology	3
One of these:		
PSQF:4106	Child Development	3
PSY:2401	Introduction to Developmental Science	3
One of these:		
BIOL:1141	Introductory Animal Biology (with lab)	4

BIOL:1411	Foundations of Biology (with lab)	4
One of these:		
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4

The cognate requirement in mathematics may be fulfilled through an acceptable score on the Advanced Placement AB or BC Calculus exam; see Credit by Exam Options on the Office of Admissions website. Students without AP credit are encouraged to take MATH:1440 Mathematics for the Biological Sciences (speech interest) or MATH:1460 Calculus for the Biological Sciences (audiology interest) to satisfy this requirement.

Clinical Observation

Students have the opportunity and are encouraged to obtain 25 hours of supervised clinical observation, a prerequisite for participation in clinical practicums at the graduate level. This requirement is satisfied by completion of independent observations or by registering for CSD:4120 Introduction to Clinical Methods and Observation.

Honors

Honors in the Major

The departmental honors program provides students the opportunity to conduct research in the field of communication sciences and disorders, to gain experience presenting research ideas in public settings, and to work closely with a faculty mentor. In order to be eligible, students must have a cumulative and major g.p.a. of at least 3.60 at the beginning of the fall semester of their junior year. All eligible students will be invited to apply to the program during the fall semester of their junior year. Interested students should complete and return the application. A limited number of spots are available, based on the availability of mentors. Applications will be reviewed and a select number of students will be admitted to the program based on their grade-point average.

After entering the departmental honors program, students enroll in CSD:3097 Honors Seminar in the spring semester of their junior year. The seminar provides an introduction to research philosophies, research design and implementation, and a chance for each student to critically evaluate existing research literature. In addition, the seminar provides an introduction to the department's research facilities and potential thesis advisors.

By the beginning of the fall semester of their senior year, students will have selected project areas and thesis advisors. During their senior year in the fall and spring semesters, honors students register for CSD:4098 Honors Thesis and work on their projects and theses with their mentors. During the spring semester of their senior year, honors students present their projects at a university-wide forum (such as the UI Spring Undergraduate Research Festival) and at a departmental event. Students must maintain a cumulative and major g.p.a. of at least 3.60 in order to graduate with honors in the major.

As final recognition of the completion of the departmental honors program, the diplomas of honors students bear a honors notation. Students interested in learning more about

this program should contact their academic advisor and/or the departmental honor's advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the speech and hearing science major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The major requires specific mathematics and science competencies that may be satisfied with courses approved for the GE CLAS Core.

Before the fifth semester begins: three courses in the major

Before the seventh semester begins: nine courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 12 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Speech and Hearing Science, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1460 or MATH:1440	Calculus for the Biological Sciences or Mathematics for the Biological Sciences	4
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
CSI:1600	Success at Iowa	2
Hours		18-20

Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
PSY:1001	Elementary Psychology ^b	3
BIOL:1141	Introductory Animal Biology ^b	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		1
Hours		15-17

Second Year**Fall**

CSD:2110	Phonetics: Theory and Applications ^g	3
CSD:2111	Basic Acoustics for Speech and Hearing ^g	3
LING:3001	Introduction to Linguistics	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3
Hours		16-17

Spring

CSD:3113	Introduction to Hearing Science ^h	4
CSD:3118	Language Acquisition ^{b, h}	3
Major: physics or chemistry course ^{b, i}		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course		1
Hours		15-16

Third Year**Fall**

CSD:3185	Hearing Loss and Audiometry ^g	3
Major: group A psychology course		3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^f		3 - 4
Hours		15-16

Spring

CSD:3112	Anatomy and Physiology of Speech Production ^h	4
CSD:3117	Psychology of Language ^{b, h}	3
Major: group B psychology course		3
Major: statistics course		3
Elective course ^f		3 - 4
Hours		16-17

Fourth Year**Fall**

CSD:4145	Developmental Language Disorders ^g	3
CSD:3116	Basic Neuroscience for Speech and Hearing ^g	3
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^f		3 - 4
Hours		15-16

Spring

CSD:4148	Developmental Speech Disorders ^h	3
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CSD:4244	Rehabilitative Audiology ^h	3
CSD:4120	Introduction to Clinical Methods and Observation	2
Elective course ^f		3
Elective course ^f		3
Hours		14
Total Hours		124-133

- a Students intending to pursue AuD should consider MATH:1460.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i Students should choose a course that will also fulfill the GE CLAS Core Natural Sciences requirement.

Career Advancement

The speech and hearing science program provides excellent preparation for a career as a speech-language pathologist or audiologist. There continues to be a strong demand for professionals in these fields, and both speech pathology and audiology are consistently ranked highly in "best job" surveys.

Advanced degree holders may work as a teacher, clinician, and/or researcher in the field of communication sciences and disorders.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Communication Sciences and Disorders, Minor

The undergraduate minor in communication sciences and disorders requires a minimum of 15 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students must begin the minor with CSD:1015 Introduction to Speech and Hearing Processes and Disorders, which provides a broad overview of all aspects of the normal communication process and of various disorders. Students complete the minor by choosing from the courses listed below, according to their interests.

The minor in communication sciences and disorders requires the following course work.

Code	Title	Hours
This course:		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
A minimum of 13 s.h. from these:		
CSD:2110	Phonetics: Theory and Applications	3
CSD:2111	Basic Acoustics for Speech and Hearing	3
CSD:2140	Manual Communication	1
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3117	Psychology of Language	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3

Speech Pathology and Audiology, M.A.

Learning Outcomes

Graduating M.A. students in speech pathology and audiology will:

- demonstrate knowledge and skills specified in the Knowledge and Skills Acquisition (KASA) competencies for speech-language pathology professionals;
- behave professionally and ethically, and adhere to the American Speech-Language-Hearing Association (ASHA) Code of Ethics;
- use critical thinking skills to apply theory and knowledge to clinical decision making; and
- use evidence-based practice and practice-based evidence to make clinical decisions regarding diagnosis and treatment of persons with communication disorders.

Overview

The Master of Arts program in speech pathology and audiology provides training for individuals who wish to do clinical work in speech-language pathology. Graduates of the M.A. program meet all academic and practicum requirements for clinical certification by the American Speech-Language-Hearing Association (ASHA) and for licensure by the State of Iowa. Students preparing for clinical positions in public schools must meet school licensure or certification requirements of the states in which they plan to work.

Requirements

The Master of Arts program in speech pathology and audiology requires a minimum of 38 s.h. of graduate credit, although students typically earn 53-57 s.h. of credit by the time they complete the degree. The program prepares clinicians to be able to function independently in a variety of clinical settings. The program is designed to ensure that upon graduation, a student will meet requirements for immediate professional employment.

M.A. students usually have a background of undergraduate courses in speech and hearing science, psychology of language, and human behavior that is equivalent to an undergraduate major in speech and hearing science at the University of Iowa.

Before registering in the program, entering M.A. students receive descriptive materials about basic science core courses considered to be required preparation for the M.A. program, and required M.A. clinical core courses for which the department may accept comparable courses taken at the undergraduate level. Decisions about incorporating background course work in these areas are made by the faculty advisor in consultation with the student and the instructors of the basic science or clinical core courses. Entering students must have completed the following courses or their equivalents.

Code	Title	Hours
	A biological science course (human or animal biology)	3
	A physical science course (physics or chemistry)	3
	A social/behavioral science course	3

CSD:2110	Phonetics: Theory and Applications	3
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3
PSQF:1020/ STAT:1020	Elementary Statistics and Inference	3
25 hours of observation documented by a practitioner with ASHA certification		

Candidates for an M.A. with a professional emphasis in speech-language pathology are not required to complete a thesis, although all students demonstrating research aptitude and interest are encouraged to do so.

A typical program usually takes two calendar years to complete but may take longer, depending on a student's background and personal interests.

Core Requirements

All students seeking an M.A. in speech pathology and audiology with professional emphasis in speech-language pathology must take the following.

Code	Title	Hours
CSD:5135	Foundations of Clinical Practice I	2
CSD:5136	Foundations of Clinical Practice II	1
CSD:5137	Foundations of Clinical Practice III	1
CSD:6515	Professional Seminar (taken fall and spring semesters of first year)	0

In addition, they must take the following courses unless they completed equivalent courses as undergraduates.

Code	Title	Hours
CSD:2140	Manual Communication	1
CSD:4114	Introduction to Voice Disorders	2
CSD:4115	Structural Disorders	2
CSD:4183	Introduction to Stuttering	2
CSD:5104	Language Disorders in School-Aged Children	3
or CSD:5206	Language Disorders: Birth to Five Years	
CSD:5146	Neurogenic Disorders of Language	3
CSD:6519	Seminar: Evidence-Based Practice	2

Also required are additional semester hours of practicum registration sufficient to meet supervised, direct clinical

experience requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association and the Iowa license, and to provide broad, supervised practicum experience.

In addition to the core requirements listed above, all non-thesis students preparing to be speech-language pathologists must earn a minimum of 12 s.h. from the following; thesis students must earn a minimum of 8 s.h. from the following. Thesis students also must enroll in 4 s.h. of research.

Code	Title	Hours
CSD:3117	Psychology of Language	3
CSD:5213	Voice Habilitation	2
CSD:5222	Gross Anatomy of Speech/ Voice Production (dissection)	2
CSD:5223	Pediatric Feeding and Swallowing Disorders	1
CSD:5233	Aphasia	2
CSD:5234	Acquired Cognitive- Communication Disorders	arr.
CSD:5236	Neurogenic Disorders of Speech and Swallowing	3
CSD:5237	Cleft Palate and Related Disorders	2
CSD:5260	Augmentative and Alternative Communication	2
CSD:5282	Phonological Development and Disorders	2
CSD:5283	Clinical Problems	2
CSD:5350	Seminar in Supervision	1

Professional Licensure

Licensure to Work Outside Public Schools

A number of states, including Iowa, require a state license in speech-language pathology or audiology for persons who work in settings outside the public schools. Students who meet the requirements listed above for the M.A. in speech pathology and audiology also meet the academic requirements for the license in Iowa as well as in most other states.

Public School Licensure

Students preparing for clinical positions in public schools typically must meet school licensure or certification requirements of the states in which they plan to work. The following criteria meet the requirements for endorsement as speech-language pathologists in Iowa and most other states:

- a master's degree with professional emphasis in speech-language pathology or the equivalent;

- completion of an approved human relations component;

- completion of courses that cover the education of the disabled and the gifted and talented (e.g., exceptional persons, education of the gifted); and

- completion of the requirements in speech-language pathology and the 20 s.h. professional education sequence, including CSD:5104 Language Disorders in School-Aged Children and CSD:5304 Speech Pathology Outplacement: School as a speech-language pathologist.

The professional education sequence requires course work in the following areas.

Curriculum (e.g., reading, methods, curriculum development)

Foundations (e.g., philosophy of education, foundations of education)

Educational measurement (e.g., tests and measurements, measures and evaluations of instruction)

Educational psychology (e.g., educational psychology, counseling theories and techniques)

Special education (e.g., introduction to special education, exceptional persons, learning disabilities)

Child development (e.g., human growth and development, principles and theories of child development, history and theories of early childhood education)

GE CLAS Core [p. 459] courses (e.g., introduction to psychology, sociology, history, literature, and humanities) do not meet the requirements of the professional education sequence.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

The department requires that applicants take the Graduate Record Examination (GRE) General Test before they apply for admission.

Admission to the program is competitive; applicants' credentials are considered in relation to those of others in the applicant pool, and a limited number of individuals are admitted to each program. Applicants whose undergraduate g.p.a. is below 3.30 or whose GRE General Test scores are lower than the 40th percentile in any area (verbal, quantitative, and analytic) rarely are admitted.

Admission is for fall; the application deadline is January 1. All applications to the M.A. program must be submitted through CSDCAS (Central Application Service for Communication Science and Disorders).

For detailed information regarding evaluation of applicants, applications materials and requirements, and other matters, see Graduate Programs on the department's website.

Financial Support

Financial support is based on merit and dependent on availability of funds. For more detailed information, contact the Department of Communication Sciences and Disorders director of graduate studies.

Career Advancement

The speech pathology and audiology program provides excellent preparation for a career as a speech-language pathologist or audiologist. There continues to be a strong demand for professionals in these fields, and both speech pathology and audiology are consistently ranked highly in "best job" surveys.

Advanced degree holders may work as a teacher, clinician, and/or researcher in the field of communication sciences and disorders.

Doctor of Audiology, Au.D.

Learning Outcomes

Graduating Au.D. students will:

- be able to effectively and accurately identify, diagnose, prevent, quantify, and treat hearing and balance disorders affecting both children and adults;
- understand the importance of and be able to implement patient- and family-centered, evidence-based approaches to identify, treat, and prevent hearing and balance disorders affecting individuals of all ages; and
- become leaders—nationally and internationally—driving innovation, shaping the future of the profession, and disseminating information about consequences of untreated hearing and balance disorders as well as the importance of early intervention and prevention.

Requirements

The Doctor of Audiology (Au.D.) requires 95 s.h. of graduate credit. The Au.D. is the entry-level degree for individuals who wish to work as audiologists in the United States.

The four-year Au.D. program is designed for students with an undergraduate degree in speech and hearing science. Au.D. students must complete the following courses. They may be excused from taking courses whose equivalents they completed successfully during undergraduate study.

Code	Title	Hours
All of these:		
CSD:4145	Developmental Language Disorders	3
CSD:4244	Rehabilitative Audiology	3
CSD:5203	Counseling in Communication Disorders	1
CSD:5219	Fundamentals of Laboratory Instrumentation	2
CSD:5224	System and Signal Theory for Speech and Hearing Science	3
CSD:5240	Hearing Aids I	3
CSD:5246	Advanced Audiology	3
CSD:5253	Speech Perception in Listeners with Hearing Loss	1-2
CSD:5255	Educational Audiology	2
CSD:5256	Anatomy and Physiology of Hearing	3-4
CSD:5311	Audiology Clinic Management and Community Engagement	2
CSD:5315	Clinical Rotations in Audiology	arr.
CSD:5320	Applied Statistics and Principles of Evidence-Based Practice in Audiology	2
CSD:6230	Advanced Hearing Science	2
CSD:6242	Hearing Aids II	3
CSD:6245	Pediatric Audiology	3
CSD:6247	Medical Audiology	2

CSD:6249	Cochlear Implants	1-3
CSD:6290	Auditory Evoked Potentials	3
CSD:6291	Vestibular Assessment and Rehabilitation	3
CSD:6292	Advanced Rehabilitative Audiology	1
CSD:6316	Advanced Externship in Audiology	arr.
CSD:6317	Audiology Practice: Business Start-Up and Interprofessional Practice	1
CSD:6318	Hearing Loss Prevention	2
CSD:7238	Capstone Requirement	1
MATH:1460	Calculus for the Biological Sciences (or one semester of calculus)	4

Combined Programs

Au.D./Ph.D. in Speech and Hearing Science

The Department of Communication Sciences and Disorders offers the combined Doctor of Audiology/Doctor of Philosophy in speech and hearing science. The combined Au.D./Ph.D. program is especially appropriate for students who would like to practice audiology and hold a faculty position at a university. The program requires 137 s.h., permitting students to count 30 s.h. of the 95 s.h. required for the Au.D. degree toward the 72 s.h. required for the Ph.D. degree. Students complete all of the clinical practicum experience and course work required for the Au.D.; the course of study for the Ph.D. is developed by each student in consultation with a faculty committee. For more information, see the Ph.D. in Speech and Hearing Science [p. 245] in this section of the Catalog. Consult the department chair to learn more about the combined degree program.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

The department requires that applicants take the Graduate Record Examination (GRE) General Test before they apply for admission.

Admission to the program is competitive; applicants' credentials are considered in relation to those of others in the applicant pool, and a limited number of students are admitted to each program. Applicants whose undergraduate g.p.a. is below 3.00 or whose GRE scores are lower than the 40th percentile in any area (verbal, quantitative, and analytic) rarely are admitted.

Students interested in admission to the combined Au.D./Ph.D. program should apply to the Au.D. program. At the end of their second year in the Au.D. program, they should request admission to the Ph.D. program, and if approved will be allowed to change degree objectives.

Admission is for fall; the application deadline is January 1. All applications to the Au.D. program must be submitted through CSDCAS (Central Application Service for Communication Science and Disorders).

For detailed information regarding evaluation of applicants, applications materials and requirements, and other matters, see Graduate Programs on the department's website.

Financial Support

Financial support is based on merit and dependent on availability of funds. For more detailed information, contact the Department of Communication Sciences and Disorders director of graduate studies.

Career Advancement

The Au.D. program provides excellent preparation for a career as a speech-language pathologist or audiologist. There continues to be a strong demand for professionals in these fields, and both speech pathology and audiology are consistently ranked highly in "best job" surveys.

Advanced degree holders may work as teachers, clinicians, and/or researchers in the field of communication sciences and disorders.

Speech and Hearing Science, Ph.D.

Learning Outcomes

Graduating Ph.D. students in speech pathology and audiology will demonstrate:

- critical thinking through reading, discussing, and writing about relevant scientific literature;
- independence in designing and conducting quality research, from concept to methodology, and through to data analysis and interpretation;
- competence in scientific writing;
- competence in independently developing and delivering quality oral research presentations; and
- competence in developing and delivering course material to undergraduate and graduate classes.

Requirements

The Doctor of Philosophy program in speech and hearing science requires a minimum of 72 s.h. of graduate credit. The program provides flexible, comprehensive training for scholar-researchers interested in communication processes and their disorders. Students with diverse backgrounds in the natural and behavioral sciences are encouraged to apply and develop their skills in an atmosphere of interdisciplinary research.

The Ph.D. program reflects the broad interests of its multidisciplinary faculty, whose members have diverse backgrounds in speech, language, hearing, engineering, physiology, physics, psychology, linguistics, and bioengineering. Faculty members are committed to an interdisciplinary approach to questions at every level of the speech and language production/perception system.

The purpose of the doctoral program is to provide the integrated knowledge necessary for a productive career in speech-language pathology and audiology, communication science, and related areas.

The department encourages candidates with special interests, goals, or backgrounds to develop individualized programs of study. There is no standard curriculum for the Ph.D.; rather, a program of study is developed by each student in consultation with a faculty committee. The course of study is developed from courses offered by the department, courses in other areas (e.g., physics, engineering, psychology, mathematics, statistics, physiology, neurology, anatomy, and others), and special reading and research experiences.

Students in the Ph.D. program usually are expected to register for research credit (CSD:7590 Research) during each semester of residence and to register for and participate in CSD:6515 Professional Seminar.

Knowledge in each of the areas of hearing, speech, language, mathematics, statistics, computer science, and instrumentation is required of all students. Decisions regarding the extent of this knowledge and how it is obtained (e.g., course work or independent study) are made jointly by each student and the student's faculty committee.

Doctoral students who have not written a master's thesis must complete the equivalent of a master's thesis project as well as the comprehensive examination. They also must

successfully complete and submit a dissertation based on original research.

Combined Programs

Au.D./Ph.D. in Speech and Hearing Science

The Department of Communication Sciences and Disorders offers the joint Doctor of Audiology/Doctor of Philosophy in speech and hearing science. The combined Au.D./Ph.D. program is especially appropriate for students who would like to practice audiology and hold a faculty position at a university. The program requires 137 s.h., permitting students to count 30 s.h. of the 95 s.h. required for the Au.D. degree toward the 72 s.h. required for the Ph.D. degree. Students complete all of the clinical practicum experience and course work required for the Au.D.; the course of study for the Ph.D. is developed by each student in consultation with a faculty committee. For more information, see the Au.D. [p. 243] in this section of the Catalog. Consult the department chair to learn more about the combined degree program.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

The department requires that applicants take the Graduate Record Examination (GRE) General Test before they apply for admission.

Admission to the program is based on a student's aptitudes and interests in specific research areas as well as the availability of faculty to serve as a mentor. Students should have a g.p.a. of at least 3.00 and should have GRE scores no lower than the 40th percentile in any area (verbal, quantitative, and analytic) to be considered.

Students interested in admission to the combined Au.D./Ph.D. program should apply to the Au.D. program. At the end of their second year in the Au.D. program, they should request admission to the Ph.D. program, and if approved they will be allowed to change degree objectives.

Applications should be received by January 1. All applications to the Ph.D. program must be submitted through the Office of Graduate Admissions.

For detailed information regarding evaluation of applicants, applications materials and requirements, and other matters, see Graduate Programs on the department's website.

Financial Support

Financial support is merit-based and dependent on availability of funds. For more detailed information, contact the Department of Communication Sciences and Disorders director of graduate studies.

Career Advancement

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Advanced degree holders may work as teachers, clinicians, and/or researchers in the field of communication sciences and disorders.

Communication Studies

Chair

- Timothy J. Havens

Undergraduate major: communication studies (B.A.)

Undergraduate minor: communication studies

Graduate degrees: M.A. in communication studies; Ph.D. in communication studies

Faculty: <https://clas.uiowa.edu/commstudies/people>

Website: <https://clas.uiowa.edu/commstudies/>

The Department of Communication Studies focuses on the study of human communication as a social practice. Scholarship and teaching in the department center on the role that human communication processes play in the construction, maintenance, reinforcement, and reformation of various aspects of social, professional, and institutional life.

The department provides a liberal-arts-based undergraduate education that prepares students to meet the complex communication challenges of the 21st century. It provides top-ranked doctoral education and is a national and international leader in research and knowledge dissemination.

The department has three areas of specialization. The rhetoric and public advocacy specialization focuses on how citizens use public argumentation and other rhetorical processes to bring about cultural, social, and political changes. The media studies specialization focuses on modern media in their cultural, economic, historical, political, and social contexts to understand how society and social relations shape and are shaped by media practices. The interpersonal communication and relationships specialization focuses on how the communicative practices of relating in everyday life construct, shape, sustain, and change who people are as individuals, as well as the quality of their lives.

The Department of Communication Studies encourages exploration of the practical, political, social, and aesthetic dimensions of symbolic exchange and awareness of the relationships among these dimensions. The department has produced many influential scholars and artists and has been a hub for the intersection of programs and projects of the University and other institutions.

Forensics/Debate

Students in the forensics/debate program have the opportunity to participate in on-campus debates, in developmental programs designed to improve speech activities in the state, and as members of competitive intercollegiate debate teams. Forensics scholarships are available. Students interested in debate should enroll in COMM:2813 Practicum in Debate or COMM:1814 Elements of Debate.

Related Certificates

Event Planning

The Departments of Communication Studies, Health and Human Physiology, and Marketing, and the School of Journalism and Mass Communication collaborate to offer the undergraduate Certificate in Event Planning. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event planning and careers in the event planning industry. For more

information, see the Certificate in Event Planning [p. 437] in the Catalog.

Leadership Studies

The Certificate in Leadership Studies is an interdisciplinary program supported by the Tippie College of Business, the Colleges of Education, Liberal Arts and Sciences, and the Center for Student Involvement and Leadership. The certificate provides a structure for involvement and commitment to leadership. It introduces students to leadership concepts and offers them hands-on leadership experiences. The certificate is coordinated by the Pomerantz Career Center and housed in University College. For more information, see the Certificate in Leadership Studies [p. 1827] in the Catalog.

Media Entrepreneurialism

The Tippie College of Business and the School of Journalism and Mass Communication collaborate to offer the Certificate in Media Entrepreneurialism. Opportunities exist for students to invent new revenue streams or business models for media companies, create new media products, work as part of an innovation team for an established media company, or possibly build a new business. The certificate is administered by the School of Journalism and Mass Communication. For more information, see the Certificate in Media Entrepreneurialism [p. 742] in the Catalog.

Programs

Undergraduate Programs of Study

Major

- Major in Communication Studies (Bachelor of Arts) [p. 257]

Minor

- Minor in Communication Studies [p. 261]

Graduate Programs of Study

Majors

- Master of Arts in Communication Studies [p. 263]
- Doctor of Philosophy in Communication Studies [p. 264]

Facilities

The Samuel L. Becker Communication Studies Building is designed to meet the department's research and technological needs.

Courses

Courses numbered below 5000 are intended primarily for undergraduates; those numbered 5000 and above are for graduate students. Graduate students may take courses numbered 3000-4999 for credit, with their committee's approval.

Not all courses are offered each semester.

Registration in COMM:1000 First-Year Seminar is open to first- and second-semester students regardless of grade-point average.

Communication Studies Courses

COMM:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

COMM:1112 Interpersonal Communication 3 s.h.

Introduction to face-to-face communication in social and personal relationships; maximizing communicative effectiveness in relationships with knowledge about how communication functions; analysis of one's own and others' communication practices and experiences.

COMM:1117 Theory and Practice of Argument 4 s.h.

Public arguments as practiced in law, politics, science, and other public arenas; improvement of skills in researching, constructing, organizing, and presenting arguments on disputed subjects; analyzing and refuting arguments of others; developing a better understanding of how scholars apply tools of formal and informal logic in a variety of disciplines to improve quality of academic argument. GE: Quantitative or Formal Reasoning.

COMM:1130 The Art of Persuading Others 3 s.h.

Basic theoretical concepts of effective public communication; employ knowledge of concepts in analyzing texts; definition and influence of rhetorical situation, different elements of persuasion (message logic, appeal to feelings, character of speaker), ability of speakers to invent arguments; issues of judgment, public discourse, identity, and agency.

COMM:1168 Media, Music, and Culture 3 s.h.

What makes popular music important for people; music's power to change culture; production, distribution, reception of popular music in cultural and historical contexts.

COMM:1170 Communication Theory in Everyday Life 3 s.h.

General overview of everyday life communication, theories and research techniques used to understand it; sheer depth and complexity of processes in communication that occur in everyday lives and which appear to be trivial; how to observe conversations and identify what is really happening in them; ways in which scholars explain everyday communication and how it works; applications of theoretical thinking to explain processes of everyday communication. GE: Social Sciences.

COMM:1174 Media and Society 3 s.h.

Processes and effects of mass communication; how mass media operate in the United States; how mass communication scholars develop knowledge. GE: Social Sciences; Values and Culture.

COMM:1301 Core Concepts in Communication Studies 3 s.h.

Introduction to communication topics; face-to-face interaction, public speaking, globally distributed film, music, and television; ways of thinking, vocabulary, and overview of concepts used in other communication studies courses. Prerequisites: COMM:1305.

COMM:1305 Understanding Communication: Social Scientific Approaches 3 s.h.

Social scientific methods used to generate knowledge about communication processes; basic tools necessary to conduct and evaluate communication research; epistemological perspectives, research procedures, and data analysis; readings and hands-on activities.

COMM:1306 Understanding Communication: Humanistic Approaches 3 s.h.

Humanistic methods and theories used to generate knowledge about communication processes; basic tools necessary to conduct and evaluate communication research in humanities subdisciplines; epistemological perspectives, research procedures, and critical practices; readings and hands-on activities.

COMM:1809 Social Marketing Campaigns 3 s.h.

Introduction to theory, development, and practice of social marketing campaigns; public service announcements, political action to change smoking laws, community-led initiatives to increase availability of local foods; communication-centric format including research in public health, nursing, marketing, and other fields; group work to identify issues of local concern and develop a theoretically justified and practically realistic social marketing campaign with potential to positively impact communities.

COMM:1814 Elements of Debate 3 s.h.

Debates that occur everyday in a wide variety of situations and settings; how to recognize when a debate is occurring and different procedures by which people conduct debates; emphasis on development of personal advocacy skills and how one goes about teaching those same skills to others by example and practice; examination of role of debate in achieving collective economic and political purposes in contemporary societies.

COMM:1816 Business and Professional Communication 3 s.h.

Introduction to business and professional communication at individual and corporate levels; individual-level topics cover organizational communication, business vocabulary, speaking and writing, professionalism and interviewing; corporate-level topics focus on marketing, advertising, public relations, corporate communications, crisis communication management, business and communication plans, proposals; guest speakers from for-profit and not-for-profit organizations.

COMM:1818 Communication Skills for Leadership 3 s.h.

Practice and understanding of essential communication skills for leadership; skills-based curriculum promoting application of knowledge; topics include relationship skills, collaboration skills, presentation skills, and writing skills; emphasis on leadership throughout each section of the course.

COMM:1819 Organizational Leadership 2-3 s.h.

Introduction to nature of leadership, styles of leadership that are most effective, and ways in which obstacles may be overcome in groups or organizations; different approaches to qualities of leadership, role of visions and motivation, interpersonal and decision-making skills, meeting preparation and evaluation, and related communication skills.

COMM:1830 Solving Public Problems: Dialogue and Deliberation for Democracy 3 s.h.

Communication at the heart of public problems and solutions; critical 21st-century skills (writing for a general audience, facilitating dialogue); valuable community service experiences as an introduction to the interdisciplinary field of dialogue and deliberation; focus on a complex local issue, such as affordable housing, flood planning, or excessive drinking; partnering with local organizations to research a local problem, plan community-based solutions, and study the art of facilitating public discussions; topics include issue analysis, deliberative inquiry, convening meetings, and community organizing.

COMM:1840 Television Studio Production 3 s.h.

Basics of digital television studio production on industry-quality technology; studio lighting, high-definition camera operation, audio recording and editing, digital switcher operation, nonlinear editing, and more; introduction to questions surrounding the impact of studio production on artistic expression, audiences, and society.

COMM:1845 Short-Form Media Production 3 s.h.

Basics of short-form media creation including public service announcements, commercials, promotional videos, and more; entire production process from creation to production to post-production; assumes basic knowledge of studio and field production techniques, nonlinear editing.

COMM:1898 Introduction to Latina/o/x Communication and Culture 3 s.h.

Introduction to fundamentals of communication by and about Latina/o/x in the U.S.; Latina/o/x as one of the fastest growing demographics; how Latina/o/x history, politics, and culture remain little understood despite a longstanding and growing presence in Iowa and across the nation; historical orientation; Latina/o/x social movement and protest (e.g., Chicana/o/x movements, Young Lords Organization), institutional discourses (e.g., congressional, presidential, legal discourses), and Latina/o/x in popular culture (film, television, music, sports). GE: Diversity and Inclusion. Same as LAS:1898, LATS:1898.

COMM:2010 Communication and Organizational Culture 3 s.h.

Introduction to nature, construction, and deconstruction of organizational culture from a communication perspective; examination of different approaches for understanding and analyzing organizational culture, including the lens of symbolic performance, narrative reproduction, textual reproduction, management, power and politics, technology, and globalization; prepares students to be change agents in organizations as they learn how to conduct an organizational cultural audit and how to create and implement successful change.

COMM:2011 Group Communication 3 s.h.

Study of relevant theory, research, and application to increase understanding of communication in small groups; critical thinking and communication skills; individual roles in groups, creativity, leadership, decision making, problem solving, and conflict resolution.

COMM:2040 Communication and Conflict 3 s.h.

Conflict and its management as critical issues that pervade people's personal and professional lives; complexities of conflict; forces that make conflict challenging; skills for thinking about and managing conflict more effectively; central features that define conflict; behaviors, attributions, and emotions that are manifest during conflict; formal models of conflict management and their corresponding recommendations for handling conflict.

COMM:2041 Gender, Communication, and Culture 3 s.h.

Social construction of gender and gendered identities across a range of communicative settings in contemporary U.S. society, including relationships, schools, organizations, media, and social movements; how communication creates, reproduces, sustains, and sometimes challenges and changes the meaning of gender and, with that, cultural structures and practices. Same as GWSS:2041.

COMM:2042 Intercultural Communication 3 s.h.

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as IS:2042, SSW:2042.

COMM:2044 Political Communication 3 s.h.

Relationship between media, cultural politics, and the American political system; focus on advertising, campaigns, and new media outlets; ways politicians, the press, and intermediaries create and disseminate messages into mainstream culture; how people generate their own discourses of political identity and dissent, creating a robust democratic practice that is both empowering and central to the contemporary political landscape.

COMM:2045 Gender, Sexuality, and Space 3 s.h.

Introduction to feminist and queer theories of social space; material and symbolic construction of gender and sexuality; communicating gender and sexuality in different social spaces and scales in historical and contemporary contexts.

COMM:2048 Transforming Media: From Telegraph to Internet 3 s.h.

How U.S. electronic media have shaped, and been shaped by, social and cultural transformations since the mid-19th century; examination of public responses to communication revolutions; exploration of questions about media power and influence in specific historical contexts including the emergence and expansion of telegraph, telephone, broadcasting, cable, and internet; readings, discussions, and assignments investigate role of communication media in the rise of the United States as a global power and consumer culture.

COMM:2051 Politics of Popular Culture 3 s.h.

How culture is political and how politics is cultural; overview of theories of culture and critical-cultural approaches to study of popular culture, past and present; specific topics of analysis vary, may include television, celebrity culture, music, film, games, and sports.

COMM:2052 Latin American Media 3 s.h.

Development of media institutions, texts, and audiences across a number of Latin American countries; focus on broadcast media (radio and television) and situates them within larger historical context of 20th- and 21st-century Latin America; readings, discussions, and assignments with particular attention to influence of U.S. corporate and state interests on Latin American media; debates over cultural dependency, globalization, and hybridity in region. Same as LAS:2052.

COMM:2053 Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships 3 s.h.

How individuals manage private information with regard to their interpersonal relationships; multiple theories of privacy management; how aspects of information, individual, and target of disclosure all contribute to decisions to reveal or conceal private information to friends and family.

COMM:2054 Movements, Protest, Resistance 3 s.h.

Historical and contemporary study of social movements from a symbolic perspective (e.g., speeches, protests, propaganda, media events); social movements as interpersonal and group communication; relationships between media and social change: efficacy of individual and larger-scale forms of resistance.

COMM:2057 Introduction to Computer-Mediated Communication 3 s.h.

Theoretical and practical introduction to concepts and research in computer-mediated communication; emphasis on study of social effects of communication and information technology; factors that distinguish mediated from face-to-face interaction, theories of mediated communication, self-presentation online; internet-based relationships, online supportive communication, online communities; how the internet influences communication and how to use computer-mediated communication for self-presentation.

COMM:2060 Public Relations, Publicity Stunts, and Pranks 3 s.h.

General overview of public relations and strategic communication methods; history of deception in communication practices; development of critical thinking strategies used to critique advertising and other forms of persuasion; use of humor in mounting public relations campaigns, publicity stunts, and pranks.

COMM:2064 Media, Advertising, and Society 3 s.h.

Introduction to the critical study of advertising in the United States; advertising contextualized as an industry and as a key part of media and culture; advertising as an institution and as a series of symbols, ideas, and fantasies; how advertising works, role and function of advertising in culture and society.

COMM:2065 Television Criticism 3 s.h.

Introduction to scholarly study of television as a social institution; nature of television form and content; role of industry in creation, selection, and presentation of television programs; production conventions and textual conventions in defining the medium; application of genre and narrative theory, semiotics, political economy of media industries, and audience reception study.

COMM:2069 Black Television Culture 3 s.h.

Social and political impact of television dramas featuring people of African descent in the West; examination of production, reception, representation, and industry as it relates to the African American images that are granted tenure on television screens. Same as AFAM:2070.

COMM:2070 Social Media and Society 3 s.h.

Introduction to theoretical and critical issues raised by social media for communication; particular emphasis on cultural and political phenomena; topics include various understandings of social media, forms of digital communication, individual and collective identity formations via social media, online communities, and global cultural exchange; recent examples of the "viral" phenomenon and internet-born activism.

COMM:2075 Gender, Sexuality, and Media 3 s.h.

Mediated representations of gender and sexuality (television, film, and internet) to understand how these complex and complicated codes influence meaning of sex, sexuality, and gender; contemporary and historical examples used to engage texts that illuminate cultural conceptions of femininity, masculinity, heterosexuality, and homosexuality; cases that confuse and trouble the stability of these categories. Same as GWSS:2075.

COMM:2076 Race, Ethnicity, and Media 3 s.h.

Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives (stereotype analysis, aesthetic analysis, history) applied to real-world examples; address one or more racial/ethnic groups in the United States. Same as AFAM:2076.

COMM:2077 Writing and Producing Television 3 s.h.

Introduction to basics of scripting and producing a conventional, three-camera television series; hands-on experience with production equipment and workshoping television scripts; students create one or more episodes of an original television series.

COMM:2079 Digital Media and Religion 3 s.h.

Influences of digital media on religion and spirituality today. Same as RELS:2930.

COMM:2080 Public Life in the U.S.: Religion and Media 3 s.h.

Examination of how the U.S. came into being through specific communication practices, how religion has helped and hindered that process; religious roots of the idea of the U.S., intertwined histories of print media and religion, role of religion and secularism in public discourse; U.S. pride as a nation in which diversity thrives in public discourse; communicative acts that created and sustained this country and also mark sites of discord, conflict, and confusion from the very beginnings of the U.S. to today; how religion has been a source of national identity and national division. Same as RELS:2080.

COMM:2085 Media Industries and Organizations 3 s.h.

Trends in media industries as reflected in changes of ownership, different work conditions, media convergence, and globalization generally; focus on local, network, and cable television; examination of industry structures, business practices, economic fundamentals, and theoretical explanations of media industries in society.

COMM:2086 Global Media Studies 3 s.h.

Key developments in contemporary international communication; impact of deregulation and privatization on ownership and control of global communication infrastructure; spread of American television abroad in terms of production, texts, and reception; cultural concerns surrounding the phenomenon.

COMM:2087 Copyright Controversies 3 s.h.

How digital technologies have dramatically changed media and popular culture landscapes; advent of relatively cheap editing programs that allow anyone to collage media on their home computers and enable people to become cultural producers; technologies that allow more people to break law in the eyes of copyright industries; historical look at collage practices from pre-digital era to present; ethical and legal questions surrounding use and reuse of copyrighted materials; notion of free speech in a media age.

COMM:2088 Media and Democracy 3 s.h.

Exploration of relationship between democracy and mass communication; why controversies regarding mass communication are also controversies about democracy; logical relationship between democracy and mass media; roots and history of ideas of democracy, contemporary obstacles to realization of these ideas, and varied issues of present; latest developments in world of politics and media.

COMM:2089 Nonverbal Communication 3 s.h.

Introduction to theoretical study of nonverbal communication; focus on major principles and research trends; examination of role of nonverbal communication in communication as a whole; perception and interpretation of nonverbal communication (i.e., posture, eye movements, tone of voice); nonverbal behaviors (i.e., facial expression, eye movement) as used to persuade, impress, or deceive someone.

COMM:2090 Topics in Communication Studies 3 s.h.

Topics vary.

COMM:2091 Organizational Communication 3 s.h.

Explores nature and function of communication in organizations; theories of organizational communication and scholarly research related to communicating effectively in organizational settings; course will strengthen critical thinking and research skills, deepen understanding of topics related to organizing, and improve ability to communicate successfully as members and leaders of organizations.

COMM:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

COMM:2800 Introduction to Latin American Studies 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as IS:2700, LAS:2700, PORT:2700, SPAN:2700.

COMM:2813 Practicum in Debate 1 s.h.

Practice of skills in research, reasoning, argument development, and argumentative performance in debate undertaken by members of the A. Craig Baird Debate Forum in preparation for and participation in intercollegiate debate competition. Requirements: participation in A. Craig Baird Debate Forum.

COMM:2821 Oral Interpretation 3 s.h.

Weekly performances to develop and define communication skills for professional careers in teaching and business; poetry, prose, monologue, storytelling, duo interpretation, reader's theatre, and demonstration speeches. Same as EDTL:2821.

COMM:2828 Experiential Learning in Communication Studies 1-3 s.h.

Structured course work while student completes a semester-long professional work experience (paid or unpaid, part- or full-time, on- or off- campus); professionalization and application of classroom learning to real-world contexts; requires professional supervision and evaluation by a manager in the organization. Requirements: g.p.a. of at least 2.00, communication studies major, and minimum of 12 s.h. of communication studies course work.

COMM:2897 Independent Study arr.

Creative or research project under faculty supervision.

COMM:2899 Honors Thesis 3 s.h.

Individual research, writing, or creative production under faculty supervision. Requirements: g.p.a. of at least 3.33, honors standing, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level course work.

COMM:3360 Religion Beyond Reason: Emotion and Communication 3 s.h.

How we communicate emotion by using and defying language; a collaborative effort to think about religion beyond the boundaries of rationality where it extends into emotion, passion, and social energy. Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), (COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as RELS:3360.

COMM:3600 Issues in Rhetoric and Culture: Crafting Online Persuasion 3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Prerequisites: RHET:1030 or (RHET:1060 and RHET:1040). Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), (COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as RHET:3600.

COMM:4100 Developing Leadership 3 s.h.

Exploration of communicative dimensions of leadership and work of organizational communication scholars who have studied this topic; builds on leadership in organizational communication, business, and professional communication or other courses that introduce leadership from a communication perspective; readings and discussions of scholarly articles and selections from contemporary books/articles about leadership geared toward popular or professional audiences; teamwork, hands-on projects with emphasis on use of leadership skills. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), (COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4131 Globalization and Culture**3 s.h.**

How context for everyday experience has increasingly become globally determined (e.g., ever-increasing transnational migration of people, spread of American culture, growth of international corporations and trade, rise of international conflict and transnational activism); range of theoretical and critical readings on globalization; various phenomena and perspectives regarding topic; themes directly relevant to lives of modern youth; how globalization affects opportunities and risks, identities and relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1301, COMM:1305) and (2 of the following are required: COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2064, COMM:2065, AFAM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as IS:4131.

COMM:4140 Communication and Relationships**3 s.h.**

Communication process in personal relationships; how communication functions to initiate, sustain, and dissolve a variety of relationships including friendships, romantic couples, marital pairs, and family relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4145 Argument and Law**3 s.h.**

Practices of argumentation that have special legal significance; court practices in legal argumentation (constructing legal arguments and briefs, trial and appellate oral advocacy); structure of argumentation that creates categories and limits of freedom of expression. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4146 Corporate Advocacy and Public Relations**3 s.h.**

Case studies and theories of strategies used by for-profit and nonprofit organizations to communicate about products and services, answer public questions and complaints, and defend their interests against public scrutiny and government regulation. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4147 Family Communication**3 s.h.**

Family relationships and various ways they develop and change, how they affect those who participate in them; theory and research on family communication; family conceived as a group of persons who share their lives over an extended period of time bound by ties of marriage, blood, or commitment. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4153 Magic Machines: Technology and Social Change**3 s.h.**

How media has altered culture, society, and human consciousness throughout history with focus on last two centuries (or modernity); how communication has been shaped by a variety of media (i.e., gesture, language, writing, printing, calendars, clocks, photography, telegraph, telephone, phonograph, film, radio, television, computers); 21st-century questions concerning technology and how few communicate today without aid of some kind of machine or technique. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as RELS:4153.

COMM:4157 Advanced Topics in Communication Studies 3 s.h.

Issues or problems in particular communication contexts. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4163 The Dark Side of Interpersonal Communication 3 s.h.

Review of advanced communication theories and research; focus on dark side of interpersonal communication and close relationships; negative or difficult elements of developing and maintaining relationships; expression of difficult emotions; mundane communication that can function in destructive or negative ways. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4164 Life Happens. Don't Worry About It: The Communication of Social Support 3 s.h.

Advanced look at communication of social support as a research tradition in interpersonal communication scholarship; in-depth overview of theories, concepts, types, processes, and mechanisms that constitute different forms of comforting behaviors; emphasis on factors that change people's abilities, motivations, or perceptions of success during experiences of social support; internet influences on social support by online support groups, internet-based intervention programs, how process of communicating comfort is altered by conveying these messages online. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4165 Criticism and Public Culture 3 s.h.

How people formulate attitudes, beliefs, and values about an array of arenas in public culture; critical perspectives (i.e., feminism, Marxism, psychoanalysis, queer theory); sporting rituals, television programs, political speeches, museums, sacred cultural documents; practice of critical reading to engage various cultural texts (i.e., films, national memorials, social movement rhetoric). Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1301, COMM:1305) and (2 of the following are required: COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2064, COMM:2065, AFAM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4166 Life-Span Communication 3 s.h.

How communication processes (i.e., social support, language skills, interpersonal relationship management) change across the course of one's existence; normative and unexpected demographic and health events mapped out across a life span; how our communication processes influence and are influenced by social experiences; underlying premise of life-span perspective that our potential for human growth extends throughout our life course. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4168 Rhetoric of the Body 3 s.h.

Survey of a range of theories about the body and application to specific case studies; implications of how bodies are endowed with and convey meaning; theories of pollution, pain, ability, and normativity; diverse case studies that are seemingly disparate, but all preoccupy themselves with public conceptions of bodily meaning (i.e., beauty pageants, freak shows, plastic surgery, the wannabe movement, tattoos, the FDR Presidential Memorial, Deaf culture, fat bodies, illness, and torture). Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4169 Feminist Rhetorics**3 s.h.**

Exploration of multiple, varied, and complex histories of U.S. feminisms from rhetorical perspectives; focus on primary documents, the letters, speeches, essays, and manifesto/as that shaped women's movements and inspire social change from late 18th century to present; social, political, and personal issues that feminists sought to address and transform, communicative and rhetorical methods utilized, and implications of these efforts for women's lives and broader U.S. American culture. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as GWSS:4169.

COMM:4170 Theories of Persuasion**3 s.h.**

Theoretical examination of historical, psychological, social, and cultural perspectives on persuasion; analysis of persuasive attempts; questions of cultural persuadables and current problems in U.S. American culture (i.e., obesity, drunk driving, date rape). Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4172 Television and African American Culture**3 s.h.**

Role of television in African American culture; examination of debates, stereotyping, authenticity, effects of programming, aesthetics, and television's relationship to other forms of cultural expression. Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2058, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as AFAM:4001.

COMM:4173 Social Media, Culture, and Politics**3 s.h.**

Introduction to theoretical issues raised by social media for communication; particular emphasis on cultural and political implications; how social media is understood, forms of digital communication, individual and collective identity formations via social media, online communities, and intersection of social media and existing culture and politics. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1301, COMM:1305) and (2 of the following are required: COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2064, COMM:2065, AFAM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4174 Communication, Technology, and National Security**3 s.h.**

What is the best way to balance the democratic values of the United States and its national security objectives? To answer this question, students consider discussions in three distinct, but overlapping areas of inquiry: surveillance and privacy, cyber war, and Internet governance. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4176 Advanced Relational Theory**3 s.h.**

Relationships and how they significantly shape our experiences of the world, sense of identity, outlook on life, and way in which we think about experiences and life in general; premise that relationships are more than emotional attachments or bonds; relationships as happy, emotionally satisfying elements of life; demonstrations of a variety of communicative situations that establish, reconstitute, and demonstrate importance of membership of communities and relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4181 Legal Communication and Culture 3 s.h.

Law and legal system as communicative networks of meaning-making; law viewed as a symbolic system, from courtroom arguments to judicial opinions to legal reporting to circulation of law in everyday life, in contrast with legal courses concerned with learning blackletter law; law from a rhetorical perspective that allows us to think in new and different ways about cultural implications of legal argument. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:4183 Networking America: The Cultural History of Broadcasting 3 s.h.

Exposure to different interpretations of cultural impact and legacy of U.S. broadcasting in 20th century; institutional practices, program genres, and audience formations of 1920s through the 1970s radio and television network eras; how historical contexts shape, and are shaped by, production and reception of broadcasting texts. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248).

COMM:5200 Introduction to Research and Teaching 2 s.h.

Introduction to communication studies as a field of scholarship; selection of research problems, major lines of research represented in the department, bibliographical tools for scholarship in the field; issues, practical tasks, and concerns relevant to effective college or university classroom teaching.

COMM:5205 Proseminar in Communication Studies 1 s.h.

Research presentations in the field given by graduate students, faculty, and visiting scholars.

COMM:5230 Introduction to Rhetorical Studies 3 s.h.

Introduction to major theories, principles, and practices of rhetorical theory and rhetorical criticism.

COMM:5241 Theories of Mass Communication 3 s.h.

Major concepts, theories, schools of thought in media studies, mass communication.

COMM:5299 Graduate Independent Study arr.**COMM:6210 Health Communication 3 s.h.**

Theories, concepts, research associated with health communication; interpersonal and mass communication approaches. Same as CBH:6210.

COMM:6220 Health Communication Campaigns 3 s.h.

Intervention design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Same as CBH:6220.

COMM:6319 Criticism and Public Culture 3 s.h.

Fundamentals of criticism; practice of critical reading to engage various cultural texts (i.e., pop culture, national memorials, social movements, visual rhetoric); contemporary theories/debates that inform the art of critique (i.e., feminist theory, queer theory, critical theory).

COMM:6323 Rhetoric, Protest, and Social Movements 3 s.h.

Introductory study of relationships between rhetoric, protest, and social movements; theoretical and methodological debates framing and shaping how we understand protest and social movements rhetorically.

COMM:6335 Proseminar: Contemporary Rhetorical Studies 2-4 s.h.

Problems in contemporary rhetorical studies; may include works of Kenneth Burke, Wayne Booth, deconstructionists, feminist theorists and critics, critics of communication technologies.

COMM:6336 Seminar in Rhetorical Theory 1-4 s.h.

Topics in history and development of rhetorical theory; theory construction and application to critical practice.

COMM:6339 Seminar: Rhetoric and Culture 1-4 s.h.

Cultural theories, their utility in accounting for communication practices.

COMM:6341 Topics in Mass Communication Scholarship 1-3 s.h.

Theory and research on problems in mass communication.

COMM:6342 Critical Television Studies 3 s.h.

Introduction to canonical and contemporary readings in critical television studies; primary questions and theories associated with textual, industrial, ethnographic, and integrated approaches to studying television; how technological, economic, and cultural changes have altered television and how it is studied.

COMM:6345 New Materialisms 3 s.h.

Exploration of new strategies for rupturing persistent dichotomies of subject/object, representation/real, culture/nature, and active humans/passive things offered by theories of the vitality and agency of matter; introduction to origins of and developments in new materialisms; oriented to interdisciplinary inquiry and application to research in the humanities, broadly conceived; particular attention to actor-network theory, feminism, queer theory, infrastructuralism, and materialist theories of media. Same as GWSS:6345.

COMM:6346 The Public Sphere 3 s.h.

Theories, intellectual history, critics, contemporary issues of the public sphere.

COMM:6350 Seminar: Mass Communication 1-4 s.h.

Topics vary.

COMM:6351 Global Media Seminar 3 s.h.

Theories and processes of globalization and the cultural implications of media globalization; local responses to globalizing processes with reference to questions of modernity and national/transnational identity.

COMM:6352 Seminar: Media Theory 3 s.h.

Topics vary.

COMM:6354 Media and Social Change in Latin America **3 s.h.**

Cultural history and political economy of Latin American media; focus on U.S. influence and globalizing processes; media theory in Latin context; national and transnational audience formations.

COMM:6365 The Communication of Social Support **3 s.h.**

Substantial knowledge base developed by scholars about types, processes, and mechanisms of social support used by humans to comfort one another; in-depth examination of theory and empirical research related to communication of social support; emphasis on types of support, verbal person-centered messages, and various strategies for social support; gender differences and social skills related to comforting; online supportive communication; development of detailed knowledge of this topic, critical assessment of extant research, and synthesis of class readings in written format.

COMM:6367 Computer-Mediated Communication **3 s.h.**

In-depth analysis of theory and research related to computer-mediated communication; factors that distinguish mediated from face-to-face interaction, theories of mediated interpersonal communication, self-presentation online, internet-based relationships, and online supportive communication; how the internet influences communication; online supportive communication, problematic internet use, preference for online social interaction, the digital divide, mediated social networks, deception, and interventions on the internet.

COMM:6370 Quantitative Research Methods **3 s.h.**

Primary methods for conducting quantitative research on interpersonal and group communication.

COMM:6371 Communication Theory **3 s.h.**

Survey of primary theories of interpersonal, cultural, group, and organizational communication.

COMM:6376 Family Communication **3 s.h.**

Theory and research on communication among and between family members (parents, children, marital partners, siblings); quantitative and qualitative research.

COMM:6381 Seminar: Topics in Communication Research **3 s.h.**

Topics vary.

COMM:6387 Communication, Cognition, and Emotion **3 s.h.**

Theoretical and empirical work that integrates communication, cognition, emotion; role of social cognition in communication, theories of emotion, types of emotional experiences; approaches to understanding emotion from perspectives in psychology, social cognition, communication; emotion-related issues such as influence of gender, effects of mood.

COMM:6399 Ph.D. Dissertation **arr.**

COMM:6400 Current Issues in Rhetoric **3 s.h.**

Ethical, social, or cultural issues; rhetoric's role in their contemporary significance; traditional aspects of rhetoric, their pertinence to present concerns. Same as RHET:6400.

COMM:6635 Crossing Borders Seminar **2-3 s.h.**

Same as AFAM:6635, ANTH:6635, CINE:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

Communication Studies, B.A.

Learning Outcomes

Students will learn:

- foundational knowledge in communication studies;
- contextual knowledge in at least one of the following communication contexts—interpersonal communication, media studies, or rhetorical studies; and
- written and oral skills in discussing communication questions.

Requirements

The Bachelor of Arts with a major in communication studies requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The curriculum is designed to encourage learning that progresses from foundation courses that teach the basics of communication to intermediate and advanced (capstone) courses. Students may choose to build creative combinations of course work that suit their individual learning and career goals.

Students may count up to 56 s.h. of Department of Communication Studies course work (prefix COMM) toward credit required for the Bachelor of Arts degree. Transfer courses may be applied toward the requirements of the major, with the department's approval. A maximum of 15 s.h. of transfer credit may be counted toward the major.

Students work with the communication studies academic advisor to develop study plans that meet the requirements of the major. Students may check their progress toward the degree on MyUI.

First-year students interested in completing a major in communication studies are advised at the Academic Advising Center. Students who have earned 24 s.h. or more and have declared the communication studies major are advised in the department by the communication studies academic advisor.

Students are encouraged to discuss their career goals and interests with faculty members.

Communication studies majors may count up to 6 s.h. of course work used to satisfy their major toward the Certificate in Media Entrepreneurialism.

The semester hours required for the major consist of foundation courses, intermediate courses, a capstone course, and additional course work which may be earned in courses listed under "Intermediate Courses," "Capstone Experience," and/or "Additional Courses," below. Students may not use a course to satisfy more than one requirement of the major.

The B.A. with a major in communication studies requires the following course work.

Code	Title	Hours
	Foundations of Communication Courses	15-16
	Intermediate Courses	12
	Capstone Experience Course	3

Additional Courses	9
Total Hours	39-40

Foundations of Communication

Foundation courses cover introductory concepts in the field of communication. Students must complete five foundation courses (15-16 s.h.) and should take them early in their studies. The following foundation courses are appropriate for first- or second-year students. They do not require a minimum grade-point average for enrollment and most do not have prerequisites. Students complete the first three foundation courses as follows.

Code	Title	Hours
COMM:1112	Interpersonal Communication	3
or COMM:1170	Communication Theory in Everyday Life	
COMM:1117	Theory and Practice of Argument	3-4
or COMM:1130	The Art of Persuading Others	
COMM:1168	Media, Music, and Culture	3
or COMM:1174	Media and Society	

The fourth and fifth foundation courses are appropriate for first- or second-year students. Enrollment in COMM:1305 Understanding Communication: Social Scientific Approaches requires completion of 30 s.h.

Code	Title	Hours
COMM:1305	Understanding Communication: Social Scientific Approaches	3
COMM:1306	Understanding Communication: Humanistic Approaches	3

Intermediate Courses

Intermediate courses (those numbered 1800-2799) cover detailed aspects of the study of communication. Students must complete four intermediate courses (12 s.h.), usually during their third and fourth years of study.

Code	Title	Hours
At least four of these:		
COMM:1809	Social Marketing Campaigns	3
COMM:1814	Elements of Debate	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
COMM:1830	Solving Public Problems: Dialogue and Deliberation for Democracy	3
COMM:1840	Television Studio Production	3
COMM:1845	Short-Form Media Production	3
COMM:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2010	Communication and Organizational Culture	3
COMM:2011	Group Communication	3
COMM:2040	Communication and Conflict	3

COMM:2041	Gender, Communication, and Culture	3
COMM:2042	Intercultural Communication	3
COMM:2044	Political Communication	3
COMM:2045	Gender, Sexuality, and Space	3
COMM:2048	Transforming Media: From Telegraph to Internet	3
COMM:2051	Politics of Popular Culture	3
COMM:2052	Latin American Media	3
COMM:2053	Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships	3
COMM:2054	Movements, Protest, Resistance	3
COMM:2057	Introduction to Computer-Mediated Communication	3
COMM:2060	Public Relations, Publicity Stunts, and Pranks	3
COMM:2064	Media, Advertising, and Society	3
COMM:2065	Television Criticism	3
COMM:2069	Black Television Culture	3
COMM:2070	Social Media and Society	3
COMM:2075	Gender, Sexuality, and Media	3
COMM:2076	Race, Ethnicity, and Media	3
COMM:2077	Writing and Producing Television	3
COMM:2079	Digital Media and Religion	3
COMM:2080	Public Life in the U.S.: Religion and Media	3
COMM:2085	Media Industries and Organizations	3
COMM:2086	Global Media Studies	3
COMM:2087	Copyright Controversies	3
COMM:2088	Media and Democracy	3
COMM:2089	Nonverbal Communication	3
COMM:2090	Topics in Communication Studies	3
COMM:2091	Organizational Communication	3
COMM:2248	The Invention of Writing: From Cuneiform to Computers	3

Capstone Experience

Capstone courses (those numbered 3000-4999) provide a faculty-led experience in which students participate directly in producing knowledge, research, or creative work about communication. The capstone experience gives students a chance to synthesize what they have learned about the study of communication. Students must complete one capstone course (3 s.h.).

In order to enroll in a capstone course, students must have completed at least four of the five foundation courses and at least two intermediate courses.

Code	Title	Hours
COMM:3360	Religion Beyond Reason: Emotion and Communication	3

COMM:3600	Issues in Rhetoric and Culture: Crafting Online Persuasion	3
COMM:4100	Developing Leadership	3
COMM:4131	Globalization and Culture	3
COMM:4140	Communication and Relationships	3
COMM:4145	Argument and Law	3
COMM:4146	Corporate Advocacy and Public Relations	3
COMM:4147	Family Communication	3
COMM:4153	Magic Machines: Technology and Social Change	3
COMM:4157	Advanced Topics in Communication Studies	3
COMM:4163	The Dark Side of Interpersonal Communication	3
COMM:4164	Life Happens. Don't Worry About It: The Communication of Social Support	3
COMM:4165	Criticism and Public Culture	3
COMM:4166	Life-Span Communication	3
COMM:4168	Rhetoric of the Body	3
COMM:4169	Feminist Rhetorics	3
COMM:4170	Theories of Persuasion	3
COMM:4172	Television and African American Culture	3
COMM:4173	Social Media, Culture, and Politics	3
COMM:4174	Communication, Technology, and National Security	3
COMM:4176	Advanced Relational Theory	3
COMM:4181	Legal Communication and Culture	3
COMM:4183	Networking America: The Cultural History of Broadcasting	3

Additional Courses

Students earn an additional 9 s.h. to complete at least 39 s.h. in communication studies courses required for the major. They may choose from the courses listed below and/or from the lists of intermediate and capstone experience courses above. However, students may not use one course to fulfill more than one requirement for the major, so in selecting the additional 9 s.h. of course work, they may not choose a course they already used to fulfill the intermediate or capstone experience course requirement.

All of the courses listed below, except COMM:2800, have prerequisites, a minimum grade-point average, or other requirements for enrollment.

Code	Title	Hours
COMM:2800	Introduction to Latin American Studies	3
COMM:2813	Practicum in Debate	1
COMM:2821	Oral Interpretation	3
COMM:2828	Experiential Learning in Communication Studies	1-3

COMM:2897	Independent Study	arr.
COMM:2899	Honors Thesis	3

Internships

Internships enable students to supplement their course work with professional experiences relevant to careers in communication-related fields. The department's internship program is open only to communication studies majors.

To earn academic credit for internships, students must obtain approval for their internship experience and site before they register for COMM:2828 Experiential Learning in Communication Studies. Internship academic credit is awarded for an analytical paper and daily log submitted at the end of the internship and for the number of hours worked. Internships can be completed during fall semester, spring semester, or summer session.

Visit the department's website for information on communication studies internships.

Code	Title	Hours
COMM:2828	Experiential Learning in Communication Studies	1-3

Honors

Honors in the Major

Students majoring in communication studies have the opportunity to graduate with honors in the major. Students interested in honors in the major should consult the honors advisor as early as possible in their undergraduate career, and work with a faculty member to supervise their honors projects. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and may be required to complete COMM:2899 Honors Thesis, depending on their specific project.

Through the Global Engagement, Research, Outreach, and Work Experience (GROW) in Communication Studies initiative, there are a variety of options for honors in the major. Honors students must complete at least two authorized GROW activities and participate in a poster session.

Honors students may add an honors designation to a departmental course by completing an agreement with the course instructor.

Learn more about graduating with honors in the major; visit Honors on the department's website.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University of Iowa Honors Program.

Membership in the UI Honors Program is not required to earn honors in the communication studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to

stay on the University's Four-Year Graduation Plan. Students should consult the department for details.

Before the fifth semester begins: at least two courses in the major

Before the seventh semester begins: at least six courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least eight courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Communication Studies, B.A.

Course	Title	Hours
First Year		
Fall		
COMM:1168 or COMM:1174	Media, Music, and Culture or Media and Society	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^e		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
COMM:1117	Theory and Practice of Argument ^{a, c, f}	4
COMM:1170	Communication Theory in Everyday Life ^{a, c, f}	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives ^d		3
Elective course ^e		2
Hours		15-16

Second Year**Fall**

COMM:1305	Understanding Communication: Social Scientific Approaches ^{a, g}	3
GE CLAS Core: Natural Sciences with Lab ^d		4
GE CLAS Core: Values and Culture ^{d, h}		3
GE CLAS Core: World Languages First Level Proficiency or elective course ⁱ		4 - 5
Hours		14-15

Spring

COMM:1306	Understanding Communication: Humanistic Approaches ^{a, f}	3
Major: intermediate-level communications studies course		3
GE CLAS Core: Natural Sciences without Lab ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ⁱ		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning ^{d, j}		3
Hours		16-17

Third Year**Fall**

COMM:1898	Introduction to Latina/o/x Communication and Culture ^c	3
Major: intermediate-level communications studies course		3
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ⁱ		4 - 5
Elective course ^e		3
Hours		16-17

Spring

Major: intermediate-level communications studies course		3
GE CLAS Core: Diversity and Inclusion ^{d, k}		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ⁱ		4 - 5
GE CLAS Core: Social Sciences ^{d, l}		3
Elective course ^e		3
Hours		16-17

Fourth Year**Fall**

Major: capstone-level communication studies course		3
Major: elective communication studies course		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

Major: elective communication studies course		3
Major: elective communication studies course		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Total Hours 121-127

a Students should take foundation courses early in their studies. Foundation courses are appropriate for first- or second-year students.

b Typically COMM:1174 is offered in fall semesters only and COMM:1168 is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

c Fulfills a major requirement and may fulfill a GE requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

h Students who have previously completed COMM:1174 have already satisfied the GE CLAS Core Values and Culture requirement.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Students who have previously completed COMM:1117 have already satisfied the GE CLAS Core Quantitative or Formal Reasoning requirement.

k Students who have previously completed COMM:1898 have already satisfied the GE CLAS Core Diversity and Inclusion requirement.

l Students who have previously completed COMM:1170 or COMM:1174 have already satisfied the GE CLAS Core Social Sciences requirement.

Career Advancement

Communication studies graduates have numerous career options. The major provides solid preparation for employment in almost any job that requires effective critical thinking and communication skills. Graduates find work in fields such as the arts, entertainment, and media industries; consulting; sales and marketing; human resources; and public advocacy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Communication Studies, Minor

The undergraduate minor in communication studies requires a minimum of 15 s.h. in communication studies courses, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Foundations of Communication

Code	Title	Hours
Two of these:		
COMM:1112	Interpersonal Communication	3
or COMM:1170	Communication Theory in Everyday Life	
COMM:1117	Theory and Practice of Argument	3-4
or COMM:1130	The Art of Persuading Others	
COMM:1168	Media, Music, and Culture	3
or COMM:1174	Media and Society	
One of these:		
COMM:1305	Understanding Communication: Social Scientific Approaches	3
or COMM:1306	Understanding Communication: Humanistic Approaches	

Intermediate Courses

Code	Title	Hours
One of these:		
COMM:1809	Social Marketing Campaigns	3
COMM:1814	Elements of Debate	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
COMM:1830	Solving Public Problems: Dialogue and Deliberation for Democracy	3
COMM:1840	Television Studio Production	3
COMM:1845	Short-Form Media Production	3
COMM:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2010	Communication and Organizational Culture	3
COMM:2011	Group Communication	3
COMM:2040	Communication and Conflict	3
COMM:2041	Gender, Communication, and Culture	3
COMM:2042	Intercultural Communication	3
COMM:2044	Political Communication	3
COMM:2045	Gender, Sexuality, and Space	3
COMM:2048	Transforming Media: From Telegraph to Internet	3

COMM:2051	Politics of Popular Culture	3
COMM:2052	Latin American Media	3
COMM:2053	Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships	3
COMM:2054	Movements, Protest, Resistance	3
COMM:2057	Introduction to Computer-Mediated Communication	3
COMM:2060	Public Relations, Publicity Stunts, and Pranks	3
COMM:2064	Media, Advertising, and Society	3
COMM:2065	Television Criticism	3
COMM:2069	Black Television Culture	3
COMM:2070	Social Media and Society	3
COMM:2075	Gender, Sexuality, and Media	3
COMM:2076	Race, Ethnicity, and Media	3
COMM:2077	Writing and Producing Television	3
COMM:2079	Digital Media and Religion	3
COMM:2080	Public Life in the U.S.: Religion and Media	3
COMM:2085	Media Industries and Organizations	3
COMM:2086	Global Media Studies	3
COMM:2087	Copyright Controversies	3
COMM:2088	Media and Democracy	3
COMM:2089	Nonverbal Communication	3
COMM:2090	Topics in Communication Studies	3
COMM:2091	Organizational Communication	3
COMM:2248	The Invention of Writing: From Cuneiform to Computers	3

Additional Course

Code	Title	Hours
One of these:		
COMM:1112	Interpersonal Communication	3
COMM:1117	Theory and Practice of Argument	4
COMM:1130	The Art of Persuading Others	3
COMM:1168	Media, Music, and Culture	3
COMM:1170	Communication Theory in Everyday Life	3
COMM:1174	Media and Society	3
COMM:1301	Core Concepts in Communication Studies	3
COMM:1305	Understanding Communication: Social Scientific Approaches	3
COMM:1306	Understanding Communication: Humanistic Approaches	3
COMM:1809	Social Marketing Campaigns	3
COMM:1814	Elements of Debate	3

COMM:1816	Business and Professional Communication	3	COMM:2248	The Invention of Writing: From Cuneiform to Computers	3
COMM:1818	Communication Skills for Leadership	3	COMM:2800	Introduction to Latin American Studies	3
COMM:1819	Organizational Leadership	2-3	COMM:2813	Practicum in Debate	1
COMM:1830	Solving Public Problems: Dialogue and Deliberation for Democracy	3	COMM:2821	Oral Interpretation	3
COMM:1840	Television Studio Production	3	COMM:2828	Experiential Learning in Communication Studies	1-3
COMM:1845	Short-Form Media Production	3	COMM:2897	Independent Study	arr.
COMM:1898	Introduction to Latina/o/x Communication and Culture	3			
COMM:2010	Communication and Organizational Culture	3			
COMM:2011	Group Communication	3			
COMM:2040	Communication and Conflict	3			
COMM:2041	Gender, Communication, and Culture	3			
COMM:2042	Intercultural Communication	3			
COMM:2044	Political Communication	3			
COMM:2045	Gender, Sexuality, and Space	3			
COMM:2048	Transforming Media: From Telegraph to Internet	3			
COMM:2051	Politics of Popular Culture	3			
COMM:2052	Latin American Media	3			
COMM:2053	Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships	3			
COMM:2054	Movements, Protest, Resistance	3			
COMM:2057	Introduction to Computer-Mediated Communication	3			
COMM:2060	Public Relations, Publicity Stunts, and Pranks	3			
COMM:2064	Media, Advertising, and Society	3			
COMM:2065	Television Criticism	3			
COMM:2069	Black Television Culture	3			
COMM:2070	Social Media and Society	3			
COMM:2075	Gender, Sexuality, and Media	3			
COMM:2076	Race, Ethnicity, and Media	3			
COMM:2077	Writing and Producing Television	3			
COMM:2079	Digital Media and Religion	3			
COMM:2080	Public Life in the U.S.: Religion and Media	3			
COMM:2085	Media Industries and Organizations	3			
COMM:2086	Global Media Studies	3			
COMM:2087	Copyright Controversies	3			
COMM:2088	Media and Democracy	3			
COMM:2089	Nonverbal Communication	3			
COMM:2090	Topics in Communication Studies	3			
COMM:2091	Organizational Communication	3			

Communication Studies, M.A.

Requirements

The Master of Arts program in communication studies requires a minimum of 30 s.h. of graduate credit, including at least 24 s.h. earned at the University of Iowa and in courses numbered above 3000. Students must earn a g.p.a. of at least 3.00 in major course work.

The M.A. may be granted to students working toward the Ph.D.; it also may be granted as a terminal degree for doctoral students who decide not to complete the Doctor of Philosophy. Graduate education in communication studies focuses on Ph.D. study.

The M.A. with a major in communication studies requires the following.

Code	Title	Hours
COMM:5200	Introduction to Research and Teaching (taken the first semester)	2

Two courses numbered 5000 or above

Students take courses in specific topical areas as determined in their plan of study meeting. They also must prepare a graduate seminar paper that involves significant original research.

More information is available on the Department of Communication Studies website.

Admission

Applicants to graduate programs in communication studies must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Communication studies graduates have numerous career options. The major provides solid preparation for employment in almost any job that requires effective critical thinking and communication skills. Graduates find work in fields such as the arts, entertainment, and media industries; consulting; sales and marketing; human resources; and public advocacy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Communication Studies, Ph.D.

Requirements

The Doctor of Philosophy program in communication studies requires a minimum of 72 s.h. of graduate credit, including at least 39 s.h. earned at the University of Iowa and in courses numbered above 3000. The degree program includes specializations in interpersonal communication and relationships, media studies, and rhetoric and public advocacy.

Graduate education in communication studies focuses on the Ph.D., but doctoral students may choose to earn a Master of Arts on their way toward the Doctor of Philosophy degree. A terminal master's degree may be an option for some students already admitted to the doctoral program.

The Ph.D. with a major in communication studies requires the following.

Code	Title	Hours
These courses:		
COMM:5200	Introduction to Research and Teaching (taken the first semester)	2
COMM:5205	Proseminar in Communication Studies (taken twice for 1 s.h. each)	2
One of these in student's primary area of interest:		
COMM:5230	Introduction to Rhetorical Studies	3
COMM:5241	Theories of Mass Communication	3
COMM:6371	Communication Theory	3
All of these:		
Department of Communication Studies courses (prefix COMM)		15
COMM:6399	Ph.D. Dissertation	6

Students also must complete their plan of study, the Ph.D. comprehensive examination, the dissertation prospectus, and successfully defend their dissertation.

More information is available on the Department of Communication Studies website.

Specialization Areas

Interpersonal Communication and Relationships

The communication and relationships program is centered on theory complemented by strength in quantitative and qualitative research methods. It focuses on scholarly issues that arise from face-to-face, everyday communication practices. It emphasizes personal relationship and family processes, identity construction, persuasion, and culture.

The goal of the program is to produce scholars who possess sophisticated knowledge of theory and methodology, who are careful consumers of theories and methods, and who can develop their own approaches to communication phenomena. The program emphasizes systematic analysis

of the forms, functions, and meanings of messages within various contexts. Its broad social-scientific orientation springs from the belief that many methodological approaches are appropriate to studying and building theoretical explanations of communication.

Advisors and committee members work closely with individual students to select courses from communication studies and other University departments and plan teaching and research experiences that will prepare students well for the employment they seek after graduation.

Media Studies

The graduate program in media studies focuses on the interplay of institutions, texts, and audiences in mediated communication systems. Its central aim is to examine modern media—radio, television, advertising, music, new media, and a wide range of other popular cultural expressions—within their historical, social, political, economic, and cultural contexts. It also uses the mass media as sites for asking basic questions about culture, society, politics, and modernity.

Like the department's other graduate programs, media studies has a strong interdisciplinary flavor. Students draw not only on allied areas in the Department of Communication Studies but on fields across the University.

Rhetoric and Public Advocacy

The program in rhetoric and public advocacy is built on foundation courses in classical and 20th-century rhetorical theory and in an overview of 20th-century rhetorical criticism. Courses from a rhetorical perspective include rhetorical theory, rhetorical criticism, visual rhetoric and politics, public address and public culture, studies in argumentation and freedom of speech, work in science and technology as well as academic inquiry, and historical methods. Cognate work of interest to rhetoricians also can be found in interpersonal communication and relationship studies as well as media studies.

The Ph.D. in rhetoric and public advocacy is designed to give students a mature grasp of the specialties and perspectives embraced by the field and to develop research competence essential to a life of productive scholarship.

Work in related disciplines—political science, history, sociology, English, cinematic arts, anthropology, American studies, and journalism—complements rhetorical studies course offerings. Faculty from the Departments of American Studies, Political Science, and Rhetoric cross-list their courses on rhetorical topics in this program.

Admission

Admission decisions are based on undergraduate achievement for a B.A. applicant and graduate achievement for an M.A. applicant, letters of reference, Graduate Record Examination (GRE) General Test scores, the statement of purpose, and samples of scholarly work.

Applicants to graduate programs in communication studies must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. For information about applying to the doctoral program in communication studies, visit Prospective Graduate Students on the Department of Communication Studies website.

Admission is for fall semester entry. Applicants whose materials are received by the application deadline of January 1 will be considered for admission and financial support.

Career Advancement

Communication studies Ph.D. graduates pursue academic and alternate academic careers. Nearly three-fourths of recent graduates teach in tenure-track academic positions. Others pursue careers in the private sector, at nonprofit organizations, and as instructional faculty at postsecondary institutions.

The department is deeply engaged in university- and discipline-wide efforts to train students in both traditional and nontraditional career paths.

Comparative Literature

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Director, Comparative Literature Program

- Sabine I. Gözl (German)

Undergraduate major: comparative literature (B.A.)

Undergraduate minor: comparative literature

Faculty: <https://clas.uiowa.edu/dwllc/people>

Website: <https://clas.uiowa.edu/dwllc/comparative-literature/ba-comparative-literature>

Students in the comparative literature field study literatures, arts, and cultures from diverse national traditions in an interdisciplinary manner. Students design individualized programs of study that may draw upon texts, visual and performing arts, translation, film, and other cultural technologies. Students enjoy easy access to the resources of the Translation Workshop, International Writing Program, and the programs and departments in the Division of World Languages, Literatures and Cultures.

Comparative literature students also frequently extend their studies to other disciplines across the university, such as history, philosophy, linguistics, anthropology, music, art and art history, and law, among others. Students are encouraged to develop critical and creative thinking skills that effectively prepare them for professional studies in fields such as law, writing, publishing, journalism, the foreign service, international business, and many other fields. A degree in comparative literature also offers excellent preparation for graduate work in the humanities.

In addition to an undergraduate major and minor, the Comparative Literature Program offers courses approved for the Literary, Visual, and Performing Arts areas of the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The Comparative Literature Program is administered by the Division of World Languages, Literatures and Cultures [p. 336].

Programs

Undergraduate Programs of Study

Major

- Major in Comparative Literature (Bachelor of Arts) [p. 270]

Minor

- Minor in Comparative Literature [p. 273]

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC),

two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Courses

Comparative Literature Courses

CL:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

CL:1240 Major Texts of World Literature, Antiquity to 1700 3 s.h.

Reading and analysis of major literary texts from writing's origins to 1700 in the Mediterranean, Asia, and Africa; interrelationship of literature and history. GE: Literary, Visual, and Performing Arts. Same as CLSA:1040.

CL:1241 Major Texts of World Literature, 1700 to the Present 3 s.h.

Reading and analysis of major literary texts from 18th century to present in chronological sequence; emphasis on interrelationship of literature and history. Requirements: completion of GE CLAS Core Rhetoric. GE: Literary, Visual, and Performing Arts.

CL:1500 Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture 3 s.h.

Cultural specificity of Ukraine as a large multicultural European country; vital background information for analysis of present-day political events; strategic location between East and West; centuries-long history and culture; all readings in English, no knowledge of Russian or Ukrainian required. Same as RUSS:1500.

CL:1510 Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature 3 s.h.

Reading of Chinese literature concerning ghosts, marvels, and supernatural from the first millennium B.C.E. through the 1800s; readings analyzed against changing historical and religious contexts. Taught in English. GE: Interpretation of Literature. Same as ASIA:1510.

CL:1600 Wonder Woman Unleashed: A Hero for Our Times 3 s.h.

Development of the woman warrior archetype in mythology (Athena/Minerva and Artemis/Diana), literature (Camilla from *The Aeneid* by Virgil), and history (Artemisia and Joan of Arc); focus on the development of Amazon narratives in *Metamorphoses* by Ovid, *The Book of the City of Ladies* by Christine de Pizan, and *On Famous Women* by Boccaccio; students read *Wonder Woman Chronicles* and one or two critical studies on the subject, which may include *The Secret History of Wonder Woman* by Jill Lepore. Same as GWSS:1600.

CL:2208 Classical Chinese Literature Through Translation 3 s.h.

Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Requirements: completion of required ESL courses. Same as ASIA:2208, TRNS:2208.

CL:2222 Women in Premodern East Asian Literature 3 s.h.

Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as ASIA:2222, GWSS:2222.

CL:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

CL:2531 Topics in Russian, East European, and Eurasian Studies arr.

Topics in Russian literature and culture. Same as RUSS:2531.

CL:2600 Issues in Russian Identity: Nationalism 3 s.h.

Development of the Russian national identity in the works of three 19th-century Russian authors: Alexander Pushkin, Leo Tolstoy and Fyodor Dostoevsky; how major historical events such as Russia's wars with Poland, Sweden, France, England, and Turkey are portrayed in Pushkin's *Boris Godunov* and *Poltava*, Tolstoy's *War and Peace* and *Sevastopol Sketches*; how Western Europe is viewed in Dostoevsky's *Winter Notes on Summer Impressions*, *Notes From Underground*, and *The Idiot*. Prerequisites: RHET:1030. Requirements: ENGL:1200. Same as RUSS:2600.

CL:2618 The Third Reich and Literature 3-4 s.h.

Nazi literature, literature of the Holocaust and the Opposition, and exile literature in English translation. Taught in English. GE: Values and Culture. Same as GRMN:2618.

CL:2660 Magic Mirrors, Self-Discovery, and Murder: Gender Trouble in German Literature 3-4 s.h.

German literature since Romantic era as an intensifying battle of wits over language in which gender has played a central role; a stark rift open where literary space offers much less hospitable conditions to women writers than to men; exploration of gendered fault line that runs through literary space; how women writers respond to and rewrite language that confronts them; readings from German literary texts (in English translation) from 1800 to present; emphasis on writings of women supplemented with key texts by major authors to which they respond and reread; knowledge of German not required. Same as GRMN:2660.

CL:2666 Pact with the Devil 3-4 s.h.

Since early modern times, the pact with the devil has served as a metaphor for humankind's desire to surpass the limits of knowledge and power; students explore a variety of works from German, British, and Russian literature and culture from early modern time to the present, and critique different twists that fascination with the forbidden takes in regard to women. Taught in English. Requirements: RHET:1030 or completion of GE CLAS Core Rhetoric. GE: Literary, Visual, and Performing Arts. Same as GRMN:2666.

CL:2700 Romani (Gypsy) Cultures of Eastern Europe 3 s.h.

Aspects of culture shared by most Roma (Gypsies) around the world; samples of folklore from Europe; impact of Roma on European literature, music, and culture; readings in English; no previous knowledge of Russian or Romani required. GE: Diversity and Inclusion. Same as RUSS:2232.

CL:3104 Topics in International Literature and Culture 3 s.h.

Focus on significant texts or critical problems related to international literature and culture. Requirements: junior or senior standing. Recommendations: two or more courses in literary study.

CL:3107 Literature and Anthropology 3 s.h.

Topics vary. Same as ANTH:3107, ENGL:3107.

CL:3122 Tolstoy and Dostoevsky 3-4 s.h.

Tolstoy's *War and Peace* and *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Demons*, and short stories. Taught in English. Same as RUSS:3122.

CL:3124 Invitation to Nabokov 3-4 s.h.

Nabokov's works and his writings on Russian literature. Same as RUSS:3124.

CL:3131 Undergraduate Reading Workshop 3 s.h.

Analysis of different types of texts—theoretical, cultural, political, philosophical, literary, poetic—and exploration of varying ways to frame and read them. Same as WLLC:3131.

CL:3179 Undergraduate Translation Workshop 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CLSA:3979, ENGL:3850, TRNS:3179.

CL:3203 Modern Japanese Fiction in Translation 3 s.h.

Introduction to modern Japanese literature from 1868 to present; focus on representative short stories, novels, and manga; the twin advent of modern Japanese language and the modern novel; rise of autobiographical "I-novel"; Japanese *bundan* (literary establishment), high modernity, and *ero guro nansensu* (erotic grotesque nonsense); stories of the war and its endless postwar; the neo-traditional and the avant-garde; literature of economic collapse and internationalization. Taught in English. Same as JPNS:3203.

CL:3204 Traditional Japanese Literature in Translation 3 s.h.

Early Japanese literature from 7th to 19th centuries including prose, poetry, drama, and Buddhist texts; students bring traditional Japanese culture to life through practice with experiences ranging from calligraphy, letter folding, and layering kimono patterns to courtly contests and bookbinding. Taught in English. Same as JPNS:3202.

CL:3206 Warriors' Dreams 3 s.h.

Images of the warrior in traditional Japanese literature from ancient legendary heroes, medieval warrior monks, and ninja to the unifying generals, masterless samurai, and women revolutionaries of early modern Japan; students discover what is truth and what is fiction when encountering the warrior in popular culture today. Taught in English. Same as JPNS:3206.

CL:3210 Comparative Arts 3 s.h.

Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Same as IWP:3210.

CL:3222 City as Text/Text as City 3 s.h.

Ways of reading cities: how built environments are shaped by history; how European cities differ from American or postcolonial cities; how to map, inhabit, remember, touch, smell, and experience a city; what is a global city; what is a sustainable city; how city spaces are felt in terms of gender, class, race, and ethnicity; models that architects, planners, politicians, and designers use to create habitable spaces; how to think of texts as cities (i.e., as spaces where people congregate, meet, live); research paper that combines class readings with independent research on a city of students' choice.

CL:3223 Reading European Poetry 3 s.h.

Development of literary reading skills and critical imagination; increase awareness of the complexity of poetry translation, introduction to works of major canonical poets from several European traditions and languages.

CL:3263 Studies in 20th-Century European Literature arr.

Evolving practices explored through genre, period, movement, or topic, in conjunction with relevant models of analysis; readings in English. Requirements: completion of GE CLAS Core Rhetoric.

CL:3277 Literature and Art 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3155.

CL:3302 Russian Literature in Translation 1860-1917 3 s.h.

Survey of major works, figures, and trends of 19th and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Same as RUSS:3202.

CL:3341 Chinese Literature: Poetry 3 s.h.

Readings in classical and modern Chinese poetry in English translation. Recommendations: sophomore or higher standing. Same as CHIN:3341.

CL:3379 Literature and Society 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3152.

CL:3570 Transnational and Postcolonial Writing by Women 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3570, GWSS:3570.

CL:4100 Approaches to Critical Theory 3 s.h.

Introduction to major critical approaches in literary and cultural theory from a variety of traditions; studying existing models, students learn to think theoretically about language and society, and to orient themselves among existing theoretical discourses, interrogating the latter critically in terms of their own perspectives and theoretical needs; selections from influential works, shared class discussion, and presentations; no prior knowledge in the area of critical theory is presumed. Same as TRNS:4100.

CL:4201 The Tale of Genji 3 s.h.

Close reading of Murasaki Shikibu's classic *Tale of Genji*; students come to know the characters by exploring the social and cultural context of the tale and discover the art, literature, and film that the *Tale of Genji* has inspired while tracking its reception through the history of Japan and across the globe. Taught in English. Same as JPNS:4201.

CL:4203 Modern Chinese Writers 3 s.h.

Readings in modern and contemporary Chinese fiction; in English translation. Recommendations: sophomore or higher standing. Same as CHIN:4203.

CL:4368 Post-Colonial Literature in France 3 s.h.

Literatures and cultures of Arabo-French (Beur) and Afro-French immigrations. Prerequisites: FREN:3300 and FREN:3060. Same as FREN:4080.

CL:4648 Issues in Gender and Sexuality 3 s.h.

Significance of gender and/or sexuality to cinema, in general or in a period, genre, film type, or national cinema; theoretical approaches, including feminist and queer theory.

CL:4700 Latin American Studies Seminar 3 s.h.

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, HIST:4504, LAS:4700, PORT:4700, SPAN:4900.

CL:4800 Seminar in Comparative Literature 3 s.h.

Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Same as GRMN:4800, TRNS:4800, WLLC:4801.

CL:4900 Independent Study arr.**CL:5201 Seminar in Chinese Fiction 3 s.h.**

Novels, novelettes; 16th to 18th centuries (Ming and Qing periods). Requirements: ability to read original texts. Same as CHIN:5201.

CL:5202 Seminar in Chinese Literature arr.

Requirements: two years of modern Chinese and one year of classical Chinese. Same as CHIN:5202.

CL:5510 Comparative Stylistics 3 s.h.

Translation from English to French, including literary texts. Same as FREN:5020.

CL:6105 Introduction to Contemporary Literary Theory **3 s.h.**

How major theories construct literary text; structuralist, semiotic, psychoanalytic, Marxist, reader response, Derridian criticism. Taught in English. Same as SPAN:6905.

CL:6323 Romantic Literature **3 s.h.**

Same as ENGL:6400.

CL:7000 Thesis **arr.**

CL:7054 Seminar: Postcolonial Studies **3 s.h.**

Same as ENGL:7800.

CL:7260 Seminar: Problems in Aesthetics and Literary Theory **arr.**

CL:7302 Seminar: Medieval Literature and Culture **arr.**

Same as ENGL:7100.

CL:7307 Seminar: Early Modern Literature and Culture **arr.**

Same as ENGL:7200.

CL:7500 Independent Study **arr.**

Comparative Literature, B.A.

Learning Outcomes

- **Problem-Solving Skills:** Students develop research skills and a repertoire of critical approaches by asking innovative questions of any new problem they encounter. Trained to probe any question from a variety of perspectives, students are prepared to navigate the multiperspective complexity of our rapidly changing world.
- **Cultural Understanding and Analysis:** Students learn to engage historically, geographically, and linguistically diverse materials. Though this, students are able to learn to consider issues of language and translation, different media, and other critical problems in their projects.
- **Writing:** Students produce a cohesive project as it relates to at least one other language other than English or an alternative focus on media and art forms.
- **Engagement/Speaking Skills:** Students engage with other students, instructors, and course work from departments from across the University. Through this interdisciplinary approach, student learn to meaningfully engage in discourse from a variety of perspectives.

Requirements

The Bachelor of Arts with a major in comparative literature requires a minimum of 120 s.h., including 33 s.h. of work for the major. Of the 33 s.h. required for the major, students must earn 21 s.h. in University of Iowa course work. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They may count a maximum of 6 s.h. of course work from another major, minor, or certificate toward the major in comparative literature. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students complete 12 s.h. in one track—world languages and literature, or literature and arts. Students work closely with faculty advisors to develop coherent, individualized programs of study that reflect their interests and developing skills.

The B.A. with a major in comparative literature requires the following course work.

Code	Title	Hours
Common Courses		15
Comparative Literature Electives		6
Track Courses		12
Total Hours		33

Common Courses

Code	Title	Hours
All of these:		
CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3
CL:1241	Major Texts of World Literature, 1700 to the Present	3

CL:2248/ ANTH:2248/ ASIA:2248/ CLSA:2048/ COMM:2248/ GRMN:2248/ HIST:2148/IS:2248/ LING:2248/ TRNS:2248/ WLLC:2248	The Invention of Writing: From Cuneiform to Computers	3
CL:4100/TRNS:4100	Approaches to Critical Theory	3
CL:4800/ GRMN:4800/ TRNS:4800/ WLLC:4801	Seminar in Comparative Literature	3

Comparative Literature Electives

Code	Title	Hours
Both of these:		
One comparative literature course (prefix CL) numbered 3000 or above		3
One comparative literature course (prefix CL) at any level		3

Tracks

Students complete 12 s.h. of work in one of the following tracks. Students can apply up to 6 s.h. in course work numbered 3000 or above from another major toward the track options.

World Languages and Literature Track

Students must complete 9 s.h. of course work in one foreign literature, read in the original language; one may be a course in composition and conversation. Language courses taken to complete the GE CLAS Core do not count toward the major.

Students complete an additional 3 s.h. of course work, approved by the advisor, in comparative literature or a related area (e.g., American literature, American Sign Language, anthropology, Asian and Slavic languages and literatures, cinema, classics, French and Italian, German, history, linguistics, philosophy, Spanish and Portuguese) or in a second foreign literature.

Literature and Arts Track

Students must complete 9 s.h. of upper-level course work (courses numbered 3000 or above) in a single fine arts area chosen in consultation with the comparative literature advisor. They may include one upper-level course in performance, practice, or production, with permission from the director of undergraduate studies.

Course work for the track also must include one 3 s.h. course that focuses explicitly on arts and literature in comparative perspective.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major, which requires that they complete an honors thesis. Once students have earned 75 s.h., they submit a written proposal for the thesis. The proposal must be approved by the faculty member who heads a student's honors thesis

committee; the committee must be composed of at least two faculty members from the Comparative Literature Program. Students must complete the honors thesis over the next two consecutive semesters. For specific honors thesis requirements in the comparative literature major, contact the Comparative Literature Program office.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the comparative literature major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

When requirements for the major in comparative literature include advanced work in a language, students may need to acquire competence in the language by completing course work early in their plan of study. Such course work is not reflected in the following checkpoints.

Before the fifth semester begins: at least two courses in the major

Before the seventh semester begins: at least four more courses in the major (total of six) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least three more courses in the major (total of nine)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Comparative Literature, B.A.

Literature and Arts Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture ^a		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3

CSI:1600	Success at Iowa	2
	Hours	15-17

Spring

CL:1241	Major Texts of World Literature, 1700 to the Present ^d	3
GE CLAS Core: Diversity and Inclusion ^a		3
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
	Hours	16-17

Second Year

Fall

CL:1240	Major Texts of World Literature, Antiquity to 1700 ^d	3
CL:2248	The Invention of Writing: From Cuneiform to Computers	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
	Hours	16-18

Spring

Major: comparative literature track course ^e		3
GE CLAS Core: International and Global Issues ^a		3
GE CLAS Core: Natural Sciences with Lab ^a		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
Elective course ^c		2
	Hours	16-17

Third Year

Fall

Major: comparative literature track course ^e		3
Major: comparative literature course (prefix CL) numbered 3000 or above		3
GE CLAS Core: Historical Perspectives ^a		3
GE CLAS Core: Natural Sciences without Lab ^a		3
Elective course ^c		3
	Hours	15

Spring

CL:4100	Approaches to Critical Theory	3
Major: comparative literature track course ^e		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
	Hours	15

Fourth Year

Fall

Major: comparative literature track course ^e		3
Major: comparative literature elective course (prefix CL) at any level		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
	Hours	15

Spring

CL:4800	Seminar in Comparative Literature	3
Elective course ^c		3
GE CLAS Core: Social Sciences ^a		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Total Hours		123-129

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e Students complete 12 s.h. of course work toward a track.

Career Advancement

In conjunction with an appropriate overall curriculum, the major in comparative literature can offer effective preparation for professional studies in fields such as law and business, or for employment in fields that value critical thinking and international understanding. It also offers excellent preparation for graduate work in the humanities.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Comparative Literature, Minor

The undergraduate minor in comparative literature requires 15 s.h. of comparative literature courses. At least 12 s.h. of the 15 s.h. must be taken at the University of Iowa; students may count a maximum of 3 s.h. of approved transfer credit toward the minor. They must maintain a g.p.a. of at least 2.00 in all course work for the minor. Course work in the minor may not be taken pass/nonpass. Contact the Comparative Literature Program office for a list of approved courses.

Students must select a minimum of 6 s.h. from the following.

Code	Title	Hours
CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3
CL:1241	Major Texts of World Literature, 1700 to the Present	3
CL:2248/ ANTH:2248/ ASIA:2248/ CLSA:2048/ COMM:2248/ GRMN:2248/ HIST:2148/IS:2248/ LING:2248/ TRNS:2248/ WLLC:2248	The Invention of Writing: From Cuneiform to Computers	3
CL:4100/TRNS:4100	Approaches to Critical Theory	3
CL:4800/ GRMN:4800/ TRNS:4800/ WLLC:4801	Seminar in Comparative Literature	3

The remaining 9 s.h. of course work should be chosen in consultation with the director of the Comparative Literature Program.

Computer Science

Chair

- Alberto M. Segre

Undergraduate majors: computer science (B.A., B.S.); informatics (B.A., B.S.)

Undergraduate minors: computer science; informatics

Graduate degrees: M.C.S.; M.S. in computer science; Ph.D. in computer science

Faculty: <https://cs.uiowa.edu/people>

Website: <https://cs.uiowa.edu/>

The Department of Computer Science offers undergraduate programs in computer science and in informatics as well as graduate degree programs in computer science. It offers courses that students in all majors may use to satisfy the GE CLAS Core [p. 459] Quantitative or Formal Reasoning requirement and a First-Year Seminar designed for entering undergraduate students. For general information about the department, faculty, and research activities, visit the Department of Computer Science website or the department's office.

Related Majors and Certificate

Major: Computer Science and Engineering

The Computer Science and Engineering major combines the technical content of a computer science degree and a computer engineering degree into a single program that leads to the Bachelor of Science in Engineering (B.S.E.) degree. The curriculum is jointly offered by the Department of Computer Science and the Department of Electrical and Computer Engineering (College of Engineering). The program provides students with a strong theoretical and conceptual understanding of the principles underlying computer software and hardware along with the engineering analysis, design, and multidisciplinary teamwork skills needed to develop large and complex systems containing both software and hardware components. See the B.S.E. in computer science and engineering [p. 1369] in the Catalog.

Major: Data Science

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a field where new problems are encountered at an ever-increasing rate. A highly technical program, the major emphasizes the statistical/probabilistic and algorithmic (e.g., machine and statistical learning) methods that underlie the analysis process, developing data preparation skills (which generally involve writing software to obtain, extract, merge, clean, and/or transform the raw data), and the creation and implementation of new or special-purpose analysis tools.

Computer science majors may not earn a major in data science. The Department of Statistics and Actuarial Science [p. 991] and the Department of Computer Science [p. 274] collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science; see the B.S. in data science [p. 327] in the Catalog.

Certificate: Large Data Analysis

The Certificate in Large Data Analysis may be earned in addition to a B.A. or B.S. degree in computer science. The

certificate focuses on handling, processing, and extracting information from large data sets. As computers have become faster and smaller, more information can be gathered and used for a large range of applications, such as for weather forecasting; identifying people and trends utilizing Facebook or other social media; understanding the genome; and searching for disease causes and cures, as well as many other areas of study. The certificate is interdisciplinary, requiring courses from three areas of study—computer science, mathematics, and statistics. Computer science teaches students how to handle large amounts of data and how to implement the algorithms to process them, while statistics helps students to understand what can and cannot be legitimately inferred from the data. Mathematics focuses on algorithms and methods for connecting these important areas of data collection.

Programs

Undergraduate Programs of Study

Majors

- Major in Computer Science (Bachelor of Arts) [p. 279]
- Major in Informatics (Bachelor of Arts) [p. 283]
- Major in Computer Science (Bachelor of Science) [p. 289]
- Major in Informatics (Bachelor of Science) [p. 293]

Minors

- Minor in Computer Science [p. 297]
- Minor in Informatics [p. 298]

Graduate Programs of Study

Majors

- Master of Computer Science [p. 299]
- Master of Science in Computer Science [p. 300]
- Doctor of Philosophy in Computer Science [p. 301]

Courses

Competence and exposure to computer science are not only useful, they often are prerequisite to advanced study and research in many disciplines. For most graduate students from other disciplines, an appropriate first course is CS:5110 Introduction to Informatics.

Computer Science Courses

CS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

CS:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

CS:1020 Principles of Computing**3 s.h.**

Introduction to computing; broad overview of discipline; necessary skills and concepts for effective application of computing resources in student's profession. Recommendations: no credit for students who have completed a higher-numbered CS course. GE: Quantitative or Formal Reasoning.

CS:1110 Introduction to Computer Science**3 s.h.**

Introduction to computer science and the study of algorithms; foundational ideas, computer organization, software concepts (e.g., networking, databases, security); programming concepts using Python. GE: Quantitative or Formal Reasoning.

CS:1210 Computer Science I: Fundamentals**4 s.h.**

Introduction to programming using Python; programming constructs, data types, problem-solving strategies, data structures, object-oriented programming. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1340 with a minimum grade of C-) or (ALEKS score of 45 or higher and MATH:1010 with a minimum grade of C-) or ALEKS score of 75 or higher or MATH:1020 with a minimum grade of C- or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or MPT Level 3 score of 9 or higher or MATH:1460 with a minimum grade of C- or MATH:1380 or MATH:1850. GE: Quantitative or Formal Reasoning.

CS:2110 Programming for Informatics**4 s.h.**

Computing fundamentals for informatics students, including practical programming skills (e.g., in Perl, other scripting languages) and introduction to algorithms, data structures, databases. Prerequisites: CS:1110.

CS:2210 Discrete Structures**3 s.h.**

Mathematical methods used in computer science, including logic, proof techniques (with induction), functions, relations, algorithm analysis, recurrence relations, counting methods, combinatorics, graphs, trees. Recommendations: calculus I.

CS:2230 Computer Science II: Data Structures**4 s.h.**

Design, implementation, and application of data structures (e.g., linked lists, stacks, queues, hash tables, trees); complexity analysis; recursion; introduction to object-oriented programming concepts; abstract data types and their realization using generic interfaces and classes; software design patterns (e.g., iterators, comparators). Prerequisites: CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-.

CS:2420 Databases for Informatics**3 s.h.**

Design and implementation of relational database systems: introduction to the relational model, database design, database normalization, use of database query and manipulation languages such as SQL. Prerequisites: CS:2110 with a minimum grade of C-.

CS:2520 Human-Computer Interaction**3 s.h.**

Basic theories, principles, and guidelines for design and evaluation of human-computer interactions; design methodologies (e.g., participatory design, low- and high-fidelity prototyping), user interface technologies (e.g., input and output devices, interaction styles), quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing). Prerequisites: CS:1110.

CS:2620 Networking and Security for Informatics**3 s.h.**

Introduction to computer networking, overview of network organization and management; basic understanding of encryption and network security; practical experience in network programming. Prerequisites: CS:2110 with a minimum grade of C-.

CS:2630 Computer Organization**3 s.h.**

Computer building blocks: representing data, computer arithmetic, instruction sets, assembly language, digital logic, control units, ALU design, register operations, memory organization, IO. Prerequisites: CS:2230 with a minimum grade of C- and CS:2210 with a minimum grade of C-.

CS:2800 Digital Arts: An Introduction**3 s.h.**

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.

CS:2820 Object-Oriented Software Development**4 s.h.**

Object-oriented design and software development methodology; team programming projects; GUIs, event handling, network programming, concurrency, data representation, IO programming. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.

CS:3210 Programming Languages and Tools**arr.**

Varied programming languages and tools. Prerequisites: CS:1210 with a minimum grade of C- or CS:2110 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-.

CS:3330 Algorithms**3 s.h.**

Algorithm design techniques (e.g., greedy algorithms, divide-and-conquer, dynamic programming, randomization); fundamental algorithms (e.g., basic graph algorithms); techniques for efficiency analysis; computational intractability and NP-completeness. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and (MATH:1850 or MATH:1550 or MATH:1860 or MATH:1560).

CS:3620 Operating Systems**3 s.h.**

Introduction to modern operating systems, including device control, memory management and addressing, process scheduling, interprocess communication, interrupts, synchronization, security. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and (CS:2630 with a minimum grade of C- or ECE:3350 with a minimum grade of C-).

CS:3640 Introduction to Networks and Their Applications**3 s.h.**

Introduction to networks and the development of network applications; basic concepts of network communication common to applications such as simulation and web services. Prerequisites: CS:2630 with a minimum grade of C- or ECE:3350 with a minimum grade of C-.

CS:3700 Elementary Numerical Analysis**3 s.h.**

Computer arithmetic, root finding, polynomial approximation, numerical integration, numerical linear algebra, numerical solution of differential equations; use of a higher-level computer language such as Matlab, Python, or Julia. Prerequisites: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860). Same as MATH:3800.

CS:3820 Programming Language Concepts 3 s.h.

Imperative, functional, and logical programming languages, and differences between them; syntax specification, types, control structures, recursion, data abstraction. Prerequisites: CS:2230 with a minimum grade of C- and CS:2210 with a minimum grade of C- and (CS:2630 with a minimum grade of C- or ECE:3330 with a minimum grade of C- or CS:2820 with a minimum grade of C- or ECE:3350 with a minimum grade of C-).

CS:3910 Informatics Project 3 s.h.

Experience designing, implementing, documenting, and testing a system using appropriate software tools (e.g., a project working with an information management tool consisting of a database system with a Web-based front end); typically done in small groups; capstone project for informatics majors. Prerequisites: CS:2110 with a minimum grade of C- and CS:2520 with a minimum grade of C- and (CS:2420 with a minimum grade of C- or CS:2620 with a minimum grade of C- or MSCI:3200 with a minimum grade of C-).

CS:3980 Topics in Computer Science I 3 s.h.

Complement to material in other courses. Prerequisites: CS:1210 with a minimum grade of C- or CS:2110 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-.

CS:3990 Honors in Computer Science or Informatics arr.

Individual projects. Requirements: computer science or informatics major, and honors standing.

CS:4330 Theory of Computation 3 s.h.

Finite automata; regular sets and expressions; context-free and context-sensitive grammars, their properties; push-down automata; standard, universal, and linear-bounded Turing machines; relationships between formal languages and automata; undecidability and its consequences. Prerequisites: CS:3330 with a minimum grade of C-.

CS:4350 Logic in Computer Science 3 s.h.

Applications of symbolic logic in computer science; symbolic logic as a powerful tool for modeling computation and computational devices and reasoning formally about them; introduction to several logics (i.e., propositional, predicate, temporal, modal) differing in their expressive power and focus, their uses in computer science; how to represent knowledge in these logics, what represents a valid argument, and how to prove or disprove, possibly automatically, the validity of a logical statement. Prerequisites: CS:3330 with a minimum grade of C-. Recommendations: computer science, math, or engineering major.

CS:4400 Database Systems 3 s.h.

Introduction to database systems including querying using SQL, design using ER diagrams, developing relational databases, programming web applications using PHP or JDBC. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and CS:3330 with a minimum grade of C-.

CS:4420 Artificial Intelligence 3 s.h.

Introduction to artificial intelligence covering problem-solving methods, heuristic search, knowledge representation, automated reasoning, planning, game playing, machine learning, and neural networks. Prerequisites: CS:3330 with a minimum grade of C-.

CS:4440 Web Mining 3 s.h.

Core methods underlying development of applications on the Web; examples of relevant applications, including those pertaining to information retrieval, summarization of Web documents, and identifying social networks. Prerequisites: CS:3330 with a minimum grade of C-. Recommendations: CS:4400 strongly recommended.

CS:4470 Health Data Analytics 3 s.h.

Analysis of different kinds of health care data, such as patient electronic medical records, public health data, biomedical publications, social media pertaining to health, and ontologies in health care; students will read papers exploring different kinds of research and application development involving such data; course will run in distinct modules with each focused on a dataset type and related research; students must be comfortable with programming (e.g., Java, Python, Perl). Prerequisites: CS:3330 with a minimum grade of C-.

CS:4480 Knowledge Discovery 3 s.h.

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as ECE:4480, IGPI:4480, MSCI:4480.

CS:4500 Research Methods in Human-Computer Interaction 3 s.h.

Survey of recent research in the field of human-computer interaction; research methods and current readings. Prerequisites: CS:2520 with a minimum grade of C-.

CS:4630 Mobile Computing 3 s.h.

Building mobile sensing systems requires addressing issues in sensor acquisition, wireless communication, and middleware development; hands-on projects using embedded computers and sensors; includes significant writing and presentation components; a conference-quality research paper on a novel research project in mobile computing is expected; knowledge of Java is assumed. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and CS:2820 with a minimum grade of C-.

CS:4640 Computer Security 3 s.h.

Mechanism versus policy; authentication, access control, security domains; perimeter security, defense in depth; cryptographic protocols; key management and distribution; security assessment. Prerequisites: CS:2630 with a minimum grade of C- or ECE:3350 with a minimum grade of C-.

CS:4700 High Performance and Parallel Computing 3 s.h.

Parallel algorithms presented and implemented with different approaches and libraries (e.g., OpenMP, MPI); various platforms including Message Passing Clusters, Multicore and GPUs, MapReduce (Hadoop), and related current topics; scientific computing and large data analysis projects. Prerequisites: (CS:2210 with a minimum grade of C- or MATH:4050) and CS:2230 with a minimum grade of C-. Same as MATH:4860.

CS:4720 Optimization Techniques 3 s.h.

Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: (MATH:2700 or MATH:2550) and (ME:4111 or MATH:3800 or CS:3700) and (MATH:1560 or MATH:2850). Same as MATH:4820.

CS:4740 Large Data Analysis 3 s.h.

Current areas that deal with problem of Big Data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or IE:3760 or IGPI:3200). Same as IGPI:4740, MATH:4740, STAT:4740.

CS:4980 Topics in Computer Science II 3 s.h.

Complements material in other courses. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.

CS:5110 Introduction to Informatics 3 s.h.

Fundamentals of computer science: algorithms, complexity, relational databases, systems concepts, programming in Python. Same as IGPI:5110.

CS:5340 Limits of Computation 3 s.h.

Turing machines, undecidability and complexity: reductions, Cook's theorem and NP-completeness, approximation algorithms and randomized algorithms. Prerequisites: CS:3330.

CS:5350 Design and Analysis of Algorithms 3 s.h.

Review of design and analysis techniques; advanced data structures (binomial and Fibonacci heaps, disjoint sets); graph algorithms (network flows, matching, min-cut); NP-completeness, randomization and approximation algorithms; special topics (string matching, computational geometry, number theoretic algorithms). Prerequisites: CS:3330 or CS:5340.

CS:5360 Randomized Algorithms 3 s.h.

Use of randomization in the design of algorithms; focus on various fundamental principles in the design of randomized algorithms, such as first and second moment method, random sampling, hashing, probability amplification; tools for analysis, such as the tail bounds of Markov, Chebyshev, Chernoff, and Hoeffding, the Lovasz Local Lemma, Martingale tail bounds, randomized rounding of linear and semi-definite programs; applications to network routing, combinatorial optimization, random walks, social networks, data streaming, and more. Prerequisites: CS:3330.

CS:5370 Computational Geometry 3 s.h.

Study of data structures for geometric problems such as point location, range searching, finding nearest neighbors, and algorithms for convex hulls, Voronoi diagrams, triangulations, and quad-trees along with their uses; other topics will be determined by student interest; focus on algorithm design and an understanding of the implementation of geometric algorithms; assumes a sound understanding of the material in an undergraduate algorithms course. Prerequisites: CS:3330.

CS:5430 Machine Learning 3 s.h.

Fundamental machine learning techniques as well as hands-on experience applying these techniques and developing new techniques for solving problems from the real world; topics include regression (least square regression, lasso), classification (naive Bayes, nearest neighbor, support vector machines, logistic regression), kernel methods, unsupervised methods (k-means clustering, spectral clustering, dimensionality reduction), stochastic optimization, deep learning, and recent advances in big data analytics. Prerequisites: MATH:1850 and MATH:2700 and STAT:2020 and (CS:2230 or CS:2110).

CS:5610 High Performance Computer Architecture 3 s.h.

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: ECE:3350 or CS:3620. Same as ECE:5320.

CS:5620 Distributed Systems and Algorithms 3 s.h.

Models of distributed systems, program correctness—safety and liveness properties, causality, logical and vector clocks, mutual exclusion, distributed snapshot, leader election, distributed algorithms for graph-theoretic problems, fault-tolerance—masking versus nonmasking types, checkpointing, stabilization, consensus—byzantine generals problem, fault-tolerant broadcast and multicast, management of replicated data. Prerequisites: CS:3330 and CS:3620. Requirements: some interest in networking.

CS:5630 Cloud Computing Technology 3 s.h.

Explores infrastructure and programming paradigms of scalable systems and databases; provides experience with popular cluster frameworks (MapReduce, Hadoop, Spark, Flink, or similar) through programming exercises, projects, and experiments; assigned readings and case studies explore themes such as replication, data sharding, looser types of consistency, virtualization, consensus, and barrier synchronization; cloud system stacks developed by Google, Amazon, Facebook, and Microsoft. Prerequisites: CS:2820 and (CS:3620 or CS:3640).

CS:5710 Numerical Analysis: Nonlinear Equations and Approximation Theory 4 s.h.

Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: MATH:2700 and (MATH:2850 or MATH:3550). Requirements: knowledge of computer programming. Same as MATH:5800.

CS:5720 Numerical Analysis: Differential Equations and Linear Algebra 4 s.h.

Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: MATH:2700 and MATH:5800 and (MATH:2850 or MATH:3550) and (MATH:3600 or MATH:2560). Requirements: knowledge of computer programming. Same as MATH:5810.

CS:5800 Fundamentals of Software Engineering 3 s.h.

Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: CS:2820 or ECE:3330. Same as ECE:5800.

CS:5810 Formal Methods in Software Engineering 3 s.h.

Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: ECE:3330 or CS:2820. Recommendations: CS:4350. Same as ECE:5810.

CS:5820 Software Engineering Languages and Tools **3 s.h.**

Modern agile software development practices for cloud and web-based applications, using state-of-the-art software engineering languages, tools, and technologies; agile software development practices, software-as-a-service (SAAS), and the Ruby on Rails Development Framework. Prerequisites: ECE:3330 or CS:2820. Same as ECE:5820.

CS:5830 Software Engineering Project **3 s.h.**

Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: ECE:5820 and CS:5800. Same as ECE:5830.

CS:5850 Programming Language Foundations **3 s.h.**

Introduction to formal foundations of programming languages using a variety of models, including attribute grammars, operational, axiomatic, denotational, and algebraic techniques; proofs of program equivalence, correctness, termination. Prerequisites: CS:3330 and CS:3820.

CS:5860 Lambda Calculus and Applications **3 s.h.**

Covers both typed and untyped versions of the lambda calculus in depth, including essential theoretical results like confluence for untyped lambda calculus and normalization for typed lambda calculi, as well as applications in computer science, logic, and linguistics; course work includes both theoretical exercises and practical problems using software for manipulating lambda-calculus expressions, students devise their own final projects; no prior experience with lambda calculus, programming, logic, or linguistics is required, although ability to grasp definitions of new concepts and to follow detailed arguments is needed. Prerequisites: CS:3820.

CS:5980 Topics in Computer Science III **arr.**

Complements material in other courses.

CS:5990 Individualized Research or Programming Project **arr.**

Individualized research and/or programming projects in computer science, guided by a faculty member.

CS:6000 Research Seminar: Colloquium Series **1 s.h.**

Graduate colloquium. Requirements: graduate standing in computer science.

CS:6990 Readings for Research **arr.**

Requirements: Ph.D. standing in computer science.

CS:7604 Computing Research Ethics for Postdocs **0 s.h.**

Review of responsible conduct of research policies specifically tailored to research roles computer science students are likely to play at the University of Iowa and beyond in their professional lives. Requirements: postdoctoral research scholar/fellow standing in computer science.

CS:7990 Research for Dissertation **arr.**

Individualized instruction for Ph.D. candidates in computer science towards thesis requirements. Requirements: Ph.D. candidacy (postcomprehensive exam) in computer science.

Computer Science, B.A.

Learning Outcomes

- Students understand the mathematical, logical, statistical, and theoretical foundations of computing.
- Students can analyze and compare the relative merits of alternative software designs and develop high-quality software systems.
- Students understand the fundamental principles of computer organization, system software, networks, and security.
- Students can apply computer science principles to a variety of problems, such as databases, data mining, graphics, and various fields of artificial intelligence (AI).
- Students understand social, professional, and ethical issues related to computing.

Overview

The major in computer science provides students with the necessary training for employment in careers such as software development and information management. It provides good preparation for graduate study in a variety of disciplines.

The department encourages students majoring in computer science to consider earning a second major, certificate, or minor.

Students may declare a major in computer science when they are admitted to the University or afterward. All students begin as Bachelor of Arts majors but may switch to the Bachelor of Science program at any time.

Undergraduates majoring in computer science develop competence in programming principles and methodologies, problem-solving techniques, mathematics, and computer systems. Computer science training is critical for many careers in science, engineering, business, and health care.

Computer science majors are advised at the Academic Advising Center until they have completed 24 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with a computer science faculty advisor.

Transfer students who have taken a course approved as equivalent to a required computer science or informatics course are exempt from that course. Transfer course grades are included in the computer science grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See "Advanced Placement" under Undergraduate Programs on the Department of Computer Science website.

Requirements

The Bachelor of Arts with a major in computer science requires a minimum of 120 s.h., including at least 41 s.h.

of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The computer science major for the Bachelor of Arts is designed for students who would like to gain considerable knowledge in computer science and have flexibility in choosing electives. Students preparing for careers in the computing field are encouraged to supplement the base requirements with additional computer science courses. The program's flexibility makes it suitable for combination with other majors.

Course work for the major includes computer science courses as well as courses in mathematics, statistics, and other supporting disciplines. Work for the major may not be taken pass/nonpass.

Bachelor of Arts students considering a switch to the Bachelor of Science program should choose their GE CLAS Core Natural Sciences courses carefully since students may be able to use the same courses to satisfy the computer science major natural science sequences requirement for the B.S. degree. See "Natural Science Sequences" under Requirements [p. 289] in the B.S. in computer science section of the Catalog.

The departmental residency requirement requires that students who earn a B.A. in computer science must complete at least five courses (minimum of 15 s.h.) at the University of Iowa from the following: CS:2630 Computer Organization or ECE:3350 Computer Architecture and Organization, CS:2820 Object-Oriented Software Development, CS:3330 Algorithms, and at least two computer science course numbered CS:3620-CS:5899, but excluding CS:3910 and CS:3980.

The B.A. with a major in computer science requires the following course work.

Code	Title	Hours
Computer Science Core Courses		27
Mathematics Core Courses		11-12
Advanced Computer Science Electives		3
Total Hours		41-42

Computer Science Core

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:2820	Object-Oriented Software Development	4
CS:3330	Algorithms	3
CS:3820	Programming Language Concepts	3
One of these:		
CS:2630	Computer Organization	3
ECE:3350	Computer Architecture and Organization	3
One of these:		
CS:3620	Operating Systems	3

CS:3640	Introduction to Networks and Their Applications	3
CS:4640	Computer Security	3

Mathematics Core

Code	Title	Hours
Calculus I		
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
Calculus II		
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
Linear Algebra/Probability and Statistics		
One of these:		
MATH:2700	Introduction to Linear Algebra	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4

Students who take MATH:2550 Engineering Mathematics III: Matrix Algebra and MATH:2560 Engineering Mathematics IV: Differential Equations can use these courses together to satisfy the linear algebra requirement.

Advanced Computer Science Electives

Code	Title	Hours
At least 3 s.h. from these:		
A computer science course (prefix CS) numbered 3620-5899, except CS:3910 and CS:3980		
A computer science course (prefix CS) numbered 5900 or above, with department approval		

Students may count a maximum of 3 s.h. earned in CS:3990 Honors in Computer Science or Informatics toward the advanced computer science elective requirement.

Early Admission to the Graduate College

Undergraduate computer science students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

Combined Programs

B.A./M.C.S.

Qualified computer science undergraduate students who plan to earn the Master of Computer Science degree may apply for the combined Bachelor of Arts/Master of Computer Science program. The combined B.A./M.C.S. program allows students to earn both degrees in five years. The program requires

a total of 140 s.h. Students are granted a B.A. when they complete all requirements for the undergraduate degree.

Students in the combined program must complete all requirements for each degree, but may count a maximum of 12 s.h. (four courses) toward both degrees. The four courses must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.A. and the M.C.S.

If students withdraw from the combined program before completing their bachelor's degree, credit earned in the four courses is counted only toward the undergraduate degree.

A version of the combined program is now available for Grinnell College undergraduate students pursuing a B.A. degree in computer science who want to earn the M.C.S. at the University of Iowa.

Students apply for admission to the combined program during their third year as an undergraduate and enter the program at the beginning of their fourth year. They typically complete the combined program in one year after completing B.A. requirements.

Applicants to the combined program must:

- be enrolled as a B.A. student majoring in computer science at the University of Iowa;

- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa; and

- have a cumulative University of Iowa g.p.a. of at least 3.25 and a g.p.a. of at least 3.25 in the computer science major (computed on math prerequisites and core computer science course work taken at the University of Iowa).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students must submit an application for admission to the program, a statement of purpose, three letters of recommendation, and transcripts from all colleges attended; they also must apply to the Graduate College. Graduate Record Examination (GRE) scores are not required. For more detailed information, see Prospective Students on the Department of Computer Science website.

Honors

Honors in the Major

Students majoring in computer science have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics which requires the submission of an acceptable honors thesis. Students are responsible for finding a faculty member willing to supervise their honors project. They can register for CS:3990 with the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. For more details, see Honors on the Department of Computer Science website.

Honors students may count a maximum of 3 s.h. of CS:3990 Honors in Computer Science or Informatics toward the B.A. degree's advanced computer science elective requirement. Students in the combined B.A./M.C.S. program may register for 4-6 s.h. of CS:5990 Individualized Research or

Programming Project instead of CS:3990; this will allow them to receive graduate credit for the course while satisfying the course requirements to graduate with honors.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the computer science major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics or CS:5990 Individualized Research or Programming Project can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning course work.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.A. students majoring in computer science. Students work with their advisors on individual graduation plans.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Computer Science, B.A.

Course	Title	Hours
First Year		
Fall		
MATH:1005	College Algebra ^a	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		16-18
Spring		
CS:1110	Introduction to Computer Science	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1010	Trigonometry	3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		16-18
Second Year		
Fall		
CS:1210	Computer Science I: Fundamentals	4
MATH:1850	Calculus I	4
GE CLAS Core: Social Sciences ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5

Elective course ^d	1
Hours	16-17

Spring

CS:2210	Discrete Structures	3
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Elective course ^d		2
Hours		16-17

Third Year

Fall

CS:2230	Computer Science II: Data Structures	4
Major: Math Elective ^e		3 - 4
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^d		3
Elective course ^d		1
Hours		15-16

Spring

CS:2630	Computer Organization ^f	3
CS:2820	Object-Oriented Software Development ^f	4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^d		2
Hours		15

Fourth Year

Fall

CS:3330	Algorithms ^f	3
Major: Computer Science core course ^g		3
GE CLAS Core: International and Global Issues ^b		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: Computer Science core course ^g		3
Major: Computer Science advanced elective ^h		3
GE CLAS Core: Values and Culture ^b		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Total Hours 124-131

- Enrollment in math courses requires completion of a placement exam.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- Choose from MATH:2700, STAT:2020, or STAT:3120.
- Students may take CS:2630, CS:2820, and CS:3330 in any order after completing CS:1210, CS:2210, and CS:2230.
- Possible courses include (1) CS:3620 or CS:3640 or CS:4640 for systems requirement or (2) CS:3820.

- h Students may choose a computer science course (prefix CS) numbered 3620-5890 except CS:3910 and CS:3980, or a CS course numbered 5900 or above with department approval. A course used to complete a core requirement cannot also be used as a major elective.

Career Advancement

Computer science graduates work primarily in two market sectors. One includes the software and computer industry, from small start-ups to giants such as Amazon, Google, Intel, Yahoo, and Microsoft. These offer job opportunities in software design, including UIX, mobile, and web development. Another sector is made up of organizations whose primary business is not computing, such as banks, insurance, and other financial groups; health care organizations; consulting, media, and legal firms; entertainment companies; and the military.

As many as one-third of computer science graduates go into research or elect to pursue graduate studies in computer science, including the University of Iowa's five-year B.A./M.C.S. program, or pursue other areas where computer science provides a strong foundation.

A recent job placement survey indicates that more than 97 percent of computer science graduates were placed or no longer seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Informatics, B.A.

Learning Outcomes

- Students have a basic grounding in computer science.
- Students have a thorough understanding of information processing tools and constructs.
- Students have a user-centric perspective on computing tools.
- Students have a thorough understanding of chosen cognate area.
- Students can apply computing tools to problem solving.

Overview

The major in informatics provides students with the necessary training for employment in careers such as software development, user experience, and information management. It provides good preparation for graduate study in a variety of disciplines.

The department encourages students majoring in informatics to consider earning a second major, certificate, or minor.

Students may declare a major in informatics when they are admitted to the University or afterward. All students begin the major as Bachelor of Arts students but may switch to the Bachelor of Science programs at any time.

The informatics major combines fundamental and practical computing knowledge with a choice of cognate areas from the liberal arts and sciences, providing students with the necessary background and specialized skills to work at the interface of computing and another discipline. Students may begin the major without a chosen cognate area; they may declare a cognate at any time. Some cognates are available only with the Bachelor of Arts, others are available only with the Bachelor of Science. A student's choice of cognate determines whether the student will earn a B.A. or a B.S.

Informatics majors are advised at the Academic Advising Center until they have completed 24 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with an informatics faculty advisor.

Transfer students who have taken a course approved as equivalent to a required informatics or computer science course are exempt from that course. Transfer course grades are included in the informatics grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See "Advanced Placement" under Undergraduate Programs on the Department of Computer Science website.

Requirements

The Bachelor of Arts with a major in informatics requires a minimum of 120 s.h., including at least 43-51 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in

all courses for the major and in all UI courses for the major. A cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The program combines foundational informatics course work with course work in a cognate area. The major offers the cognate areas of art, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, music, social informatics, and individualized cognates. Required credit for the major depends on a student's choice of cognate area.

Course work for the major includes the informatics core, one elective, a statistics course, and a set of courses in a chosen cognate area. Work for the major may not be taken pass/nonpass. Students are expected to have taken MATH:1005 College Algebra or the equivalent.

Students must complete at least four courses (minimum of 12 s.h.) at the University of Iowa from the following: CS:3910 Informatics Project and three additional courses numbered CS:2500-CS:4999 or MSCI:4220 Advanced Database Management and Big Data.

The B.A. with a major in informatics requires the following course work.

Code	Title	Hours
Informatics Core Courses		19
Informatics Electives		3
Statistics Course		3-4
Cognate Courses		18-25
Total Hours		43-51

Informatics Core

The informatics core consists of six required computing courses (19 s.h.) that emphasize data manipulation, databases, and networking. It provides more applications-oriented content than the traditional computer science curriculum yet is designed to offer students a sound basis in underlying computer science themes and techniques.

Code	Title	Hours
This course:		
CS:2110	Programming for Informatics	4
One of these:		
CS:2420	Databases for Informatics	3
MSCI:3200	Database Management	3
All of these:		
CS:1110	Introduction to Computer Science	3
CS:2520	Human-Computer Interaction	3
CS:2620	Networking and Security for Informatics	3
CS:3910	Informatics Project	3

Informatics Electives

Students must complete at least one course (3 s.h.) from a list of approved computing informatics electives. Course selection must be approved by an informatics advisor. In addition to the courses listed below, students may have additional choices from the Department of Electrical and Computer Engineering and the Department of Management Sciences; consult an informatics faculty advisor for additional choices.

Code	Title	Hours
MSCI:4220	Advanced Database Management and Big Data	3

A computer science course (prefix CS) numbered 3000-4999, except CS:3910

Statistics Course

Students must complete one introductory statistics course. Some cognates require a specific statistic course. Students should consult with their advisors to choose a statistics course appropriate for their cognate area. Those who choose the psychology courses option of the human-computer interaction cognate must satisfy the statistic's requirement with PSY:2811 Research Methods and Data Analysis in Psychology I.

Code	Title	Hours
One of these:		
PSY:2811	Research Methods and Data Analysis in Psychology I (only for students who select the psychology courses option of the human-computer interaction cognate)	3
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

Cognates

Students must complete all requirements listed under one of the cognate areas below: art, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, music, social informatics, or an individualized cognate.

Art

The informatics major with the art cognate requires a minimum of 48 s.h. of work for the major, including 22 s.h. in cognate courses. Students learn about the design and maintenance of web services, applications of modern computerized artistic tools, and benefits and limitations of computers as a digital medium. They also gain insight into computerized tool design that is guided by knowledge of an artist's requirements. The art cognate may lead to careers in web development, technology coordination for artistic productions, development of digital artistic tools, and artistic or technical development for entertainment companies. Cognate courses are primarily in art history, design, elements of art, and photography.

Some courses listed below are open only to students majoring in art, so they are appropriate choices only for students with a double major in art and informatics. Non-art majors

should work with an informatics faculty advisor to develop an individual set of art cognate courses.

Code	Title	Hours
All of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
DSGN:2500	Graphic Design I	3
DSGN:2600	Graphic Design II	3
DSGN:3500	Graphic Design III	4
Any art history course (prefix ARTH) numbered at the 1000 or 2000 level		
One of these, to complete 22 s.h. for the art cognate:		
CS:2800	Digital Arts: An Introduction	3
DSGN:3600	Graphic Design IV	4
MUSM:3125	Museums in a Digital World	3
SCLP:3840	Robotic Art Studio	4
SCLP:4830	Motion and Mechanisms	4
SCLP:4835	Electronic Objects and Spaces	4
SCLP:4840	Air, Actuators, and Motors	4

Economics

The informatics major with the economics cognate requires a minimum of 49 s.h. of work for the major, including 24 s.h. in cognate courses, which are primarily from economics. The economics cognate is intended for students interested in working with economic, financial, or demographic data. It may lead to careers in administration, business, or government or to graduate study in management or policy areas.

Code	Title	Hours
All of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3
MATH:1380	Calculus and Matrix Algebra for Business	4

Additional 6 s.h. in economics courses (prefix ECON) numbered 3000 or above

Geoinformatics

The informatics major with the geoinformatics cognate requires a minimum of 47 s.h. of work for the major, including 23 s.h. in cognate courses, which are primarily from geographical and sustainability sciences. The geoinformatics cognate is intended for students interested in geographic information systems (GIS) and spatial aspects of data. It may lead to careers in business, government, or public health or to graduate study in geography, public health, or policy areas.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
Two of these:		

GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2910	The Global Economy	3
One of these:		
GEOG:3520	GIS for Environmental Studies	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

And:

Two geographical and sustainability sciences courses (prefix GEOG) numbered 3500 or above (at least 6 s.h.)

Health Informatics

The informatics major with the health informatics cognate requires a minimum of 46 s.h. of work for the major, including 21 s.h. in cognate courses. The health informatics cognate is intended for students interested in applications of computing to health care, especially in public health. It may lead to careers in medical or health-related areas or to graduate and professional degree programs in public health, health informatics, and medical informatics. Cognate courses are selected primarily from public health, geography, and global health studies.

Once students complete the required courses in each of the four sets below, they must select additional courses from the sets to complete 21 s.h. of credit for the cognate.

Code	Title	Hours
One of these:		
CPH:1400	Fundamentals of Public Health	3
GHS:3720	Contemporary Issues in Global Health	3
At least two of these:		
GEOG:1050	Foundations of GIS	4
GEOG:3110	Geography of Health	3
GEOG:4150	Health and Environment: GIS Applications	3
Any geographical and sustainability sciences course (prefix GEOG) numbered 3500 or above		
At least two of these:		
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850	Promoting Health Globally	3
GHS:4100	Topics in Global Health	1-3
GHS:4600	Global Health and Human Rights	2-3
JMC:3150	Media and Health	3
One of these:		
EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3

Human-Computer Interaction

The informatics major with the human-computer interaction cognate requires a minimum of 46 s.h. of work for the major, including at least 21 s.h. in cognate courses. The human-

computer interaction cognate is intended for students interested in designing useful and usable technologies. It can lead to careers in interaction design, web design, implementation of user interfaces, and evaluation of human-computer interactions as well as provide valuable skills for graduate study in human-computer interaction.

The cognate's courses are drawn largely from psychology, sociology, and industrial engineering. Four required courses include foundational aspects of psychology or sociology, an examination of basic human abilities and performance relevant to information technology use, and an introduction to research topics in human-computer interaction.

Code	Title	Hours
This course:		
CS:4500	Research Methods in Human-Computer Interaction	3
Either both psychology courses or both sociology courses:		
PSY:1001 & PSY:2601	Elementary Psychology - Introduction to Cognitive Psychology	6
SOC:1010 & SOC:2130	Introduction to Sociology - Sociological Theory	6-7
One art course from these:		
ARTS:1020	Elements of 3-D Design	3
ARTS:1070	Elements of Graphic Design (recommended)	3
ARTS:1090	Elements of Animation	3
One of these:		
IE:3400	Human Factors	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4

Two additional computer science courses (prefix CS) numbered 3000 or above, except CS:5990, to complete 21 s.h. for the human-computer interaction cognate

Most courses in this list have prerequisites, which students must complete before they may register for the course. The psychology courses (prefix PSY) require PSY:1001 Elementary Psychology and/or PSY:2701 Introduction to Behavioral Neuroscience as prerequisite(s). Students should choose courses from this list carefully.

Linguistics

The informatics major with the linguistics cognate requires a minimum of 47 s.h. of work for the major, including at least 22 s.h. in cognate courses. Linguistics, the scientific study of human languages, is directly related to psychology, anthropology, and computer science as well as to more applied fields such as second language acquisition or speech and hearing science. The cognate focuses on computational representations of syntax and semantics for processing natural language. Cognate courses are drawn primarily from linguistics.

Code	Title	Hours
All of these:		
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
LING:3080	History of the English Language	3

Media

The informatics major with the media cognate requires a minimum of 48 s.h. of work for the major, including 23 s.h. in cognate courses. This cognate is intended for students interested in working in media industries. Data-specific occupations in these industries include, but are not limited to, data/communication analyst, data mining expert, strategic analyst, data journalist, web developer, information graphics specialist, app developer, and multimedia journalist.

JMC:2010 Journalistic Reporting and Writing and JMC:2020 Introduction to Multimedia Storytelling are corequisites and must be taken during the same semester. Students are responsible for completing the prerequisites for JMC:2010.

Code	Title	Hours
Both of these:		
JMC:2010	Journalistic Reporting and Writing	4
JMC:2020	Introduction to Multimedia Storytelling	4
One of these:		
JMC:2200	Principles of Strategic Communication	3
JMC:2300	Principles of Journalism	3
One of these:		
JMC:3610	Graphic Design	3-4
JMC:3640	Data Journalism	3-4

At least three journalism and mass communication courses (prefix JMC) numbered 3400 or above to complete 23 s.h. for the media cognate

Music

The informatics major with the music cognate requires a minimum of 48 s.h. of work for the major, including 23 s.h. in cognate courses. The music cognate is intended for students interested in audio recording, manipulation of sound, and digital media. It may help students prepare for careers in the entertainment industry. Cognate courses are primarily from music, with some from cinematic arts and theatre arts. Entering students must possess basic musicianship skills; an audition may be required for admission.

When students begin work on this cognate, they should enroll in MUS:1201 Musicianship and Theory I and they must take the Placement Exam A, which is administered online during the summer before fall semester begins, to determine readiness for the Musicianship and Theory course sequence. See Musicianship and Theory Placement on the School of Music website for more information. Advanced placement

in School of Music courses does not reduce the number of semester hours required for the cognate.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3
One of these:		
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
MUS:2311	Music of Latin America and the Caribbean	3
At least one of these, to complete 23 s.h. for the music cognate:		
CS:2800	Digital Arts: An Introduction	3
CINE:4841	Film/Video Production: Sound Design	4
MUS:1007	Garage Band: The Basics	2
MUS:1010	Recital Attendance for Non-Majors	1
THTR:3260	Sound Design for the Theatre	3

Social Informatics

The informatics major with the social informatics cognate requires a minimum of 45 s.h. of work for the major, including 20 s.h. in cognate courses, all from the Department of Sociology.

Code	Title	Hours
All of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3
At least 11 s.h. from these:		
CRIM:1410	Introduction to Criminology	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3450	Criminal Legal System	3
CRIM:4400	Internship in Criminal Justice and Corrections	3

Any sociology course (prefix SOC) numbered 1020 or above

Individualized Cognates

Students interested in developing individualized cognates may work with an informatics faculty advisor. Individualized cognates may be drawn primarily from one department or an appropriate mix of departments; they require an approved set of cognate courses totaling 18-25 s.h.

Early Admission to the Graduate College

Undergraduate informatics students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

Honors

Honors in the Major

Students majoring in informatics have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics which requires the submission of an acceptable honors thesis. Students are responsible for finding a faculty member willing to supervise their honors project. They can register for CS:3990 with the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. For more details, see Honors on the Department of Computer Science website.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the informatics major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning course work.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.A. students majoring in informatics. Students work with their advisors on individual graduation plans.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Informatics, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
GE CLAS Core: International and Global Issues ^a		3
CS:1110	Introduction to Computer Science	3
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3
GE CLAS Core: Historical Perspectives ^a		3
CS:2110	Programming for Informatics	4
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		2
Hours		15-16

Second Year

Fall

GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Social Sciences ^a		3
CS:2520	Human-Computer Interaction	3
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		3
Hours		16-18

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Natural Sciences with Lab ^a		4
CS:2620	Networking and Security for Informatics	3
Major: Informatics cognate course ^b		3 - 4
Elective course		2
Hours		16-18

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Natural Sciences without Lab ^a		3
CS:2420	Databases for Informatics	3
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		3
Hours		16-18

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		3
Elective course ^c		3
Hours		16-18

Fourth Year

Fall

GE CLAS Core: Values and Culture ^a		3
Major: Informatics advanced elective		3
Major: Introductory statistics ^{e, f}		3
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		3
Hours		15-16

Spring

CS:3910	Informatics Project	3
Major: Informatics cognate course ^b		3 - 4
Elective course ^c		3
Elective course ^c		3

Elective course ^c	3
Hours	15-16
Total Hours	123-135

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students must complete all requirements in one of the following cognate areas: art, bioinformatics, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, medical informatics, social informatics or individualized. Students interested in developing individualized cognates (a grouping of 18-31 s.h. of courses drawn primarily from one department) must work with an informatics faculty advisor to create a plan of study and obtain departmental approval for their plan.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e STAT:1020 or other. Some cognates require a specific statistics course. See advisor for more information.
- f Fulfills a major requirement and may fulfill a GE requirement.

Career Advancement

Informatics graduates work in a broad range of market sectors, reflecting the interdisciplinary nature of the program and the large number of available cognates. Some graduates pursue software development opportunities or careers as database and/or web administrators; others enter the IT job market as software support personnel or in a managerial role. Other graduates pursue careers in their cognate field, where their computing skills are at a premium.

A recent job placement survey indicates that more than 90 percent of University of Iowa informatics graduates were placed or no longer seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Computer Science, B.S.

Learning Outcomes

- Students understand the mathematical, logical, statistical, and theoretical foundations of computing.
- Students can analyze and compare the relative merits of alternative software designs and develop high-quality software systems.
- Students understand the fundamental principles of computer organization, system software, networks, and security.
- Students can apply computer science principles to a variety of problems, such as databases, data mining, graphics, and various fields of artificial intelligence (AI).
- Students understand social, professional, and ethical issues related to computing.

Overview

The major in computer science provides students with the necessary training for employment in careers such as software development and information management. It provides good preparation for graduate study in a variety of disciplines.

The department encourages students majoring in computer science to consider earning a second major, certificate, or minor.

Students may declare a major in computer science when they are admitted to the University or afterward. All students begin as Bachelor of Arts majors but may switch to the Bachelor of Science programs at any time.

Undergraduates majoring in computer science develop competence in programming principles and methodologies, problem-solving techniques, mathematics, and computer systems. Computer science training is critical for many careers in science, engineering, business, and health care.

Computer science majors are advised at the Academic Advising Center until they have completed 24 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with a computer science faculty advisor.

Transfer students who have taken a course approved as equivalent to a required computer science or informatics course are exempt from that course. Transfer course grades are included in the computer science grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See "Advanced Placement" under Undergraduate Programs on the Department of Computer Science website.

Requirements

The Bachelor of Science with a major in computer science requires a minimum of 120 s.h., including at least 63 s.h.

of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The Bachelor of Science program is more rigorous than that of the Bachelor of Arts program; it is designed to provide in-depth training for students who would like to acquire strength in math and science in order to enhance their skills and job prospects. It also is appropriate for those who plan to pursue graduate work in computer science, although it is not required for graduate study at most universities.

Course work for the major includes computer science courses as well as courses in mathematics, statistics, and other supporting disciplines. Work for the major may not be taken pass/nonpass.

Bachelor of Science students with a computer science major should choose their GE CLAS Core Natural Sciences courses carefully since they may be able to use the same courses to satisfy the computer science major natural science sequences requirement; see "Natural Science Sequences" below.

The departmental residency requirement requires that students who earn a B.S. in computer science must complete at least seven courses (minimum of 21 s.h.) at the University of Iowa from the following: CS:2630 Computer Organization or ECE:3350 Computer Architecture and Organization, CS:2820 Object-Oriented Software Development, CS:3330 Algorithms, and at least four computer science course numbered CS:3620-CS:5899, but excluding CS:3910 and CS:3980.

The B.S. with a major in computer science requires the following course work.

Code	Title	Hours
Computer Science Core Courses		27
Mathematics Core Courses		15-16
Computation Theory Course		3
Advanced Technical Electives		12
Natural Sciences Sequences Courses		6-8
Total Hours		63-66

Computer Science Core

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:2820	Object-Oriented Software Development	4
CS:3330	Algorithms	3
CS:3820	Programming Language Concepts	3
One of these:		
CS:2630	Computer Organization	3
ECE:3350	Computer Architecture and Organization	3
One of these:		
CS:3620	Operating Systems	3

CS:3640	Introduction to Networks and Their Applications	3
CS:4640	Computer Security	3

Mathematics Core

Code	Title	Hours
Calculus I		
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
Calculus II		
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
Linear Algebra		
This course:		
MATH:2700	Introduction to Linear Algebra	4
Probability and Statistics		
One of these:		
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
Other probability and statistics courses (prefix STAT) with a calculus prerequisite approved by the department		

Students who take MATH:2550 Engineering Mathematics III: Matrix Algebra and MATH:2560 Engineering Mathematics IV: Differential Equations can use these courses together to satisfy the linear algebra requirement.

Computation Theory

Students must complete one of the following.

Code	Title	Hours
CS:4330	Theory of Computation	3
CS:4350	Logic in Computer Science	3

Advanced Technical Electives

Students must earn at least 12 s.h. (four courses) in advanced technical electives, as follows.

Code	Title	Hours
At least 6 s.h. from these:		
A computer science course (prefix CS) numbered 3620-5899, except CS:3910 and CS:3980		
A computer science course (prefix CS) numbered 5900 or above, with department approval		
And:		
Remaining courses may be chosen from advanced technical elective courses in computer science (prefix CS) or in other disciplines with department approval		

An approved list of courses in other departments that satisfy this requirement can be found on the Department of Computer Science website; see "Major Requirements" on the Undergraduate Programs page.

Students may count a maximum of 3 s.h. earned in CS:3990 Honors in Computer Science or Informatics toward the advanced technical elective requirement.

Natural Science Sequences

Students take two or more courses in a sequence (totaling at least 6 s.h.) in a cognate area of natural science. The natural science sequence is intended to enhance a student's perspective by providing a deeper understanding of the scientific method. Typically, it consists of a sequence of courses taken in the same science department. Students often choose courses that also fulfill the GE CLAS Core Natural Sciences requirement. Some possible choices are listed below; the department chair may approve others.

CLEP/APP credit may be used to satisfy part or all of the natural science requirement only if the appropriate science department at the University of Iowa accepts the credit as equivalent to one or more of the specific courses listed below.

Code	Title	Hours
Astronomy		
ASTR:1771	General Astronomy I	4
ASTR:1772	General Astronomy II	4
Biology		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
Chemistry		
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
Earth and Environmental Sciences		
EES:1030	Introduction to Earth Science	3-4
or EES:1050	Introduction to Geology	
EES:1080	Introduction to Environmental Science	3-4
Geographical and Sustainability Sciences		
GEOG:1020	The Global Environment	3
GEOG:1050	Foundations of GIS	4
Physics		
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701- PHYS:1702	Physics I-II	8

Early Admission to the Graduate College

Undergraduate computer science students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

Combined Programs

B.S./M.C.S.

Qualified computer science undergraduate students who plan to earn the Master of Computer Science degree may apply for the combined Bachelor of Science/Master of Computer

Science program. The combined B.S./M.C.S. program allow students to earn both degrees in five years. The program requires a total of 140 s.h. Students are granted a B.S. when they complete all requirements for the undergraduate degree.

Students in the combined program must complete all requirements for each degree, but may count a maximum of 12 s.h. (four courses) toward both degrees. The four courses must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.S. and the M.C.S.

If students withdraw from the combined program before completing their bachelor's degree, credit earned in the four courses is counted only toward the undergraduate degree.

Students apply for admission to the combined program during their third year as an undergraduate and enter the program at the beginning of their fourth year. They typically complete the combined program comfortably in one year after completing the B.S. requirements.

Applicants to the combined program must:

- be enrolled as a B.S. student majoring in computer science at the University of Iowa;

- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa; and

- have a cumulative University of Iowa g.p.a. of at least 3.25 and a g.p.a. of at least 3.25 in the computer science major (computed on math prerequisites and core computer science course work taken at the University of Iowa).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students must submit an application for admission to the program, a statement of purpose, three letters of recommendation, and transcripts from all colleges attended; they also must apply to the Graduate College. Graduate Record Examination (GRE) scores are not required. For more detailed information, see Prospective Students on the Department of Computer Science website.

Honors

Honors in the Major

Students majoring in computer science have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics which requires the submission of an acceptable honors thesis. Students are responsible for finding a faculty member willing to supervise their honors project. They can register for CS:3990 with the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. For more details, see Honors on the Department of Computer Science website.

Honors students may count a maximum of 3 s.h. of CS:3990 Honors in Computer Science or Informatics toward the B.S. degree's advanced technical elective requirement. Students in the combined B.S./M.C.S. program may register for 4-6 s.h. of CS:5990 Individualized Research or Programming Project instead of CS:3990; this will allow them to receive graduate

credit for the course while satisfying the course requirements to graduate with honors.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the computer science major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics or CS:5990 Individualized Research or Programming Project can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning course work.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.S. students majoring in computer science. Students work with their advisors on individual graduation plans.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Computer Science, B.S.

Course	Title	Hours
First Year		
Fall		
CS:1210	Computer Science I: Fundamentals	4
MATH:1850	Calculus I ^a	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Elective course ^b		1
Hours		14-15
Spring		
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^b		1
Hours		15-16
Second Year		
Fall		
CS:2630	Computer Organization ^c	3
Major: Math elective ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Diversity and Inclusion ^f		3
Elective course ^b		3
Hours		16-17

Spring

CS:2820	Object-Oriented Software Development ^c	4
Major: Math elective ^d		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
Elective course ^b		2
Hours		16-18

Third Year**Fall**

Major: Computer Science core course ^g		3
CS:3330	Algorithms ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Natural Sciences with Lab ^{f, h}		4
Elective course ^b		2
Hours		16-17

Spring

Major: Computer Science core course ^{g, i}		3
Major: Computer Science advanced elective course ^j		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Natural Sciences without Lab ^{f, h}		3
Elective course ^b		3
Hours		16-17

Fourth Year**Fall**

Major: Computer Science computational theory or logic course ^k		3
Major: Computer Science advanced elective ^j		3
GE CLAS Core: Historical Perspectives ^f		3
GE CLAS Core: International and Global Issues ^f		3
Elective course ^b		3
Hours		15

Spring

Major: Computer Science advanced or technical elective course ^l		3
Major: Computer Science advanced or technical elective course ^l		3
GE CLAS Core: Social Sciences ^f		3
GE CLAS Core: Values and Culture ^f		3
Elective course ^b		3
Hours		15
Total Hours		123-130

- a Enrollment in math courses requires completion of a placement exam.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c Students may take CS:2630, CS:2820 and CS:3330 in any order after completing CS:1210, CS:2210, and CS:2230.
- d Required math electives include (1) MATH:2700 and (2) STAT:2020 or STAT:3120
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Possible courses include (1) CS:3620 or CS:3640 or CS:4640 for systems requirement or (2) CS:3820.

h The Computer Science B.S. degree requires a 6-8 s.h., two-semester sequence science cognate. Select courses approved to meet the major requirement may also be used to meet the GE CLAS Core Natural Science requirement. See your academic advisor for additional information.

i Systems course must be taken after CS:2630

j Students may choose a computer science course (prefix CS) numbered 3620-5890, except CS:3910 and CS:3980, or a CS course numbered 5900 or above with department approval. A course used to satisfy a core requirement cannot also be used as an advanced major elective.

k Students may choose CS:4330 or CS:4350. Check with your advisor to see if these courses are offered in the semester you plan to take them.

l Students may choose a computer science course (prefix CS) numbered 3620-5890, except CS:3910 and CS:3980, or a CS course numbered 5900 or above with department approval. A course used to satisfy a core requirement cannot also be used as an advanced major elective. Alternatively, students may take a course in other disciplines with department approval. See academic advisor for additional information.

Career Advancement

Computer science graduates work primarily in two market sectors. One includes the software and computer industry, from small start-ups to giants such as Amazon, Google, Intel, Yahoo, and Microsoft. These offer job opportunities in software design, including UIX, mobile, and web development. Another sector is made up of organizations whose primary business is not computing, such as banks, insurance, and other financial groups; health care organizations; consulting, media and legal firms; entertainment companies; and the military.

As many as one-third of computer science graduates go into research or elect to pursue graduate studies in computer science, including the University of Iowa B.S./M.C.S. program, or pursue other areas where computer science provides a strong foundation.

A recent job placement survey indicates that more than 97 percent of computer science graduates were placed or no longer seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Informatics, B.S.

Learning Outcomes

- Students have a basic grounding in computer science.
- Students have a thorough understanding of information processing tools and constructs.
- Students have a user-centric perspective on computing tools.
- Students have a thorough understanding of chosen cognate area.
- Students can apply computing tools to problem solving.

Overview

The major in informatics provides students with the necessary training for employment in careers such as software development and information management. It provides good preparation for graduate study in a variety of disciplines.

The department encourages students majoring in informatics to consider earning a second major, certificate, or minor.

Students may declare a major in informatics when they are admitted to the University or afterward. All students begin the majors as Bachelor of Arts students but may switch to the Bachelor of Science program at any time.

The informatics major combines fundamental and practical computing knowledge with a choice of cognate areas from the liberal arts and sciences, providing students with the necessary background and specialized skills to work at the interface of computing and another discipline. Students may begin the major without a chosen cognate area; they may declare a cognate at any time. Some cognates are available only with the Bachelor of Arts, others are available only with the Bachelor of Science. A student's choice of cognate determines whether the student will earn a B.A. or a B.S.

Informatics majors are advised at the Academic Advising Center until they have completed 24 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with an informatics faculty advisor.

Transfer students who have taken a course approved as equivalent to a required informatics or computer science course are exempt from that course. Transfer course grades are included in the informatics grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See "Advanced Placement" under Undergraduate Programs on the Department of Computer Science website.

Requirements

The Bachelor of Science with a major in informatics requires a minimum of 120 s.h., including at least 55-60 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A

cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The program combines foundational informatics course work with course work in a cognate area. The major offers the cognate areas of bioinformatics, medical informatics, and individualized cognates. Required credit for the major depends on a student's choice of cognate area.

Course work for the major includes the informatics core, two electives, a statistics course, and a set of courses in the chosen cognate area. Work for the major may not be taken pass/nonpass. Students are expected to have taken MATH:1005 College Algebra or the equivalent.

Students must complete at least five courses (minimum of 15 s.h.) at the University of Iowa from the following: CS:3910 Informatics Project and four additional courses numbered CS:2500-CS:4999 or MSCI:4220 Advanced Database Management and Big Data.

The B.S. with a major in informatics requires the following course work.

Code	Title	Hours
Informatics Core Courses		19
Informatics Electives		6
Statistics Course		3-4
Cognate Courses		27-31
Total Hours		55-60

Informatics Core

The informatics core consists of six required computing courses (19 s.h.) that emphasize data manipulation, databases, and networking. It provides more applications-oriented content than the traditional computer science curriculum yet is designed to offer students a sound basis in underlying computer science themes and techniques.

Code	Title	Hours
This course:		
CS:2110	Programming for Informatics	4
One of these:		
CS:2420	Databases for Informatics	3
MSCI:3200	Database Management	3
All of these:		
CS:1110	Introduction to Computer Science	3
CS:2520	Human-Computer Interaction	3
CS:2620	Networking and Security for Informatics	3
CS:3910	Informatics Project	3

Informatics Electives

Students must complete at least two courses (6 s.h.) from a list of approved computing informatics electives. Course selection must be approved by an informatics advisor. In addition to the courses listed below, students may have additional choices from the Department of Electrical and Computer Engineering and the Department of Management Sciences; consult an informatics faculty advisor for additional choices.

Code	Title	Hours
MSCI:4220	Advanced Database Management and Big Data	3

A computer science course (prefix CS) numbered 3000-4999, except CS:3910

Statistics Course

Students must complete one introductory statistics course. Some cognates require a specific statistic course. Students should consult with their advisors to choose a statistics course appropriate for their cognate area.

Code	Title	Hours
One of these:		
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

Cognates

Students must complete all requirements listed under one of the cognate areas below: bioinformatics, medical informatics, or an individualized cognate.

Bioinformatics

The informatics major with the bioinformatics cognate requires a minimum of 58 s.h. of work for the major, including at least 30 s.h. in cognate courses. The bioinformatics cognate is intended for students interested in applications of computing to the biological sciences. It may lead to careers in laboratory research, biotechnology, data management, and other related areas. It also may prepare students for graduate programs in bioinformatics or genetics. Cognate courses are drawn primarily from biology and chemistry.

Students who choose the bioinformatics cognate must satisfy the major's statistics requirement with either STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
Two of these:		
BIOL:2673	Ecology	3
BIOL:3314	Genomics	3

BIOL:4213	Bioinformatics	4
BIOL:5320	Computational Genomics	3

Medical Informatics

The informatics major with the medical informatics cognate requires a minimum of 56 s.h. of work for the major, including at least 28 s.h. in cognate courses. The medical informatics cognate is intended for students interested in applications of computing to health care, especially in a clinical setting. It may lead to careers in medical or hospital settings, graduate programs in medical informatics, or professional degree programs in medicine, dentistry, nursing, or other allied health professions. Cognate courses are drawn from biology, chemistry, health and human physiology, and public health.

Students who choose the medical informatics cognate must satisfy the major's statistics requirement with either STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
At least two of these:		
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
CHEM:2410	Organic Chemistry Laboratory	3
HHP:1100	Human Anatomy	3
HMP:4000	Introduction to the U.S. Health Care System	3

Individualized Cognates

Individualized cognates may be drawn primarily from one department or an appropriate mix of departments; they require an approved set of cognate courses totaling 27-31 s.h. Students interested in developing individualized cognates should contact the Department of Computer Science for the name of an informatics faculty advisor.

Early Admission to the Graduate College

Undergraduate informatics students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

Honors

Honors in the Major

Students majoring in informatics have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics which requires the submission of an acceptable honors

thesis. Students are responsible for finding a faculty member willing to supervise their honors project. They can register for CS:3990 with the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. For more details, see Honors on the Department of Computer Science website.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the informatics major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning course work.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.S. students majoring in informatics. Students work with their advisors on individual graduation plans.

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Informatics, B.S.

- Bioinformatics Track [p. 295]
- Medical Informatics Track [p. 296]

Bioinformatics Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
CHEM:1110	Principles of Chemistry I ^{b, c}	4
CS:1110	Introduction to Computer Science ^b	3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3
CS:2110	Programming for Informatics	4
CHEM:1120	Principles of Chemistry II	4
Elective course ^d		3
Hours		14
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Social Sciences ^a		3

CS:2520	Human-Computer Interaction	3
BIOL:1411	Foundations of Biology	4
Elective course ^d		2
Hours		16-17

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: International and Global Issues ^a		3
CS:2620	Networking and Security for Informatics	3
BIOL:1412	Diversity of Form and Function	4
Elective course ^d		2
Hours		16-17

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective courses ^e		4 - 5
CS:2420	Databases for Informatics	3
Major: statistics requirement		3
GE CLAS Core: Historical Perspectives ^a		3
Elective course ^d		3
Hours		16-17

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
Major: Informatics advanced elective ^f		3
BIOL:2512	Fundamental Genetics	4
Elective course ^d		2
Hours		16-17

Fourth Year

Fall

GE CLAS Core: Values and Culture ^a		3
Major: Informatics advanced elective ^f		3
BIOL:3172	Evolution	4
Elective course ^d		3
Elective course ^d		2
Hours		15

Spring

CS:3910	Informatics Project	3
Major: advanced Biology elective ^g		3
Major: advanced Biology elective ^g		3
Elective course ^d		3
Elective course ^d		3
Hours		15
Total Hours		123-128

a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

- f MSCI:4220 or any computer science course (prefix CS) numbered 3000-4990, but not CS:3910
- g Students must choose from BIOL:2673, BIOL:3314, BIOL:4213 or BIOL:5320.

Medical Informatics Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
CHEM:1110	Principles of Chemistry I ^{b, c}	4
CS:1110	Introduction to Computer Science ^b	3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CS:2110	Programming for Informatics	4
CHEM:1120	Principles of Chemistry II ^b	4
Elective course ^d		3
Hours		14-15
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Social Sciences ^a		3
CS:2520	Human-Computer Interaction	3
BIOL:1411	Foundations of Biology	4
Elective course ^d		2
Hours		16-17
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: International and Global Issues ^a		3
CS:2620	Networking and Security for Informatics	3
BIOL:1412	Diversity of Form and Function	4
Elective course ^d		2
Hours		16-17
Third Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
CS:2420	Databases for Informatics	3
Major: statistics requirement ^f		3
GE CLAS Core: Historical Perspectives ^a		3
Elective course ^d		3
Hours		16-17
Spring		
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
Major: Informatics advanced elective ^g		3
CHEM:2210	Organic Chemistry I	3

Elective course ^d		3
	Hours	16-17
Fourth Year		
Fall		
GE CLAS Core: Values and Culture ^a		3
Major: Informatics advanced elective ^g		3
CHEM:2220	Organic Chemistry II	3
Elective course ^d		3
Elective course ^d		3
	Hours	15
Spring		
CS:3910	Informatics Project	3
Major: advanced science elective ^h		3
Major: advanced science elective ^h		3
Elective course ^d		3
Elective course ^d		3
	Hours	15
	Total Hours	123-129

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in chemistry courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Choose from STAT:2010 or STAT:3510.
- g MSCI:4220 or any computer science course (prefix CS) numbered 3000-4990, but not CS:3910
- h Choose from BIOL:2512, BIOL:3172, CHEM:2410, HHP:1000 or HMP:4000.

Career Advancement

Informatics graduates work in a broad range of market sectors, reflecting the interdisciplinary nature of the program and the large number of available cognates. Some graduates pursue software development opportunities or careers as database and/or web administrators; others enter the IT job market as software support personnel or in a managerial role. Other graduates pursue careers in their cognate field, where their computing skills are at a premium.

A recent job placement survey indicates that more than 90 percent of University of Iowa informatics graduates were placed or no longer seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Computer Science, Minor

The undergraduate minor in computer science requires a minimum of 17 s.h. in computer science, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students excused from courses required for the minor may substitute other computer science electives.

The minor in computer science requires the following course work.

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
At least one of these:		
CS:2630	Computer Organization	3
CS:2820	Object-Oriented Software Development	4
CS:3330	Algorithms	3
And:		

One additional computer science course (prefix CS) numbered 3200-5899, except CS:3910 and CS:3980, to complete the 17 s.h. required for the minor

Students who have completed ENGR:1300 Introduction to Engineering Computing and ENGR:2730 Computers in Engineering are considered to have satisfied the minor's requirement for CS:1210 Computer Science I: Fundamentals.

Students who have completed ENGR:2730 Computers in Engineering and ECE:3330 Introduction to Software Design are considered to have satisfied the minor's requirement for CS:2820 Object-Oriented Software Development.

Students may declare the computer science minor on MyUI, and they may request an audit for the minor through MyUI.

Informatics, Minor

The undergraduate minor in informatics requires a minimum of 16 s.h., including at least 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students earning a B.A. or B.S. in computer science or a B.B.A. in business analytics and information systems in the Department of Management Sciences (Tippie College of Business) may not earn the minor in informatics.

The minor in informatics requires the following course work.

Code	Title	Hours
Both of these:		
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
One of these:		
CS:2420	Databases for Informatics	3
MSCI:3200	Database Management	3
One of these:		
CS:2520	Human-Computer Interaction	3
CS:2620	Networking and Security for Informatics	3
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

Students may declare the informatics minor on MyUI, and they may request an audit for the minor through MyUI.

Master of Computer Science, M.C.S.

The Master of Computer Science (M.C.S.) is a course-based, nonresearch program for students who wish to enhance their careers with advanced knowledge of computer science.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

Requirements

The Master of Computer Science (M.C.S.) requires a minimum of 32 s.h. of graduate credit, including at least 24 s.h. earned at the University of Iowa. Basic M.C.S. requirements are as follows. Consult the Computer Science Graduate Handbook for detailed information about M.C.S. requirements and graduate study policies.

The M.C.S. requires the following course work.

Code	Title	Hours
Foundations		
One of these:		
CS:4330	Theory of Computation	3
CS:5340	Limits of Computation	3
CS:5350	Design and Analysis of Algorithms	3
Systems		
One of these:		
CS:5610	High Performance Computer Architecture	3
CS:5620	Distributed Systems and Algorithms	3
CS:5810	Formal Methods in Software Engineering	3
CS:5850	Programming Language Foundations	3
Colloquium		
Students must earn at least 2 s.h. in this course:		
CS:6000	Research Seminar: Colloquium Series (must enroll at least twice for 1 s.h. each)	2

Electives

Students complete eight additional courses, totaling at least 24 s.h., composed of computer science graduate courses, reading and project courses, and non-computer science graduate courses approved by their advisor. Of those eight courses, at least six must be computer science graduate courses (18 s.h.) numbered 4300 or above, which may not include CS:5110 Introduction to Informatics, CS:5990 Individualized Research or Programming Project, CS:6000 Research Seminar: Colloquium Series, CS:6990 Readings for Research, or CS:7990 Research for Dissertation.

The remaining two elective courses (at least 6 s.h.) may include technical or quantitative graduate courses outside of computer science, with the advisor's approval. Of these,

only one course at the 3000 level taken during a student's first year in the M.C.S. program may be one of the following: CS:3330 Algorithms, CS:3620 Operating Systems, CS:3640 Introduction to Networks and Their Applications, or CS:3820 Programming Language Concepts. Students also may include up to 3 s.h. earned in the independent study course, CS:5990 Individualized Research or Programming Project.

Code	Title	Hours
	Computer science, reading and project, and non-computer science courses approved by advisor	24

Software Engineering Subprogram

The Department of Computer Science, with the Department of Electrical and Computer Engineering, offers a M.C.S. subprogram in software engineering. Students receive a software engineering subprogram designation on their transcript after they complete CS:5800 Fundamentals of Software Engineering, CS:5810 Formal Methods in Software Engineering, CS:5820 Software Engineering Languages and Tools, and CS:5830 Software Engineering Project, and earn their M.C.S. degree. Students should meet with the academic services coordinator to file the appropriate paperwork when they apply for degree, if they did not originally declare their intent to complete the software engineering subprogram.

Admission

Admission decisions are based on prior academic performance, letters of reference, and the applicant's statement about background and purpose. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Students pursue software design and development careers in the technology sector, including UX, mobile, and web development. Recent graduates hold positions at technology giants such as Microsoft, Google, Yahoo, or Intel, while others have taken positions in internationally established organizations whose primary business lies in the consulting, financial, health care, insurance, or media/entertainment sectors. A few M.C.S. students enter the start-up market or pursue additional graduate education leading to the Ph.D. at the University of Iowa or elsewhere.

Computer Science, M.S.

The Master of Science in computer science is offered only to students working toward the Ph.D. in computer science. Students who are interested primarily in a master's degree and who do not intend to pursue a more advanced degree should apply to the Master of Computer Science [p. 299] (M.C.S.) program.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

Requirements

Students should view the requirements for the Ph.D. in Computer Science [p. 301] program since the M.S. is offered only to students working toward the Ph.D. in computer science.

Admission

The Department of Computer Science does not admit students to the Master of Science degree program; only to the Master of Computer Science (M.C.S.) or Doctor of Philosophy (Ph.D.) degree programs. Students who are interested primarily in a master's degree and who do not intend to pursue a more advanced degree should apply to the Master of Computer Science [p. 299] (M.C.S.) program.

Computer Science, Ph.D.

The Doctor of Philosophy program in computer science emphasizes preparation for research and teaching in academic settings or for research in private, industrial, or government laboratories.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

Requirements

The Doctor of Philosophy program in computer science requires a minimum of 72 s.h. of graduate credit, three examinations (qualifying, comprehensive, and final), and a written dissertation. Consult the Computer Science Graduate Handbook for detailed information about Ph.D. requirements and graduate study policies.

Basic Ph.D. requirements are as follows.

Core Requirement

Code	Title	Hours
This course:		
CS:5350	Design and Analysis of Algorithms	3
And one of these:		
CS:4330	Theory of Computation	3
CS:5340	Limits of Computation	3

Breadth

Students must complete at least three of the following courses, with at least one course selected from each area (9 s.h.).

Code	Title	Hours
Systems and Software		
CS:4640	Computer Security	3
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5610	High Performance Computer Architecture	3
Networks and Distributed Systems		
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5620	Distributed Systems and Algorithms	3
CS:5630	Cloud Computing Technology	3
Programming Languages and Compilers		
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5810	Formal Methods in Software Engineering	3
CS:5850	Programming Language Foundations	3

CS:5860	Lambda Calculus and Applications	3
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Practice

Students must complete at least one course (3 s.h.) with significant practical or implementation-oriented content. Each semester the department designates courses that satisfy this requirement. The following are typical selections.

Code	Title	Hours
CS:4400	Database Systems	3
CS:4420	Artificial Intelligence	3
CS:4440	Web Mining	3
CS:4470	Health Data Analytics	3
CS:4480	Knowledge Discovery	3
CS:4500	Research Methods in Human-Computer Interaction	3
CS:4630	Mobile Computing	3
CS:4700	High Performance and Parallel Computing	3
CS:4720	Optimization Techniques	3
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5800	Fundamentals of Software Engineering	3
CS:5990	Individualized Research or Programming Project	3

Cognate Area

In consultation with their advisor, students are required to select three courses, totaling 9 s.h. or more, that constitutes coherent coverage of an external cognate area; the courses need not be offered by the same department. Choices include, but are not limited to, mathematics, statistics, genetics, biology, and engineering disciplines.

Colloquium

Students must earn at least 4 s.h. in the following.

Code	Title	Hours
CS:6000	Research Seminar: Colloquium Series (must enroll at least four times for 1 s.h. each)	4

Electives

Students fill their remaining semester hours with a selection of computer science graduate courses numbered 4300 or above and graduate courses outside of the Department of Computer Science, approved by their advisor.

Qualifying Exam

Students are required to pass a qualifying examination by the end of their second year of graduate study. Once students select a topic in consultation with their advisor, they are assigned a three-member faculty examination panel by the department. Then they prepare a written prospectus for review by the committee, followed by an oral presentation.

Comprehensive Exam

The comprehensive examination is an evaluation of a student's mastery of a research area near completion of formal course work, and before preparation of the dissertation. The exam may be written, oral, or both, at the department's discretion, and is administered by a faculty committee. The comprehensive exam typically should be completed by the end of a student's third year and no later than the end of the fourth year in the Ph.D. program.

Dissertation

Each student must write a dissertation, a significant, original contribution to the field of computer science. Once students obtain some preliminary results and can identify and describe the boundaries of their dissertation, they prepare a written proposal for their committee's review. The dissertation must be prepared in accordance with the format specified in the Graduate College Thesis Manual.

Final Oral Examination

Once the dissertation is complete and has been reviewed by the student's committee, a final oral examination is administered on campus. This examination must take place no sooner than the semester following successful completion of the comprehensive examination and no later than five years after completion of the comprehensive exam.

Admission

Admission decisions are based on prior academic performance, letters of reference, the applicant's statement about background and purpose, and scores on the Graduate Record Examination (GRE) General Test. Students need not have a master's degree to begin the Ph.D. program or to be granted the doctoral degree. A student admitted without a master's degree may choose to be granted an M.S. or the M.C.S. while working toward the doctorate.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Many graduates obtain positions in industry research laboratories, such as Amazon, Disney, Google, Samsung, and Yahoo, or in government research laboratories. Others pursue research and teaching careers in higher education, with some starting their careers in postdoctoral positions at universities before seeking employment in tenure-track positions, and some are employed as faculty with more teaching-oriented positions. A few recent Ph.D. graduates have founded or joined start-up companies.

Creative Writing (Iowa Writers' Workshop)

Interim Director

- Charles A. D'Ambrosio

Graduate degree: M.F.A. in English

Faculty: <https://writersworkshop.uiowa.edu/people>

Website: <https://writersworkshop.uiowa.edu/>

The Creative Writing Program (Iowa Writers' Workshop) is a world-renowned graduate program for fiction writers and poets. It was the first creative writing program in the United States to offer a degree, and it became a model for many contemporary writing programs. In addition to its Master of Fine Arts program, it also offers writing courses for undergraduates.

The Iowa Writers' Workshop, founded in 1936, has been home to thousands of remarkable writers, including Flannery O'Connor, Raymond Carver, Rita Dove, John Irving, James Alan McPherson, Philip Levine, Jane Smiley, Michael Cunningham, Sandra Cisneros, Denis Johnson, Jorie Graham, Ann Patchett, D.A. Powell, Nathan Englander, Yiyun Li, Eleanor Catton, Angela Flournoy, Garth Greenwell, and Yaa Gyasi. The program's faculty and alumni include winners of virtually every major literary award, including seventeen winners of the Pulitzer Prize (most recently Paul Harding in 2010), six recent U.S. Poets Laureate, and numerous winners of the National Book Award, MacArthur Foundation Fellowships, and other major honors. In 2003, the Iowa Writers' Workshop received a National Humanities Medal from the National Endowment for the Humanities—the first awarded to a university and only the second given to an institution rather than an individual.

The Creative Writing Program also offers courses for students from other programs; summer courses are open to undergraduate and graduate students.

To learn more about the Creative Writing Program's history and faculty, visit the Iowa Writers' Workshop website.

Programs

Graduate Program of Study

Major

- Master of Fine Arts in English [p. 304]

Courses

Creative Writing—Writers' Workshop Courses

The Creative Writing Program offers courses for undergraduates as well as graduate students. Enrollment in some graduate-level courses requires admission to the M.F.A. program. See "Courses" in the Department of English [p. 356] section of the Catalog for course descriptions and prerequisites to enrollment.

Code	Title	Hours
CW:1800	Creative Writing Studio Workshop	3
CW:2100	Creative Writing	3

CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3003	Writing and Reading Science Fiction	3
CW:3005	Professional and Creative Business Communication	3
CW:3107	Creative Writing for the Health Professions	3
CW:3210	Creative Writing and the Natural World	3
CW:3215	Creative Writing and Popular Culture	3
CW:3217	Writing and Reading Young Adult Fiction	3
CW:3218	Creative Writing for New Media	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745	The Sentence: Strategies for Writing	3
CW:4750	Writing and Activism	3
CW:4751	Creative Writing for the Musician	3
CW:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
CW:4894	Undergraduate Project in Creative Writing	arr.
CW:4897	Novel Writing	3
CW:5870	Graduate Fiction Writing	3
CW:5875	Graduate Poetry Writing	3
CW:7810	Form of Fiction	3
CW:7820	Form of Poetry	3
CW:7830	Seminar: Problems in Modern Fiction	arr.
CW:7840	Seminar: Problems in Modern Poetry	arr.
CW:7870	Fiction Workshop	arr.
CW:7875	Poetry Workshop	arr.
CW:7890	Graduate Project in Creative Writing	arr.
CW:7895	M.F.A. Thesis	arr.

English, M.F.A.

The Program in Creative Writing offers a M.F.A. degree program.

Unusually well-qualified Ph.D. students in the Department of English may obtain permission to submit a creative dissertation for the doctoral degree; the Program in Creative Writing assumes responsibility for granting permission for the option of the creative dissertation and for approving the dissertation once it is completed. Contact the director of graduate studies in the Department of English for more information.

Requirements

The Master of Fine Arts degree in English (creative writing) requires 48 s.h. of graduate credit taken over four semesters in residence at the University of Iowa. Students specialize in fiction or poetry.

The program is flexible and individualized. Approximately half of the credit required for the degree is earned in writing courses; the rest may be earned in other graduate courses. Up to 18 s.h. of graduate transfer credit may be counted toward the degree; however, students must satisfy the residency requirement.

Students must enroll in CW:7870 Fiction Workshop or CW:7875 Poetry Workshop during each semester of residence in the program. In each course, groups of 10-15 students read and critique each other's work.

The program's seminars provide students with a thorough knowledge of their chosen literary form and related aspects of craft. Seminars include CW:7810 Form of Fiction, CW:7820 Form of Poetry, CW:7830 Seminar: Problems in Modern Fiction, and CW:7840 Seminar: Problems in Modern Poetry. Each focuses on a single aspect of modern poetry or fiction, such as a single writer's work or a body of work with a common theme or purpose.

In addition to taking Creative Writing Program courses, many M.F.A. students choose courses offered by other University of Iowa departments and programs, such as the interdisciplinary Center for the Book [p. 1446] (Graduate College), the Department of Theatre Arts [p. 1012], the Comparative Literature [p. 266] Program, and the Department of English [p. 356].

During the second year of the program, each student must take the M.F.A. examination, an essay exam that may be written outside of the classroom. Students enroll in CW:7895 M.F.A. Thesis and submit their graduate thesis during the last semester; the thesis is a fiction or poetry manuscript of substantial length.

Admission

Applicants to the Creative Writing Program (Iowa Writers' Workshop) must meet the program's admission requirements as well as those of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

A creative writing manuscript is the most important element of the application for admission to the workshop. Submissions for poetry should include 10-12 poems. Submissions for fiction should include two or three short stories or a section of a novel, or both, usually 30-80 double-spaced pages (may not exceed 100 double-spaced pages).

Other application materials include a personal statement, official transcripts from all universities and colleges attended, the graduate application form, three letters of recommendation, an application for graduate awards, and an application to the Graduate College.

For detailed information on application materials and procedures, see How to Apply on the Iowa Writers' Workshop website.

Financial Support

Financial assistance is available to Creative Writing Program students in the form of teaching assistantships, research assistants, and fellowships. See Financial Aid on the Iowa Writers' Workshop website.

Critical Cultural Competence

Chair, School of Social Work

- Sara Sanders

Coordinator, Critical Cultural Competence

- Yolanda D. Spears (Social Work)

Undergraduate certificate: critical cultural competence
Website: <https://clas.uiowa.edu/socialwork/undergraduate-program/certificate-critical-cultural-competence>

The certificate program helps students develop an appreciation for their own cultural identities. It also helps them become critically self-reflective in their orientation to differences in other people's cultural identities as defined by matters such as race, ethnicity, gender, class, abilities, age, and sexual orientation.

Certificate students build the knowledge, skills, and attitudes they will need in order to increase their effectiveness in relating to others across cultural differences and in domestic and international environments that are increasingly diverse.

Students who complete the certificate program develop:

- a greater appreciation of cultural differences;
- increased ability to interact with individuals of diverse backgrounds;
- a philosophy of treating people fairly, equitably, and thoughtfully;
- critical self-reflection and awareness of their own culture;
- ability to assess and understand culture-related privilege and disprivilege; and
- concern with issues of power and privilege, and social justice.

The Certificate in Critical Cultural Competence is administered by the School of Social Work [p. 917].

Programs

Undergraduate Program of Study Certificate

- Certificate in Critical Cultural Competence [p. 306]

Courses

Critical Cultural Competence Courses

CCCC:2220 Foundations of Critical Cultural Competence 3 s.h.

Experiential and theoretical foundation; cultural competence as a concept and practice; conceptual frameworks and models for understanding cultural differences and similarities within, among, and between groups of people with whom others interact in their professional, personal, public, and private lives; appreciating differences while learning to be self-reflective; adjustment of perceptions, behaviors, styles for effective interaction with people from different ethnic, racial, sexual, gender, age, ability, and class groups. GE: Diversity and Inclusion.

CCCC:4490 Integrative Seminar in Critical Cultural Competence 3 s.h.

Capstone course; application of knowledge to one's areas of study; community settings where cultural competence is required; challenges and benefits of behaving in culturally competent ways in varied contexts; review and critique of educational experiences in the certificate program; development of skills in community education related to cultural competence; group project to benefit the University and/or community; development of a plan to integrate critical cultural competence into careers. Requirements: completion of other required certificate courses.

Critical Cultural Competence, Certificate

The undergraduate Certificate in Critical Cultural Competence requires 18 s.h. of course work. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Ideally, students begin the certificate during their second year of undergraduate study. They may count a maximum of 6 s.h. completed for a major, minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Critical Cultural Competence.

The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

The Certificate in Critical Cultural Competence requires the following course work.

Code	Title	Hours
CCCC:2220	Foundations of Critical Cultural Competence (taken first)	3
CCCC:4490	Integrative Seminar in Critical Cultural Competence	3
	One elective course with an immersion-learning or service-learning component	3
	Three elective courses that cover at least two diversity categories (two courses can be taken from the same department and two must be numbered 2000 or above)	9
Total Hours		18

Students begin the certificate with CCCC:2220 Foundations of Critical Cultural Competence, which is offered fall and spring semesters and is prerequisite to the course work that follows. Students complete the certificate's requirements with the capstone course, CCCC:4490 Integrative Seminar in Critical Cultural Competence, which is offered spring semesters.

In collaboration with the certificate program's coordinator, students establish study plans while completing the foundation course. The coordinator works with the academic advisor in the student's major to ensure that the study plan complements the student's academic program and career interests. The program coordinator approves the final study plan, recommends the sequence in which course work should be taken, schedules required courses, and keeps a record of each student's approved program and progress.

For more information, contact the School of Social Work.

Dance

Director, Division of Performing Arts

- Alan M. MacVey

Chair, Department of Dance

- Rebekah J. Kowal

Undergraduate major: dance (B.A., B.F.A.)

Undergraduate minor: dance

Graduate degree: M.F.A. in dance

Faculty: <https://dance.uiowa.edu/people>

Website: <https://dance.uiowa.edu/>

The Department of Dance provides comprehensive training in dance technique, performance, choreography, and theoretical studies while approaching scholarship, creative research, and studio-based training in the framework of a liberal arts education at the Bachelor of Arts, Bachelor of Fine Arts, and Master of Fine Arts levels. Integrating dance studies with the liberal arts and sciences, the dance degree programs promote creative and intellectual growth in an environment that develops young artists and advances the art of dance.

The undergraduate major prepares students for careers as performers, choreographers, and educators as well as for graduate studies in dance and related fields. The M.F.A. curriculum broadens and deepens the knowledge and experience of returning professionals seeking to reenter the field or to secure positions in higher education.

The Department of Dance imparts the values and knowledge necessary to make dance and intelligent moving lifelong practices. Students develop as young artists, creative thinkers, and problem solvers who may further the arts in society in diverse, urgent, and transformational ways.

The department offers up to 10 concerts each year, providing dance students with numerous opportunities to perform and/or to present their choreography; visit the Performance Opportunities web page. The department's annual Dance Gala on campus, performed by dance students, presents original faculty choreography as well as work by a special distinguished guest artist. Dancers in Company, the department's student repertory company, performs across Iowa and surrounding states.

All dance faculty members regularly present and/or publish their choreography or scholarship nationally and internationally. Students have ample opportunities to work with faculty on their creative and/or scholarly research. Periodic master classes with noted guest teachers, choreographers, and touring companies introduce students to contemporary artists and provide opportunities for professionalization and networking.

Students have the opportunity to earn a major in dance and a second major in another of the University's colleges, or in one of the other units within the division—music or theatre arts. The dance faculty supports students pursuing a second major with the understanding that supplemental studies, in addition to a degree in dance, is preparation for a wide range of professional careers in fields such as arts administration and production, education, the health sciences, law, and engineering.

The department is one of the academic units in the Division of Performing Arts [p. 334].

Programs

Undergraduate Programs of Study

Majors

- Major in Dance (Bachelor of Arts) [p. 315]
- Major in Dance (Bachelor of Fine Arts) [p. 319]

Minor

- Minor in Dance [p. 323]

Graduate Program of Study

Major

- Master of Fine Arts in Dance [p. 324]

Facilities

The Department of Dance houses six technique studios, a movement training lab, a media classroom and library, a media laboratory, an audio recording laboratory, and its own 240-seat theater for dance concerts, which also are streamed live to off campus audiences.

Courses

Dance Courses

DANC:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

DANC:1010 Beginning Tap 2 s.h.

Elementary techniques, steps, and performance skills for rhythm and show tap styles; enhancement of rhythmic ability through exercises, improvisation, creative activities; may include history of tap. Tap shoes required. GE: Literary, Visual, and Performing Arts.

DANC:1020 Beginning Jazz 2 s.h.

Basic movement fundamentals, terminology, performance skills of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.

DANC:1030 Beginning Ballet 2 s.h.

Basic movement fundamentals, terminology, performance skills of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Literary, Visual, and Performing Arts.

DANC:1040 Beginning Modern Dance 2 s.h.

Basic movement fundamentals, terminology, performance skills of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Literary, Visual, and Performing Arts.

DANC:1050 Beginning/Contact Improvisation 2 s.h.

Concepts of dance improvisation and contact improvisation; cultivation of creative freedom through the use and invention of movement; range of expression broadened through personal movement capacity, spontaneity and imagination, ability to make and commit to movement choices; new approaches to moving and movement elements such as time, space, motion, qualities, dynamics; shared weight, support, counter-balancing, elementary partnering; studio course.

DANC:1055 Creativity in Motion 3 s.h.

Using foundational principles and components of movement, dance, and contact improvisation to explore questions and processes of creativity—What inspires you? How do you uniquely engage with the world? Students use readings and theories of creativity and the rigors of play and imagination to ground explorations, engage in an ongoing process of reflection and response that culminates in a final creative project, and get to know a local community partner in creative ways that are unique to individual participants. GE: Engineering Be Creative.

DANC:1060 Introduction to Dance Studies 1 s.h.

Introduction to dance studies in the liberal arts; breadth and diversity of contemporary scholarship on dance; dance history, criticism, ethnography, theory, choreography, and technology.

DANC:1070 Yoga 2 s.h.

Somatic training techniques that address conditioning needs of dancers, other performing artists, athletes, and students at large—yoga, Pilates, release techniques; other somatic studies related to injury prevention, concentration, flexibility, efficient movement, strength training.

DANC:1085 Introduction to Afro-Caribbean Dance Techniques 2 s.h.

Exploration of African traditional dance form evolution through movement; movement vocabulary of principle dances and their musical structures; dance and cultural histories; class sessions include warm up, progressions across the floor, and execution of traditional Caribbean dances (e.g., Yanvalou from Haiti, Orisha dance from Cuba, Brazil and Soca social dance from Trinidad). Same as DPA:1085.

DANC:1090 Dance Production 3 s.h.

Scenic design, costuming, lighting, audio/video, publicity; visits by professional guest lecturers, field trips to creative shops; projects.

DANC:1110 Continuing Tap 1-2 s.h.

Continuation of DANC:1010. GE: Literary, Visual, and Performing Arts.

DANC:1120 Continuing Jazz 2 s.h.

Continuation of DANC:1030; skills for technique and performance of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.

DANC:1130 Continuing Ballet 2 s.h.

Continuation of DANC:1030; skills necessary for technique and performance of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Literary, Visual, and Performing Arts.

DANC:1140 Continuing Modern Dance 2 s.h.

Continuation of DANC:1040; skills necessary for the technique and performance of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Literary, Visual, and Performing Arts.

DANC:1150 Brazilian Culture and Carnival 3 s.h.

Dance, music, historical, and social contents of Brazilian Carnival production, critical theories of performance, religious backgrounds, and theatre making in carnival parades. GE: Engineering Be Creative; Values and Culture. Same as LAS:1150.

DANC:1412 The Arts in Performance 3 s.h.

GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DPA:1412, THTR:1412.

DANC:2020 Intermediate Jazz 2 s.h.

Low intermediate technique and performance training in jazz dance; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry, including mobility, musicality, style; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.

DANC:2030 Intermediate Ballet 1-2 s.h.

Low intermediate technique and performance training in ballet; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry, including more difficult steps, musicality, mobility, balance; basic ballet terminology, including steps, head, body, arm positions; variations in timing, changes of facing. GE: Literary, Visual, and Performing Arts.

DANC:2040 Intermediate Modern 2 s.h.

Low intermediate technique and performance training in modern dance; flexibility, strength, body alignment, and breath as foundation for more advanced dance artistry, including musicality, mobility, balance, improvisation; variations in timing, changes of facing. GE: Literary, Visual, and Performing Arts.

DANC:2050 Improvisation I 2 s.h.

Introduction to movement as research; experimental process as vehicle for invention, creative freedom, aesthetic range; development of kinesthetic imagination, awareness, creative problem solving; introduction to issues of artistic originality and authenticity; practical integration of improvisation and composition through spontaneous manipulation of time, space, and energy; knowledge of creative process supported by reading and individual research.

DANC:2060 Dance and Society in Global Contexts 3 s.h.

Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and BLOG construction. GE: Engineering Be Creative; Literary, Visual, and Performing Arts. Same as DPA:2060.

DANC:2065 Performing Crisis: Dances of Identity, Witness, and Resistance 3 s.h.

What is the relationship between dance and crisis, and how can performances made at this intersection broaden understanding of diverse identities, address social inequality, or influence social change? Students examine contemporary issues of diversity and inclusion in dance and the intersection of dance and crisis in multiple social and historical contexts; engage in conversations based on viewings, readings, presentations, and other material; and complete written, multimedia and/or performance assignments based in archival, theoretical, and interpersonal research. GE: Diversity and Inclusion.

DANC:2075 Teaching and Using Creative Dance for Children (K-8) 3 s.h.

Practical and creative approach to understanding and using creative dance as the art of learning by doing, involving all the senses and intelligences; language of movement (i.e., scope, possibilities, movement experiences, resources); guidance and practice in developing comprehensive lesson plans for sequencing, progression, successful presentation, objective observation, and evaluation; creative dance for children and its philosophy, theories, sound pedagogical practices, uses, and benefits; in-class teaching experience and resources for K-8 students.

DANC:2080 Dance and Social Action 3 s.h.

Exploration of dance as a means for civic engagement; readings that support theory and practice of dance as social action; practicum experience of facilitating a workshop to girls at the Iowa Juvenile Home.

DANC:2090 Lighting Design for Engineers and Dancers 3 s.h.

Introduction to artistic topics that are necessary to produce and enhance dance composition and performance; focus on student exploration of production environment with respect to artistic concerns. GE: Engineering Be Creative.

DANC:2220 Production Run Crew 1-2 s.h.

Hands-on experience in production work for live dance performance.

DANC:2800 Digital Arts: An Introduction 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DIGA:2800, MUS:2800, THTR:2800.

DANC:3010 Topics in Global Dance Techniques 2 s.h.

Beginning, continuing, or advanced technique of global and non-Western dance practices; topics vary, may include Asia, Latin America, Africa, Pacific Islands, or other regions in historical and cultural context, and classical, folk, traditional, or contemporary forms.

DANC:3030 Major Ballet I 1-3 s.h.

Builds on DANC:2030; intermediate technical and performance training in ballet; flexibility, strength, body alignment, and coordination as foundation for introduction of more advanced aspects of dance artistry, including steps, musicality, mobility, balance; terminology related to barre and center vocabulary including steps, head, body, and arm positions; practice of steps and combinations, variations in timing, changes of facing. Requirements: audition or promotion.

DANC:3034 Acting for Dancers 3 s.h.

Beginning acting for dancers; spontaneity and expression, sources of action and reaction through theater games; emotional journey in effective drama and comedy; drama, comic structure, and tension through character and script analysis.

DANC:3039 Partnering Class 1 s.h.

The art of partnering in dance, from salsa to Swan Lake; power sharing on the dance floor, including supported poses, balance, musical and physical timing, unity of movement, eloquence of gesture; for advanced dancers with strong coordination skills.

DANC:3040 Major Modern Dance I 1,3 s.h.

Builds on DANC:2040; intermediate technical and performance training in modern dance; physical and mental skills for transition to more advanced dance—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing; basic physical concepts underlying clear and efficient movement; assimilation of new movement material; center of gravity and its role in body mobilization and control; personal movement choices, and expressive range. Requirements: audition or promotion.

DANC:3050 Body/Image: Dance and Media in Discourse and Practice 3 s.h.

Intersection of body, image, and sound in analog and digital media; relationship to critical and practical texts; written and performative assignments that address fundamental concepts of corporeality in related fields including dance for camera, stage and film performance, and artistic, documentary, and publicity filmmaking and photography. Same as INTM:3050.

DANC:3060 Dance History 3 s.h.

Dance history in the 19th and 20th centuries; changes in dance training and technique, theory, composition, performance practices in context of broader social, political, and cultural trends; how dance and choreographic practices have changed over time, relationships between social ideas about embodiment and production of dance forms, precedents for contemporary dance practices in past forms. Prerequisites: DANC:2060.

DANC:3070 Dance Kinesiology 3 s.h.

Body science related to demands of dance; structural and muscular analysis for efficient, effective dance training and prevention of injuries; investigation of skeletal and ligamentous structure for working knowledge of how the body produces movement; joint actions and restrictions, common injuries to those sites; attachments of the voluntary muscles, pathways and potential actions; neuromuscular analysis of an action; functional skeletal alignment; how individual differences may affect movement performance. Prerequisites: HHP:1100.

DANC:3075 Yoga Teacher Training I 3 s.h.

Exploration of in-depth knowledge of yoga in preparation for teaching through physical practice of yoga postures, study of basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure; two-semester course that results in a 200-hour yoga teacher certification. Requirements: sophomore or higher standing. Recommendations: previous experience taking yoga classes. Same as DPA:3075.

DANC:3076 Yoga Teacher Training II 3 s.h.

Continuation of DANC:3075; expansion of yoga and/or teaching knowledge, in-depth physical practice of yoga postures, basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure. Prerequisites: DANC:3075. Corequisites: DANC:3070. Requirements: dance major and sophomore or higher standing. Recommendations: experience and knowledge of yoga practice highly recommended.

DANC:3080 Music Essentials for Dance 2 s.h.

Evolution of music and dance forms from early history times to the present; rhythmic analysis and fundamental music theory for dance students.

DANC:3130 Singing for Actors and Dancers 2 s.h.

Skill development for healthy, effective singing in the musical theatre style; techniques of vocal production through breath management, resonance, articulation, flexibility; song interpretation and repertoire. Recommendations: for MUS:3520—concurrent registration in MUS:1020. Same as MUS:3520, THTR:3130.

DANC:3150 Choreography I 2 s.h.

Introduction to theories and practices of creating choreography; locating varied sources for movement; elementary considerations of choreographic form; development of ideas, impulses, and initial inspirations into short works; fundamentals of giving and receiving critical feedback; articulation of thoughts and experience as composers and watchers of choreography; exposure to choreographic concerns supported by video and reading. Prerequisites: DANC:2050.

DANC:3190 Lighting for Dance and Entertainment 3 s.h.

How to research, conceptualize, and express ideas through light plots; design paperwork; dance lighting design projects.

DANC:3250 Choreography II 2 s.h.

Continuation of DANC:3150; development of intermediate choreographic skills; emphasis on cultivation of individual choreographic voice through expansion of vocabulary, discovery of complex ways to form and arrange, and use of widening range of methods and types of resources. Prerequisites: DANC:2050 and DANC:3150.

DANC:3251 Choreography II Rehearsal Lab 1-4 s.h.

Participation in rehearsals, showings, adjudication, and concert rehearsals and performances; for undergraduate dancers who have been selected through audition for roles in creative research conducted by students enrolled in DANC:3250. Requirements: audition and selection by a student choreographer.

DANC:3521 Acting for Singers and for Dancers 2 s.h.

Fundamentals of acting technique, with attention to demands on performers in opera, musical theater, and dance. Same as MUS:3521, THTR:3521.

DANC:3530 Major Ballet II 1-2 s.h.

High intermediate training in ballet technique and performance; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Requirements: audition or promotion to determine placement.

DANC:3540 Major Modern Dance II 1-2 s.h.

High intermediate technical and performance training in modern dance; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range. Requirements: audition or promotion to determine placement.

DANC:3600 Art, Feminist Practice, and Social Justice 3 s.h.

Issues specifically related to gender, women's, and sexuality studies through the arts; exploration of a theme—a broad social issue such as violence, sexual assault, incarceration, reproduction, immigration, labor—and work with community partners to address the theme through social practice in the arts. Recommendations: prior courses in gender, women's, and sexuality studies or social work or art education or studio arts.

DANC:3850 Introduction to Laban Movement Studies 2 s.h.

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DPA:3850, MUS:3850.

DANC:3851 Introduction to the Alexander Technique 3 s.h.

The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DPA:3851, MUS:3851.

DANC:3852 Awareness Through Movement 2 s.h.

Introduction to the Feldenkrais Method of Awareness Through Movement; refinement of physical organization and coordination applied toward ordinary actions and functions, as well as athletics and performing arts; non-repetitive lessons on the floor, sitting in a chair, and standing; lessons communicated via auditory cues, no demonstration and imitation of idealized positions; improving awareness toward uncovering postural habits; expanding options for new and more efficient movement; exploring developmental patterns, joint, muscle and postural relationships; cultivating multiple possibilities for achieving the same action; conscious integration of sensing, feeling, thinking, and action.

DANC:3875 Topics in Digital Performing Arts 2 s.h.

Introduction to digital documentation and editing for dance performance; from a digital reel of student's work, including performance and teaching, to creative strategies for using digital imagery in performance; digital arts literacy as an invaluable tool in today's dance field. Same as THTR:3875.

DANC:3876 Video for Performance 3 s.h.

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:3890 or CINE:1834 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, INTM:3876, THTR:3876.

DANC:3880 Installations and Interactive Performance 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as INTM:3880, THTR:3880.

DANC:3885 Repertory Dance Company 1-3 s.h.

Advanced repertory studies; learning and performing multiple works by professional guest artists, faculty, and invited graduate students; collaborative creation and performing in community outreach lecture-demonstration throughout Iowa and the region. Requirements: audition.

DANC:3890 Producing and Directing Digital Video 3 s.h.

Introduction to the basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with a focus on aesthetic and technical principles; focus on developing proficiency in contemporary approaches to digital media production by understanding the production pipeline, from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as INTM:3890, THTR:3890.

DANC:3895 Performance, Art, and New Technologies in Society 3 s.h.

Survey of major technological innovations that have deeply impacted society and live performance in the late 20th and early 21st century, and the future of the rapidly evolving technological world; students examine theoretical texts and performances that address the impact of technology on the human condition, as well as create original applied live performances and installations; a variety of technologies are explored and adapted for live performance as they relate to the following five categories of original human experience—telepresence, liveness, artificial intelligence, augmented and virtual reality, and transhumanism. Same as THTR:3895.

DANC:4030 Major Ballet III 1-2 s.h.

Advanced training in ballet technique and performance; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Requirements: audition or promotion to determine placement.

DANC:4034 Ballet Pointe I 1 s.h.

Intermediate/advanced techniques and training for ballet pointe work; barre and center exercises to strengthen feet/legs/back and ensure proper alignment; review of basic ballet vocabulary; pirouettes and turns commonly performed *en pointe*; learning and performing variations drawn from repertory. Requirements: significant ballet experience.

DANC:4035 Ballet Pointe II 1-2 s.h.

Intermediate/advanced techniques and training for ballet pointe work; repetition and analysis of steps and combinations, assimilation of new material; barre and center exercises, pirouettes and turns commonly performed *en pointe*, learning and performing variations drawn from repertory.

DANC:4040 Major Modern Dance III 1-2 s.h.

Advanced technical and performance training in modern dance; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range; may include partnering exercises for investigation of weight exchange, timing, expressivity. Requirements: audition or promotion to determine placement.

DANC:4060 The Contemporary Dance Scene 3 s.h.

Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as DPA:4060.

DANC:4350 Choreography III 2 s.h.

Continuation of DANC:3250; increased emphasis on invention, clarity, sophistication, and development of complete works; creation of sharply defined mature movement worlds; increasingly thorough consideration of sources and methods, responsibility for applying course work to self-defined artistic concerns and emerging individual aesthetic; advanced theories and methods through video, reading, choreographic research. Prerequisites: DANC:2050 and DANC:3250.

DANC:4451 Choreography IV Rehearsal Lab 1-4 s.h.

Participation in rehearsals, showings, and concert rehearsals and performances; for undergraduate dancers who have been selected through audition for roles in creative research. Requirements: audition and selection by a student choreographer.

DANC:4452 M.F.A. Independent Project Research Lab arr.

Participation in rehearsals, showings, adjudication, concert rehearsals and performances; for undergraduate dancers who have been selected through audition for graduate independent projects conducted by graduate students enrolled in DANC:6990. Requirements: audition and selection by a M.F.A. student creating a piece for adjudication, showing, and/or performances.

DANC:4453 M.F.A. Thesis Research Lab arr.

Participation in rehearsals, showings, adjudication, and concert rehearsals and performances; for undergraduate dancers who have been selected through audition for roles in M.F.A. thesis concerts conducted by graduate students. Requirements: audition and selection by M.F.A. student creating a piece for thesis concert.

DANC:4454 Faculty Creative Research Lab arr.

Participation in rehearsals, showings, and concert rehearsals and performances; for students who have been selected through audition for roles in creative research conducted by faculty members. Requirements: audition or selection by faculty member.

DANC:4535 Elementary Ballet Pedagogy 3 s.h.

Methods, materials, concepts for teaching ballet techniques.

DANC:4540 Major Contemporary Dance IV 1 s.h.

Professional technique and performance training in contemporary dance.

DANC:4545 Teaching of Modern and Contemporary Dance Forms 3 s.h.

Practices of teaching modern dance; information and experience for developing an individualized approach to teaching; educational methodology for defining essential elements of a modern class, approaches for planning and structuring classes.

DANC:4880 Dance Gala Performance 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concerts. Requirements: audition and/or concert adjudication.

DANC:4881 Collaborative Dance Performance Concert 1 s.h.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and selection for Collaborative Dance Performance Concert.

DANC:4882 Graduate/Undergraduate Concert 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

DANC:4883 Faculty/Graduate Concert 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: selection by audition and/or concert adjudication.

DANC:4884 Undergraduate Event 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

DANC:4885 M.F.A. Thesis Concert 0-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert.

DANC:4886 B.F.A. Concert 0-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

DANC:4887 M.F.A. Event 1-2 s.h.

Participation in rehearsals, concert rehearsals, and performances; for graduate dancers who have been selected through audition for roles in the M.F.A. event held during spring semesters. Requirements: selection by audition and/or concert adjudication.

DANC:4888 Special Project Student Performance arr.

Rehearsal hours and performance of dance works created by faculty outside of traditional performance cycle. Requirements: audition or selection by faculty member.

DANC:4980 Senior Seminar in Dance 2 s.h.

Designed to foster current and future pursuits and helps students make the transition from college to careers in the professional dance world; résumé building and personal marketing; how to make the most of auditions, internships, and company intensives; artist portfolios, grant writing skills, arts administration strategies; opportunities for graduate study; instructors mentor independent projects in students' areas of specialization; for advanced B.A. and B.F.A. students who are interested in professional dance careers as artists/educators. Requirements: B.F.A. major and senior standing.

DANC:4981 B.F.A. Devising Ensemble 1 s.h.

Students create a devised ensemble work to perform in B.F.A. event at end of semester; each student co-creates work with the ensemble and content is derived from personal experiences, interests, and research; rehearsal process includes exercises in improvisation, storytelling, writing, choreographing, and directing; for senior B.F.A. dance students.

DANC:4990 Independent Study arr.

Credit for an individual student-designed project coordinated with a faculty advisor. Requirements: sophomore or higher standing.

DANC:4991 Independent Choreography arr.

Credit for creation of independent choreographic project, developed under guidance of faculty advisor, that results in production of a dance work.

DANC:4995 Honors Studies in Dance arr.

Choreography, performance, production, Labanotation, dance history, or pedagogy. Prerequisites: a minimum g.p.a. of 3.33. Requirements: g.p.a. of 3.33 or higher.

DANC:4998 B.F.A. Senior Project in Dance arr.

Senior year choreographic/performance capstone to complete B.F.A. in dance under supervision of faculty advisor; culminates in public showing or produced concert. Requirements: admitted to B.F.A. program in dance and senior standing.

- DANC:4999 Honors Project in Dance** arr.
Research, choreographic, reconstruction, or performance project under guidance of a faculty advisor. Requirements: senior standing.
- DANC:5050 Graduate Improvisation I** 1-2 s.h.
Dance improvisation.
- DANC:5060 Theories of Dance and the Body** 3 s.h.
Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Recommendations: M.F.A. major in dance or advanced dance standing. Same as DPA:5060.
- DANC:5530 Graduate Majors Ballet II** 1-3 s.h.
High intermediate technique and performance training; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body.
- DANC:5540 Graduate Majors Modern II** 1-3 s.h.
High intermediate technical and performance training in modern dance; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range.
- DANC:5550 Collaborative Performance** 3-4 s.h.
Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DPA:5550, THTR:5610.
- DANC:6030 Graduate Majors Ballet III** 1-3 s.h.
Advanced ballet technique and performance training for proficient dancers; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body.
- DANC:6040 Graduate Majors Modern III** 1-3 s.h.
Advanced technical and performance training in modern dance; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range.
- DANC:6050 Graduate Improvisation II** 2 s.h.
Advanced concepts in compositional improvisation; students practice through individual exploration and ensemble collaboration; multiple structures and entry points to develop embodied imagination; diverse materials including movement, text, site, objects, and music; creative process as physical research applied to choreographic thinking and spontaneous performance; integration of conceptual and experiential in dancing and dance-making; examination of aesthetic and political frameworks and harmonies with other spontaneous practices.
- DANC:6060 Graduate Seminar in Dance** 2 s.h.
Introduction to areas of study in dance to encourage rigorous research; preparation for artistic, academic, administrative, and socially engaged careers; topics address role of dance in society and higher education, issues of dance administration, and areas of concern to dance artists, educators, and audiences; investigation of cultural, economic, political, and historical role of dance and dance artists in Western and other social contexts; brief history of dance in higher education; current issues and trends of dance programs in higher education.
- DANC:6080 Graduate Production Practicum** 1 s.h.
Scenery and costume design, lighting, audio/video, publicity.
- DANC:6350 Graduate Choreography III** 2 s.h.
Advanced choreography as research; students ask and answer questions through a creative process to produce original choreography and address complex concepts, methods, and applications to produce multiple works; experimentation with movement and structure to formulate artistic questions and produce innovative treatments of generic concepts; exploration of choreography as a directorial process; establishment of context and point-of-view to frame developing and editing processes; individual research within larger choreographic, aesthetic, theoretical, and/or sociocultural contexts; practice of advanced critical response. Requirements: M.F.A. major in dance.
- DANC:6450 Graduate Choreography IV** 3 s.h.
Advanced choreography concepts, methods, applications.
- DANC:6540 Graduate Contemporary IV** 1 s.h.
Professional technique and performance training in modern dance.
- DANC:6880 Dance Gala Performance** 1-4 s.h.
Rehearsal hours and performance of dance works in produced dance concerts. Requirements: audition and/or concert adjudication.
- DANC:6881 Collaborative Dance Performance Concert** arr.
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and selection for Collaborative Dance Performance Concert.
- DANC:6882 Graduate/Undergraduate Concert** 1-4 s.h.
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.
- DANC:6883 Faculty/Graduate Concert** 1-4 s.h.
Rehearsal hours and performance of dance works in produced dance concert. Requirements: selection by audition and/or concert adjudication.
- DANC:6884 Undergraduate Event** 1-4 s.h.
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

DANC:6885 M.F.A. Thesis Concert 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concert.

DANC:6887 M.F.A. Event 1-2 s.h.

Participation in rehearsals, concert rehearsals, and performances; for graduate dancers who have been selected through audition for roles in the M.F.A. event held during spring semesters. Requirements: selection by audition and/or concert adjudication.

DANC:6990 Graduate Independent Choreography arr.

Credit for creation of an independent choreographic project, developed under guidance of faculty advisor, that results in production of a dance work.

DANC:6991 Graduate Independent Study arr.

Credit for individually designed project coordinated with a faculty advisor.

DANC:6992 Graduate Independent Performance Project arr.

Credit for creative participation as a performer in a choreography project, developed under guidance of a faculty advisor, that results in the performance of a dance work.

DANC:7550 Graduate Modern Dance Technique Practicum 2-3 s.h.

Advanced, in-depth understanding of teaching dance technique at the college level; emphasis on studio practice of technique through active participation in technique class; individualized research on technical and pedagogical approaches to dance; taken with a faculty member during student's teaching rotation to gain understanding of the teacher's pedagogical approach across three levels of the majors-level technique curriculum. Requirements: completion of one semester of M.F.A. program and good standing.

DANC:7560 Graduate Ballet Technique Practicum 2-3 s.h.

Advanced, in-depth understanding of teaching dance technique at the college level; emphasis on studio practice of technique through active participation in technique class; individualized research on technical and pedagogical approaches to dance; taken with a faculty member during student's teaching rotation to gain understanding of the teacher's pedagogical approach across three levels of the majors-level technique curriculum. Requirements: completion of one semester of M.F.A. program and good standing.

DANC:7990 Thesis arr.

Dance, B.A.

Learning Outcomes

Students will:

- achieve proficiency in contemporary concert dance techniques, especially in forms derived from ballet, modern dance, postmodern dance, and somatic movement practices, while developing stylistic versatility, expressive range, and efficient body mechanics;
- learn to think critically about the historical, cultural, and social contexts of dance as an art form and cultural practice while developing strong writing skills and effective oral expression;
- master formal compositional elements and improvisational techniques toward the creation of original choreographic work, and learn to articulate and render their creative intentions with clarity, with opportunities to present these works in public performances;
- acquire performance skills, such as interpretation, expressivity, physical agility, and refinement, by participating in auditions, rehearsals, and studio and public performances;
- acquire knowledge of anatomical and kinesiological principles and injury prevention for effective dance training and career longevity; and
- attain an understanding of digital arts tools currently practiced in contemporary dance.

Overview

Integrating studies in dance and the liberal arts, the Bachelor of Arts degree program establishes foundations for creative and intellectual development, and cultivates multiple approaches to dance, career, and citizenship. Students take daily technique classes in Western classical and concert dance, complemented by courses in improvisation, choreography, dance history and theory, multicultural movement practices, global dance studies, digital performing arts, kinesiology, pedagogy, and community engagement.

Auditions for B.A. Admission

An audition is required to be considered for the B.A. program, as well as for placement in dance classes. An online application is required in order to audition; see "Application" under Undergraduate Auditions on the Department of Dance website. Contact the Department of Dance for more information or questions about auditions.

Requirements

The Bachelor of Arts with a major in dance requires a minimum of 120 s.h., including 56 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

In planning course work, especially electives, students may apply a maximum of 61 s.h. in Department of Dance courses (prefix DANC) toward the minimum 120 s.h. required for the B.A. degree. At least 28 s.h. in major course work must be earned at the University of Iowa. Any grades earned for course work are calculated in the grade-point average.

The B.A. with a major in dance requires the following course work.

Code	Title	Hours
Core Courses		20
Studio Courses		6
Performance and Creative Research Courses		2
Dance Technique Courses		20
Distribution Areas		4-7
Dance Electives		4-6
Total Hours		56-61

Core Courses

Code	Title	Hours
All of these:		
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:2220	Production Run Crew (2 s.h. required)	2
DANC:3060	Dance History	3
DANC:3070	Dance Kinesiology	3
DANC:3080	Music Essentials for Dance	2
HHP:1100	Human Anatomy	3

Studio Courses

Code	Title	Hours
All of these:		
DANC:2050	Improvisation I	2
DANC:3150	Choreography I	2
DANC:3250	Choreography II	2

Performance and Creative Research Courses

Code	Title	Hours
2 s.h. from these:		
DANC:3251	Choreography II Rehearsal Lab	1-4
DANC:3885	Repertory Dance Company	1-3
DANC:4451	Choreography IV Rehearsal Lab	1-4
DANC:4452	M.F.A. Independent Project Research Lab	arr.
DANC:4453	M.F.A. Thesis Research Lab	arr.
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4

Dance Technique Courses

Students must complete at least two semesters of one of these: DANC:3530 Major Ballet II, DANC:3540 Major Modern Dance II, DANC:4030 Major Ballet III, DANC:4040 Major Modern Dance III, or DANC:4540 Major Contemporary Dance IV with grades of B-minus or higher.

Code	Title	Hours
20 s.h. from these, including 8 s.h. of ballet and 8 s.h. of modern dance, and at least two semesters of one of the courses listed above:		
DANC:2020	Intermediate Jazz	2
DANC:2030	Intermediate Ballet	2
DANC:2040	Intermediate Modern	2
DANC:3030	Major Ballet I	3
DANC:3040	Major Modern Dance I	3
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Modern Dance II	1-2
DANC:3850/ DPA:3850/ MUS:3850	Introduction to Laban Movement Studies	2
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Awareness Through Movement	2
DANC:4030	Major Ballet III	1-2
DANC:4035	Ballet Pointe II	1
DANC:4040	Major Modern Dance III	1-2
DANC:4540	Major Contemporary Dance IV	1

Distribution Areas

Students must complete at least one course from each of the following two areas. These courses may satisfy multiple requirements for the major.

Global Dance Studies

Code	Title	Hours
One of these:		
DANC:1085/ DPA:1085	Introduction to Afro-Caribbean Dance Techniques	2
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2065	Performing Crisis: Dances of Identity, Witness, and Resistance	3
DANC:3010	Topics in Global Dance Techniques	2

Digital Performing Arts

Code	Title	Hours
One of these:		
DANC:2800/ ARTS:2800/ CINE:2800/ CS:2800/MUS:2800/ THTR:2800	Digital Arts: An Introduction	3

DANC:3050/ INTM:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	2
DANC:3880/ THTR:3880	Installations and Interactive Performance	3
DANC:3890/ THTR:3890	Producing and Directing Digital Video	3
DANC:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:3876/ CINE:3876/ DANC:3876	Video for Performance	3

Dance Electives

The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. The honors program in dance serves and recognizes outstanding students in choreography, performance, and special projects. Honors students must have a g.p.a. of at least 3.50 in University of Iowa Department of Dance courses.

Students must complete 8-10 s.h. of honors work by taking two courses for honors credit and completing an honors project. Honors projects must be approved by Department of Dance faculty.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the dance major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Department of Dance course work beyond 61 s.h. for B.A. students does not apply toward semester hours required for graduation.

Before the third semester begins: 12 s.h. of course work in the major

Before the fifth semester begins: 24-32 s.h. of course work in the major

Before the seventh semester begins: 36-48 s.h. of course work in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 42-50 s.h. of course work in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Dance, B.A.

Course	Title	Hours
First Year		
Fall		
Audition: An audition is required to be considered for the B.A. program. An audition form is required in order to audition.		
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: ballet course ^a		3
Major: modern dance course ^a		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
DANC:2060	Dance and Society in Global Contexts ^b	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: ballet course ^a		3
Major: modern dance course ^a		3
GE CLAS Core: Diversity and Inclusion ^{c, d}		3
Hours		15-16
Second Year		
Fall		
DANC:3080	Music Essentials for Dance	2
BIOL:1140	Human Biology ^e	4
Major: ballet/modern dance course ^a		3
Major: global dance studies course ^c		2 - 3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ^f		
Hours		15-17
Spring		
DANC:2050	Improvisation I	2
DANC:2220	Production Run Crew	1
HHP:1100	Human Anatomy ^b	3
Major: ballet/modern dance course ^a		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ^f		
Elective course ^g		3
Hours		16-17

Third Year

Fall

Major: digital performing arts course	2 - 4
Major: ballet/modern dance course ^a	3
GE CLAS Core: Values and Culture ^{d, h}	3
GE CLAS Core: World Languages Second Level	4 - 5
Proficiency or elective course ^f	
Elective course ^g	3
Hours	15-18

Spring

DANC:3060	Dance History	3
DANC:3070	Dance Kinesiology	3
Major: ballet/modern dance course ^a		2
GE CLAS Core: Quantitative or Formal Reasoning ^d		3 - 4
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course ^f		
Hours		18-20

Fourth Year

Fall

DANC:2220	Production Run Crew	1 - 2
DANC:3150	Choreography I	2
Major: ballet/modern dance course ^a		2
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Social Sciences ^d		3
Elective course ^g		3
Elective course ^g		1
Hours		15-16

Spring

DANC:3250	Choreography II	2
Major: ballet/modern dance course ^a		2
Major: elective courses (prefix DANC)		3
Major: dance performance and creative research requirement		2
Elective course ^g		3
Elective course ^g		3
Elective course ^g		2
Hours		17
Total Hours		126-137

- Students must complete 20 s.h. dance technique courses, including 8 s.h. of ballet, 8 s.h. of modern dance, and at least two semesters of DANC:3530, DANC:3540, DANC:4030, DANC:4040, or DANC:4540.
- Fulfills a major requirement and may fulfill a GE requirement.
- DANC:2065 meets both the GE CLAS Core Diversity and Inclusion requirement and the global dance studies requirement for the major.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Recommended course for GE CLAS Core Natural Sciences with Lab, not a major requirement.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- DANC:1150 and DANC:1412 meet the GE CLAS Core Values and Culture requirement.

Career Advancement

Careers for dance majors include professional work as performers, choreographers, dance educators, and involvement in related areas such as arts management, technical theater, dance scholarship, or dance and physical therapy. Many graduates from the UI dance program are currently working in arts organizations throughout the United States.

The discipline and creative challenges of dance training transfer well to other careers. Students have combined dance with a second major in another field, such as business or communication.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Dance, B.F.A.

Learning Outcomes

Students will:

- achieve proficiency in contemporary concert dance techniques, especially in forms derived from ballet, modern dance, postmodern dance, and somatic movement practices, while developing stylistic versatility, expressive range, and efficient body mechanics;
- learn to think critically about the historical, cultural, and social contexts of dance as an art form and cultural practice while developing strong writing skills and effective oral expression;
- master formal compositional elements and improvisational techniques toward the creation of original choreographic work, and learn to articulate and render their creative intentions with clarity, with opportunities to present these works in public performances;
- acquire performance skills, such as interpretation, expressivity, physical agility, and refinement, by participating in auditions, rehearsals, and studio and public performances;
- acquire knowledge of anatomical and kinesiological principles and injury prevention for effective dance training and career longevity; and
- attain an understanding of digital arts tools currently practiced in contemporary dance.

Overview

The Bachelor of Fine Arts degree program provides students with a conservatory-like studio experience that is enriched by studies in the liberal arts and sciences. Students train daily in Western classical and concert dance techniques, and are afforded ample opportunities to perform in faculty and student creative research and to produce their own choreographic works in the department's concert season. A preprofessional degree, the B.F.A. in dance establishes a strong foundation for creative and intellectual development, and cultivates multiple approaches to dance, career, and citizenship. Studies in dance technique, performance, and choreography are complemented by courses in improvisation, dance history and theory, multicultural movement practices, global dance studies, digital performing arts, kinesiology, pedagogy, and community engagement.

Auditions for B.F.A. Admission

An audition is required to be considered for the B.F.A. program, as well as for placement in advanced dance classes. Audition materials required include a B.F.A. audition application, two letters of recommendation (one academic, one dance), and current transcripts; see "Application" under Undergraduate Auditions on the Department of Dance website.

Students who audition will be required to perform a two minute solo on audition day; it may be self-choreographed or be choreographed by someone else, usually a teacher or mentor.

Contact the Department of Dance for more information or questions about auditions.

Requirements

The Bachelor of Fine Arts with a major in dance requires a minimum of 120 s.h., including 81 s.h. of work for the major (78 s.h. in dance course work and a 3 s.h. anatomy course). Students must maintain a g.p.a. of at least 3.50 in all courses for the major and in all UI courses for the major. Students must earn at least half of their semester hours in the major at the University of Iowa. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

In planning course work, especially electives, students may apply a maximum of 82 s.h. in Department of Dance courses (prefix DANC) toward the minimum 120 s.h. required for the B.F.A. degree. Any grades earned for course work are calculated in the grade-point average.

In contrast to the B.A. in dance, the B.F.A. program emphasizes choreography and performance. It requires an additional 22 s.h. of choreography, performance, and technique. Students who did not audition for the B.F.A. program prior to entrance to the University of Iowa may subsequently apply for admission to the program. The strongest candidates are those who have achieved the equivalent of major II technique and show academic and professional promise.

The B.F.A. with a major in dance requires the following course work.

Code	Title	Hours
Core Courses		22
Studio Courses		8
Performance and Creative Research Courses		6
Dance Technique Courses		32
Distribution Areas		4-7
Dance Specialization Area		3-4
Dance Electives (s.h. could vary depending on previous course work)		4
Senior Project (s.h. could vary)		2
Total Hours		81-85

Core Courses

Code	Title	Hours
All of these:		
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:2220	Production Run Crew (must complete this requirement by the end of the second year)	2
DANC:3060	Dance History	3
DANC:3070	Dance Kinesiology	3
DANC:3080	Music Essentials for Dance	2
DANC:4980	Senior Seminar in Dance	2
HHP:1100	Human Anatomy	3

Studio Courses

Code	Title	Hours
All of these:		
DANC:2050	Improvisation I	2
DANC:3150	Choreography I	2
DANC:3250	Choreography II	2
DANC:4350	Choreography III	2

Performance and Creative Research Courses

Code	Title	Hours
6 s.h. from these (no more than 3 s.h. of DANC:3885 will count toward the requirement):		
DANC:3251	Choreography II Rehearsal Lab	1-4
DANC:3885	Repertory Dance Company	1-3
DANC:4451	Choreography IV Rehearsal Lab	1-4
DANC:4452	M.F.A. Independent Project Research Lab	arr.
DANC:4453	M.F.A. Thesis Research Lab	arr.
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4
DANC:4981	B.F.A. Devising Ensemble	1

Dance Technique Courses

Code	Title	Hours
32 s.h. from these, including three semesters of either DANC:4030 or DANC:4540 with a grade of B-minus or higher, 14 s.h. of ballet, and 14 s.h. of modern dance:		
DANC:3030	Major Ballet I	3
DANC:3040	Major Modern Dance I	3
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Modern Dance II	1-2
DANC:3850/ DPA:3850/ MUS:3850	Introduction to Laban Movement Studies	2
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Awareness Through Movement	2
DANC:4030	Major Ballet III	1-2
DANC:4035	Ballet Pointe II	1
DANC:4040	Major Modern Dance III	1-2
DANC:4540	Major Contemporary Dance IV	1

Distribution Areas

Students must complete at least one course from each of the following two areas. These courses may satisfy other requirements for the major.

Global Dance Studies

Code	Title	Hours
One of these:		
DANC:1085/ DPA:1085	Introduction to Afro-Caribbean Dance Techniques	2
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2065	Performing Crisis: Dances of Identity, Witness, and Resistance	3
DANC:3010	Topics in Global Dance Techniques	2

Digital Performing Arts

Code	Title	Hours
One of these:		
DANC:2800/ ARTS:2800/ CINE:2800/ CS:2800/MUS:2800/ THTR:2800	Digital Arts: An Introduction	3
DANC:3050/ INTM:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	2
DANC:3880/ THTR:3880	Installations and Interactive Performance	3
DANC:3890/ THTR:3890	Producing and Directing Digital Video	3
DANC:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:3876/ CINE:3876/ DANC:3876	Video for Performance	3

Dance Specialization Areas

Students choose advanced-level elective course work by selecting one of the following three options.

Code	Title	Hours
Option 1—Pedagogy		
One of these:		
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3
Option 2—Advanced History or Theory		
One of these:		
DANC:4060/ DPA:4060	The Contemporary Dance Scene	3
DANC:5060/ DPA:5060	Theories of Dance and the Body	3
Option 3—Choreography		
Both of these:		

DANC:4991	Independent Choreography	1
DANC:6450	Graduate Choreography IV	3

Dance Electives

The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.

Senior Project

Students culminate their experience with senior projects in choreography or performance. They may earn honors credit for this project by enrolling in DANC:4999 Honors Project in Dance (enrollment requires membership in the University of Iowa Honors Program or special permission from the instructor). Other students must complete DANC:4998 B.F.A. Senior Project in Dance.

Code	Title	Hours
One of these:		
DANC:4998	B.F.A. Senior Project in Dance	arr.
DANC:4999	Honors Project in Dance	arr.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. The honors program in dance serves and recognizes outstanding students in choreography, performance, and special projects. Departmental honors students must have a g.p.a. of at least 3.50 in University of Iowa Department of Dance courses.

Students must complete 8-10 s.h. of honors work by taking two courses for honors credit and completing an honors project. Honors projects must be approved by Department of Dance faculty.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the dance major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Department of Dance course work beyond 82 s.h. for B.F.A. students does not apply toward semester hours required for graduation.

Before the third semester begins: 16 s.h. of course work in the major

Before the fifth semester begins: 25-40 s.h. of course work in the major

Before the seventh semester begins: 45-60 s.h. of course work in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 57-75 s.h. of course work in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Dance, B.F.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students must maintain a GPA of at least 3.50 in all courses for the major and in all UI courses for the major.		
	Hours	0
First Year		
Fall		
Audition: An audition is required to be considered for the B.F.A. program. An audition form is required in order to audition.		
DANC:1060	Introduction to Dance Studies	1
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
Major: ballet course ^a		3
DANC:1090	Dance Production	3
Major: modern course ^a		3
CSI:1600	Success at Iowa	2
	Hours	15-16
Spring		
DANC:2060	Dance and Society in Global Contexts ^b	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
Major: ballet course ^a		3
Major: modern course ^a		3
GE CLAS Core: Diversity and Inclusion ^{c, d}		3
	Hours	15-16
Second Year		
Fall		
DANC:3080	Music Essentials for Dance	2
BIOL:1140	Human Biology ^e	4
Major: modern course ^a		2 - 3
Major: ballet course ^a		2 - 3
Major: dance elective course ^f		2
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ^g		
	Hours	16-19

Spring

DANC:2220	Production Run Crew ^h	1
HHP:1100	Human Anatomy ^b	3
Major: ballet course ^a		2 - 3
Major: modern course ^a		2 - 3
DANC:2050	Improvisation I	2
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g		4 - 5
Elective course ⁱ		3
Hours		17-20

Third Year**Fall**

GE CLAS Core: Quantitative or Formal Reasoning ^d		3
DANC:3150	Choreography I	2
Major: digital performing arts course		2 - 3
Major: ballet course ^a		2
Major: modern dance course ^a		2
Major: global dance studies course ^{c, j}		2 - 3
GE CLAS Core: Values and Culture ^{d, j}		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g		4 - 5
Hours		20-23

Spring

DANC:3070	Dance Kinesiology ^k	3
DANC:3060	Dance History	3
DANC:3250	Choreography II	2
Major: ballet course ^a		2
Major: modern dance or other technique course ^a		2
Major: performance and creative research ^l		2
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^g		4 - 5
Hours		18-19

Fourth Year**Fall**

DANC:2220	Production Run Crew ^h	1
DANC:4350	Choreography III	2
Major: advanced elective course (prefix DANC) ^f		3
Major: ballet course ^a		2
Major: performance and creative research ^l		2
Major: modern dance or other technique course ^a		2
DANC:4980	Senior Seminar in Dance	2
GE CLAS Core: Historical Perspectives ^d		3
Hours		17

Spring

Major: specialization area/advanced elective course		3 - 4
Major: ballet course ^a		2
Major: performance and creative research ^l		2
Major: modern dance or other technique course ^a		1
DANC:4998	B.F.A. Senior Project in Dance	3
or DANC:4999	or Honors Project in Dance	
GE CLAS Core: Social Sciences ^d		3
GE CLAS Core: International and Global Issues ^d		3
Hours		17-18
Total Hours		135-148

a Students must complete 32 s.h. dance technique courses, including three semesters of either DANC:4030 or DANC:4540 with a grade of B- or higher, 14 s.h. of ballet, and 14 s.h. of modern dance.

- b Fulfills a major requirement and may fulfill a GE requirement.
- c DANC:2065 meets both the GE CLAS Core Diversity and Inclusion requirement and the global dance studies requirement for the major.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Recommended course for GE CLAS Core Natural Sciences with Lab, not a major requirement.
- f The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Students must complete 2 s.h. of DANC:2220.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- j DANC:1150 meets both the GE CLAS Core Values and Culture requirement and the global dance studies requirement for the major.
- k Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- l Students must complete 6 s.h. performance and creative research courses. No more than 3 s.h. of DANC:3885 will count toward this requirement.

Career Advancement

Careers for dance majors include professional work in performing, choreography, education, private teaching, and related areas such as arts management, technical theater, or dance and physical therapy. Many graduates from the UI dance program are currently working in arts organizations throughout the United States.

The discipline and creative challenges of dance training transfer well to other careers. Students have combined dance with a second major in another field, such as business or communication.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Dance, Minor

The undergraduate minor in dance requires a minimum of 15 s.h. in University of Iowa Department of Dance courses. Students must maintain a cumulative g.p.a. of 3.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Auditions for Admission to the Minor

An audition is required to be considered for the minor in dance, as well as for placement in dance classes. An online application is required in order to audition; see "Application" under Undergraduate Auditions on the Department of Dance website. Contact the Department of Dance for more information or questions about auditions.

The minor in dance requires the following course work. Students must complete all prerequisites for the courses they choose for the minor.

Code	Title	Hours
This course:		
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
One of these:		
DANC:1055	Creativity in Motion	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2065	Performing Crisis: Dances of Identity, Witness, and Resistance	3
Students select the remaining dance courses for the minor from these, to total 15 s.h.:		
DANC:2020	Intermediate Jazz (maximum of 4 s.h. of all intermediate-level course work will count toward the minor)	2
DANC:2030	Intermediate Ballet (maximum of 4 s.h. of all intermediate-level course work will count toward the minor)	2
DANC:2040	Intermediate Modern (maximum of 4 s.h. of all intermediate-level course work will count toward the minor)	2
DANC:2050	Improvisation I	2
DANC:3010	Topics in Global Dance Techniques	2
DANC:3030	Major Ballet I	3
DANC:3039	Partnering Class	1
DANC:3040	Major Modern Dance I	3
DANC:3050/ INTM:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3060	Dance History	3
DANC:3070	Dance Kinesiology	3
DANC:3150	Choreography I	2
DANC:3521/ MUS:3521/ THTR:3521	Acting for Singers and for Dancers	2

DANC:3530	Major Ballet II	1-2
DANC:3540	Major Modern Dance II	1-2
DANC:3850/ DPA:3850/ MUS:3850	Introduction to Laban Movement Studies	2
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Awareness Through Movement	2
DANC:4030	Major Ballet III	1-2
DANC:4034	Ballet Pointe I	1
DANC:4035	Ballet Pointe II	2
DANC:4040	Major Modern Dance III	1-2
DANC:4540	Major Contemporary Dance IV	1
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4

Dance, M.F.A.

The Master of Fine Arts program in dance is offered with a choice of choreography or performance emphasis. Students must audition on campus in order to be admitted to the M.F.A. program.

Requirements

The Master of Fine Arts program in dance requires a minimum of 60 s.h. of graduate credit. The program is designed to be completed in four to six semesters in residence.

Students who demonstrate accomplishment in dance performance and/or choreography may apply for admission to the M.F.A. program. Applicants select the choreography or the performance emphasis before they are admitted.

The M.F.A. with a major in dance requires the following course work.

Dance Core

A total of 22 s.h. of core course work is required for both the choreography and the performance emphasis.

Code	Title	Hours
One of these:		
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3
All of these:		
DANC:4060/ DPA:4060	The Contemporary Dance Scene	3
DANC:5060/ DPA:5060	Theories of Dance and the Body	3
DANC:6050	Graduate Improvisation II	2
DANC:6060	Graduate Seminar in Dance	2
DANC:6080	Graduate Production Practicum	1
DANC:7990	Thesis (8 s.h. required)	8

Dance Technique

Choreography emphasis students select 9 s.h. from the following; performance emphasis students select 18 s.h.

Code	Title	Hours
DANC:3030	Major Ballet I	3
DANC:3040	Major Modern Dance I	3
DANC:5530	Graduate Majors Ballet II	1-3
DANC:5540	Graduate Majors Modern II	1-3
DANC:6030	Graduate Majors Ballet III	1-3
DANC:6040	Graduate Majors Modern III	1-3
DANC:6540	Graduate Contemporary IV	1
DANC:7550	Graduate Modern Dance Technique Practicum	2-3
DANC:7560	Graduate Ballet Technique Practicum	2-3

Emphasis Courses

As indicated below, choreography emphasis students select 17 s.h. from the following; performance emphasis students select 14 s.h. from the following.

Code	Title	Hours
Choreography Emphasis		
2 s.h. from these (1 s.h. for each performance):		
DANC:6880	Dance Gala Performance	1-3
DANC:6881	Collaborative Dance Performance Concert	1
DANC:6882	Graduate/Undergraduate Concert	1-4
DANC:6883	Faculty/Graduate Concert	1-4
DANC:6884	Undergraduate Event	1-4
DANC:6885	M.F.A. Thesis Concert	1-4
All of these:		
DANC:5550/ DPA:5550/ THTR:5610	Collaborative Performance	4
DANC:6350	Graduate Choreography III	2
DANC:6450	Graduate Choreography IV	3
DANC:6990	Graduate Independent Choreography (6 s.h. required; 2 s.h. for each choreography project)	6
Performance Emphasis		
One of these:		
DANC:6350	Graduate Choreography III	2
DANC:6450	Graduate Choreography IV	3
This course:		
DANC:6992	Graduate Independent Performance Project (taken twice, 2 s.h. for each project)	4
Minimum of 8 s.h. from these:		
DANC:3885	Repertory Dance Company	1-3
DANC:6880	Dance Gala Performance	1-4
DANC:6881	Collaborative Dance Performance Concert	1-4
DANC:6882	Graduate/Undergraduate Concert	1-4
DANC:6883	Faculty/Graduate Concert	1-4
DANC:6884	Undergraduate Event	1-4
DANC:6885	M.F.A. Thesis Concert	1-4
DANC:6887	M.F.A. Event	1-2

Electives

Choreography emphasis students select 12 s.h. of electives, including one course from the digital performing arts area; performance students select 6 s.h., including one course from the digital performing arts area. All dance elective courses must be numbered at the 3000-level or above and are subject to graduate advisor approval.

Code	Title	Hours
Digital Performing Arts		
One of these:		
DANC:3050/ INTM:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	2
DANC:3880/ THTR:3880	Installations and Interactive Performance	3

DANC:3890/ THTR:3890	Producing and Directing Digital Video	3
DANC:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:3876/ CINE:3876/ DANC:3876	Video for Performance	3

Additional Electives

Dance courses numbered 3000 or above; consult advisor

Admission

Admission is based on a review of recorded choreographic and performance work, letters of recommendation, application materials, and an on-campus audition in which applicants perform a solo dance, teach one or more classes, and take advanced classes in ballet and modern technique to determine class placement level.

Advanced technique (ballet and/or modern) and demonstrated accomplishment in performance or choreography are prerequisites for admission to the M.F.A. program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Graduates of the M.F.A. program are successful in pursuing professional careers in performance, choreography, and teaching in secondary and/or higher education.

Data Science

Chair, Department of Statistics and Actuarial Science

- Joseph B. Lang

Undergraduate major: data science (B.S.)

Website: <https://stat.uiowa.edu>

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a quantitative world where new problems are encountered at an ever-increasing rate. The major emphasizes the statistical/probabilistic and algorithmic methods that underlie the preparation, analysis, and communication of complex data. With focus on technical foundations, the data science program promotes skills useful for creating and implementing new or special-purpose analysis and visualization tools. It also promotes a fundamental understanding of how to best handle uncertainty when making data-driven decisions.

Students develop data preparation skills including writing software to obtain, extract, merge, clean, and/or transform the raw data. Analysis or information extraction methods include machine and statistical learning, statistical modeling and inference, and algorithm efficiency analysis. Data visualization, report writing, and oral presentations are important communication methods. The major includes two capstone courses that emphasize communication, ethics, and teamwork.

The Department of Statistics and Actuarial Science [p. 991] and the Department of Computer Science [p. 274] collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science.

Programs

Undergraduate Program of Study Major

- Major in Data Science (Bachelor of Science) [p. 327]

Data Science, B.S.

Learning Outcomes

- Data Curation Skills

Graduates will be able to:

understand issues associated with data collection, management, provenance, storage, merging, sharing, and preparation;

work with multiple-source, multiple-format data;

investigate the quality of the data; and

have a basic understanding of ethical and confidentiality issues associated with data collection, storage, merging, and sharing.

- Computational Skills

Graduates will be able to:

use critical thinking skills to translate substantive questions into well-defined computational problems and choose appropriate computational techniques for a given problem;

understand the foundational software skills and associated algorithmic and computational problem-solving methods used in computer science;

be proficient in computational methods for collecting, managing, storing, preparing, sharing, and describing data numerically and graphically from a variety of sources to design and carry out basic simulation studies; and

use professional statistical software and understand the principles of programming and algorithmic problem solving that underlie these packages.

- Statistical/Probabilistic Skills

Graduates will be able to:

use critical thinking skills to translate substantive questions into well-defined statistical or probability problems and choose the appropriate graphical or numerical descriptive and/or inferential statistical techniques for a given problem;

understand the importance of, and issues related to, the choice of the study design, such as designed experiment vs. probability sample vs. convenience sample, used to produce data;

understand that uncertainty, variability, and randomness play significant roles in data-driven decision making;

understand how to measure and display uncertainty, the effect of randomness, confidence/credibility, and the likelihood of incorrect inferences;

understand and be able to explain common misperceptions, paradoxes, and fallacies of probability and statistics; and

understand basic regression, prediction, simulation, and visualization methods.

- Mathematical Skills

Graduates will:

have a firm grasp of the mathematical tools underlying statistical and computational methods which are primarily based on ideas in calculus, linear algebra, and discrete mathematics, including distribution theory, uncertainty quantification (e.g., probability theory), the probabilistic basis of formal statistical inference, models, and algorithms, and combinatorial analysis and recursion, which are used for algorithmic analysis, design, and for distribution theory.

- Communication Skills

Graduates will be able to:

clearly justify and communicate study results to a nontechnical audience;

write accurate and meaningful reports that describe the statistical and computational analyses and summarize important findings; and

work effectively as part of a team to address substantive questions that can be handled using statistical and computational methods.

Requirements

The Bachelor of Science with a major in data science requires a minimum of 120 s.h., including at least 59 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Data science majors may not earn a major or minor in computer science or statistics, a major in computer science and engineering, the Certificate in Large Data Analysis, or the Certificate in Social Science Analytics.

The B.S. with a major in data science requires the following course work.

Code	Title	Hours
Prerequisite Courses		12-16
Core Courses		26
Advanced Courses		9
Advanced Electives		9
Capstone Courses		3
Total Hours		59-63

Prerequisite Courses

Students choose one of the following sequences.

Code	Title	Hours
These:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:2700	Introduction to Linear Algebra	4
Or these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

Core Courses

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
STAT:2010	Statistical Methods and Computing	3
STAT:3100	Introduction to Mathematical Statistics I	3
STAT:3101	Introduction to Mathematical Statistics II	3
STAT:3200	Applied Linear Regression	3

Advanced Courses

Code	Title	Hours
Both of these:		
CS:4400	Database Systems	3
STAT:4580	Data Visualization and Data Technologies	3
One of these:		
CS:5430	Machine Learning	3
STAT:4540	Statistical Learning	3

Advanced Electives

Code	Title	Hours
Three of these, with at least one computer science course and one statistics course:		
CS:4440	Web Mining	3
CS:4470	Health Data Analytics	3
CS:4700	High Performance and Parallel Computing	3
CS:5630	Cloud Computing Technology	3
STAT:3210	Experimental Design and Analysis	3
STAT:4520	Bayesian Statistics	3
STAT:4560	Statistics for Risk Modeling	3
STAT:5810	Research Data Management	3

Other advanced computer science or statistics courses approved by advisor

Capstone Courses

Code	Title	Hours
Both of these:		
STAT:4880	Data Science Creative Component	1
STAT:4890	Data Science Practicum	2

Honors

Honors in the Major

Students majoring in data science have the opportunity to graduate with honors in the major. They must maintain a g.p.a. of at least 3.40 in their major and a cumulative

University of Iowa g.p.a. of at least 3.33. Students must complete an honors thesis.

Students are responsible for finding a faculty member willing to supervise their honors project. The faculty member must approve the proposed project and a timetable for the work. Credit for thesis work must be earned in either CS:3990 Honors in Computer Science or Informatics for work supervised by a computer science faculty member or an honors course supervised by a statistics and actuarial science faculty member.

Honors in data science also satisfies the 12 s.h. experiential learning requirement for University of Iowa honors students.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the data science major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in data science. Students work with their advisors on individual graduation plans.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Data Science, B.S.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^{a, b}	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CS:1210	Computer Science I: Fundamentals	4
GE CLAS Core: World Languages First Level	Proficiency or elective course ^c	4 - 5
CSI:1600	Success at Iowa	2
Hours		17-19
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
STAT:2010	Statistical Methods and Computing	3
CS:2210	Discrete Structures	3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: World Languages Second Level	Proficiency or elective course ^c	4 - 5
Hours		17-19

Second Year**Fall**

STAT:3200	Applied Linear Regression	3
CS:2230	Computer Science II: Data Structures	4
GE CLAS Core: Natural Sciences without Lab ^d		3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		17-18

Spring

CS:3330	Algorithms	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^e		3
Hours		17-18

Third Year**Fall**

STAT:3100	Introduction to Mathematical Statistics I ^f	3
CS:4400	Database Systems	3
GE CLAS Core: Natural Sciences with Lab ^d		4
GE CLAS Core: Social Sciences ^d		3
Elective course ^e		3
Hours		16

Spring

STAT:4540 or CS:5430	Statistical Learning or Machine Learning	3
STAT:3101	Introduction to Mathematical Statistics II ^h	3
STAT:4580	Data Visualization and Data Technologies ^h	3
GE CLAS Core: Literary, Visual, and Performing Arts ^g		3
Elective course ^e		3
Hours		15

Fourth Year**Fall**

Major: advanced elective I course		3
Major: advanced elective II course		3
GE CLAS Core: Diversity and Inclusion ^d		3
STAT:4880	Data Science Creative Component	1
Elective course ^e		3
Hours		13

Spring

Major: advanced elective III course		3
GE CLAS Core: Values and Culture ^d		3
STAT:4890	Data Science Practicum	2
Elective course ^e		1
Elective course ^e		3
Hours		12
Total Hours		124-130

- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g Typically STAT:4540 is offered in fall semesters only and CS:5430 is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

Career Advancement

Today, nearly every business, government, social media platform and educational institution collects and analyzes data about its users, logistics and operations, and media presence in the hope of extracting valuable insights and utilizing the resulting efficiencies.

As an example, Amazon, is the company most closely identified with a data-driven business model. Starting just over 20 years ago as an online book seller with a relatively crude crowdsourced book review platform and simple recommender system technology, it was subsequently augmented with extensive tracking of customer page views, advertising hits, data about prior purchases, and an aggressive emphasis on data-driven operational efficiencies. Amazon has become the major player in U.S. retail and a prime example of the strategic value of big data.

Data science graduates may pursue careers as data scientists. This position allows them to apply their understanding of both statistics as well as algorithm and software design to create and develop the next generation of data analysis tools.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

a Enrollment in math courses requires completion of a placement exam.

b Fulfills a major requirement and may fulfill a GE requirement.

Disability Studies

Chair, Department of Health and Human Physiology

- Warren G. Darling

Coordinator, Disability Studies

- Kenneth E. Mobily (Health and Human Physiology)

Undergraduate certificate: disability studies

Website: <https://clas.uiowa.edu/hhp/undergraduate/disability-studies-certificate>

Disability studies examines disability as a social, cultural, historical, and political phenomenon rather than focusing on its clinical, medical, or therapeutic aspects. It is an interdisciplinary and multidisciplinary field that draws on scholarship from diverse disciplines, including anthropology, architecture, the arts, communication and media studies, cultural studies, economics, gender studies, geography, global studies, history, law, literature, medicine, nursing, philosophy, policy studies, political science, religious studies, social work, and sociology.

The certificate program helps students expand their knowledge and awareness of disability issues and prepare for careers in public life. Its multidisciplinary nature makes disability studies a good complement to a broad range of undergraduate majors.

Students who complete the certificate develop:

- understanding of the history of disabilities in America;
- awareness of how culture and society define disability;
- the ability to interact with individuals from diverse backgrounds;
- a personal philosophy of treating people fairly, equitably, and thoughtfully; and
- greater understanding of and concern with public policy issues and active citizenship.

The certificate program in disability studies is administered by the Department of Health and Human Physiology [p. 552].

Programs

Undergraduate Program of Study Certificate

- Certificate in Disability Studies [p. 331]

Courses

Disability Studies Courses

DST:1101 Introduction to Disability Studies 3 s.h.

Introduction and overview of important topics and discussions that pertain to the experience of being disabled; contrast between medical and social construction models of disability; focus on how disability has been constructed historically, socially, and politically in an effort to distinguish myth and stigma from reality; perspective that disability is part of human experience and touches everyone; interdisciplinary with many academic areas that offer narratives about experience of disability. GE: Diversity and Inclusion.

DST:1200 Disability and Inclusion in Film and Writing Around the World 3 s.h.

Exploration of human experiences of dis/ability and exclusion/inclusion as represented in recent international film and popular writing from Europe, Latin America, Asia, Africa, and the Middle East; how these experiences contribute to and reflect awareness of the challenges of disabilities as well as public policy; strategies that filmmakers and authors deploy to contain, complicate, and challenge cultural preconceptions of the disabled body; how disability intersects with other major identity categories (i.e., sexuality, nationality, race); tools for researching history, policy, and activism. GE: Diversity and Inclusion. Same as GHS:1200, GRMN:1200, WLLC:1200.

DST:3102 Culture and Community in Human Services

2-3 s.h.

Influence of social issues (e.g., diversity, equity) on human services; values, beliefs, lifestyles, and attitudes of individuals and diverse groups found in a pluralistic society; recognition of dehumanizing biases and their impact on interpersonal relations; translation of knowledge of culture into attitudes, skills, and techniques that result in favorable experiences for human services consumers; recognition of ways in which dehumanizing biases may be reflected in everyday encounters and understanding how these interactions may influence populations served by human service practitioners.

Disability Studies, Certificate

The undergraduate Certificate in Disability Studies requires a minimum of 19 s.h. of credit. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The Certificate in Disability Studies requires the following course work.

Core Courses

Students earn 11 s.h. by taking the following four core courses.

Code	Title	Hours
All of these:		
DST:1101	Introduction to Disability Studies	3
EDTL:4967	Integrated Disability Studies Practicum	2
HIST:4203	Disability in American History	3
And one of these:		
CSD:1200	Intellectual and Developmental Disabilities	3
EDTL:4940	Characteristics of Disabilities	3
TR:3162	Therapeutic Recreation: Clientele	3

Focused Electives

Students earn a minimum of 8 s.h. in focused electives, which they select from courses in at least two of the following lists (maximum of 6 s.h. from any one list). They may count a maximum of 3 s.h. earned in courses numbered below 3000 toward this requirement.

Code	Title	Hours
Aging and Longevity Studies		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
American Sign Language		
ASL:3200	Topics in Deaf Studies	3
ASL:3300	American Deaf Culture	3
ASL:3400	Issues in ASL and Deaf Studies	3
ASL:3500	Deafness in the Media	3
ASL:3600	American Sign Language Literature	3
ASLE:3905/ EDTL:3905	Teaching Deaf and Hard of Hearing Students	3-4
American Studies		

AMST:2025	Diversity in American Culture	3
Anthropology		
ANTH:3102/ CBH:3102/ GHS:3102	Medical Anthropology	3
Communication Sciences and Disorders		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
Computer Science		
CS:4980	Topics in Computer Science II (when topic is research and development of accessible computing technologies)	3
Disability Studies		
DST:1200/ GHS:1200/ GRMN:1200/ WLLC:1200	Disability and Inclusion in Film and Writing Around the World	3
DST:3102	Culture and Community in Human Services	2-3
Education		
EDTL:3130	Adaptive Physical Education for the Elementary Classroom Teacher	2
EDTL:4900	Foundations of Special Education	3
EDTL:4921	Transition and Related Issues	3
EDTL:4950	Behavioral and Social Interventions	3
EDTL:4990	Interdisciplinary Issues in Disabilities	1-3
EPLS:4180	Human Relations for the Classroom Teacher	3
RCE:4195	Ethics in Human Relations and Counseling	3
RCE:4197	Citizenship in a Multicultural Society	3
Geography		
GEOG:3110/ GHS:3111	Geography of Health	3
Health and Human Physiology		
HHP:2200	Physical Activity and Health	3
History		
HIST:4201/ ASL:4201	History of the American Deaf Community	3
Music		
MUS:1687	Orientation to Music Therapy	2
Nursing		
NURS:1030	Human Development and Behavior	3

NURS:3712/ SSW:3712	Human Sexuality, Diversity, and Society	3
Psychological and Brain Sciences		
PSY:2301	Introduction to Clinical Psychology	3
PSY:2930	Abnormal Psychology: Health Professions	3
PSY:3320	Abnormal Psychology	3
Social Work		
SSW:3847	Discrimination, Oppression, and Diversity	3
Therapeutic Recreation		
TR:3160	Introduction to Therapeutic Recreation	3
TR:3261	Inclusive Recreation	3

Division of Interdisciplinary Programs

Director

- Helena R. Dettmer

Website: <https://clas.uiowa.edu/interdisciplinary-programs/>

The Division of Interdisciplinary Programs includes seven academic units: Enterprise Leadership, Global Health Studies, Interdepartmental Studies, International Studies, Latin American Studies, Latina/o Studies, and the Magid Center for Undergraduate Writing.

Of all the academic units within the division, four offer B.A. degrees, one offers a B.S. degree, four offer a minor, and three offer a certificate.

Enterprise Leadership [p. 396] provides an option for students who want to focus on entrepreneurial business leadership. The major presents a unique blend of skills, theory, and content, encouraging students to apply their knowledge and skills to entrepreneurial and growing organizations. It is designed to prepare students for career success—whether they desire to be an innovator inside a large organization or aspire to be an entrepreneur and launch their own business one day. The program offers a combination of business and liberal arts approaches and allows students to hone their skills in innovation, entrepreneurship, communication, critical thinking, problem solving, and leadership. Enterprise Leadership offers a B.A. degree.

The Global Health Studies [p. 533] Program examines the processes influencing health and disease around the world. It considers not only the manifestations of significant diseases and public health and health care systems, but also the underlying forces and institutions—such as technology, politics, culture, legal structure, history, and economics—that collectively influence patterns of health and disease. This program offers a B.A. degree, a B.S. degree, a minor, and an undergraduate and graduate certificate.

Interdepartmental Studies [p. 616] provides an alternative to traditional undergraduate majors. It gives students the opportunity to design an individualized plan of study or to choose a preapproved plan in applied human services, business studies, or health science. Each track includes course work from a variety of departments. Interdepartmental Studies offers a B.A. degree.

International Studies [p. 648] is designed to help students learn to appreciate world cultures, focus on themes of global significance, and master varied disciplinary approaches used to study international issues. The program complements a wide range of academic degree programs and is an appropriate choice for many students who plan to pursue a double major. International Studies offers a B.A. degree and an undergraduate minor.

The Latin American Studies [p. 689] Program focuses on the history, politics, social organization, economy, geography, music, religion, art, and literature of Central and South America, Mexico, the Caribbean, and the United States, drawing on faculty expertise in a range of academic areas. This program offers a minor and an undergraduate certificate.

Latina/o Studies [p. 695] offers an interdisciplinary perspective on the history, culture, politics, and experiences of Latina/o populations in the United States. Latina/o Studies introduces the peoples that have a long-term presence in the United States and in the Midwest and who are increasingly neighbors, classmates, and coworkers. This program offers an undergraduate minor.

The Magid Center for Undergraduate Writing [p. 711] offers the undergraduate Certificate in Writing. The certificate program allows students to explore writing and develop their skills in a wide range of genres and for varied purposes, including creative writing (fiction, nonfiction, poetry); writing for the professions, such as the arts, business, journalism, or science; writing for organizations; and writing related to personal interests.

Division of Performing Arts

Director

- Alan M. MacVey

Website: <https://dpa.uiowa.edu/>

The Division of Performing Arts includes the Department of Dance [p. 307], the School of Music [p. 750], the Department of Theatre Arts [p. 1012], and the Certificate in Arts Entrepreneurship [p. 117]. The division fosters interdisciplinary collaboration among these units, coordinates artistic and academic activities, and sponsors a full array of performances and symposia. Performances are supported by professional staff in the division's Performing Arts Production Unit.

Each of the division's individual academic units offers undergraduate and graduate courses and degree programs in creative, performance, scholarly, and theoretical areas. Together they present an extensive schedule of dance productions, faculty and student recitals, ensemble concerts, and mainstage and gallery theater productions. The division also collaborates with the arts outreach program, Arts Share.

For information about the division and its programs and events, visit the Division of Performing Arts website.

Courses

Division of Performing Arts Courses

DPA:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

DPA:1085 Introduction to Afro-Caribbean Dance Techniques 2 s.h.

Exploration of African traditional dance form evolution through movement; movement vocabulary of principle dances and their musical structures; dance and cultural histories; class sessions include warm up, progressions across the floor, and execution of traditional Caribbean dances (e.g., Yanvalou from Haiti, Orisha dance from Cuba, Brazil and Soca social dance from Trinidad). Same as DANC:1085.

DPA:1412 The Arts in Performance 3 s.h.

GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DANC:1412, THTR:1412.

DPA:1800 World of the Beatles 3 s.h.

How the Beatles' music was influenced by American pop music, the drug culture, and the avant-garde, nonwestern instruments and philosophy, anti-war sentiments, world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. GE: Literary, Visual, and Performing Arts. Same as MUS:1800.

DPA:2060 Dance and Society in Global Contexts 3 s.h.

Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and BLOG construction. GE: Engineering Be Creative; Literary, Visual, and Performing Arts. Same as DANC:2060.

DPA:2200 Creative Matters 1-2 s.h.

Students in the Creative Matters Living Learning Community collaborate in teams to create projects that blend arts and technology. Requirements: Creative Matters Living Learning Community resident.

DPA:3075 Yoga Teacher Training I 3 s.h.

Exploration of in-depth knowledge of yoga in preparation for teaching through physical practice of yoga postures, study of basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure; two-semester course that results in a 200-hour yoga teacher certification. Requirements: sophomore or higher standing. Recommendations: previous experience taking yoga classes. Same as DANC:3075.

DPA:3154 Introduction to Afro-Cuban Drumming 1 s.h.

Drumming, dance, songs from folkloric and ceremonial Afro-Cuban forms; emphasis on drumming; may include participation in Afro-Cuban drum and dance ensemble. Same as MUS:3154.

DPA:3210 Makeup Design for the Stage 3 s.h.

GE: Engineering Be Creative. Same as THTR:3210.

DPA:3221 Technology for the Entertainment Industry 3 s.h.

Introduction to technology skills that are at the center of the entertainment industry; programming and operating digital lighting and sound consoles, intelligent lighting systems, projection hardware and software; outdoor event rigging, metal construction, and fabrication. Same as THTR:3221.

DPA:3510 Introduction to Arts Management 3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as INTD:3510, THTR:3510.

DPA:3520 New Ventures in the Arts 3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates ENTR:2000 and MGMT:3100. Corequisites: ENTR:1350 or (ACCT:2100 and MKTG:3000). Same as ENTR:3520, INTD:3520, THTR:3520.

DPA:3850 Introduction to Laban Movement Studies**2 s.h.**

Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DANC:3850, MUS:3850.

DPA:3851 Introduction to the Alexander Technique**3 s.h.**

The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DANC:3851, MUS:3851.

DPA:4060 The Contemporary Dance Scene**3 s.h.**

Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as DANC:4060.

DPA:4510 Arts Leadership Seminar**3 s.h.**

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000 or THTR:3520. Same as ENTR:4510, INTD:4510, THTR:4510.

DPA:5060 Theories of Dance and the Body**3 s.h.**

Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Recommendations: M.F.A. major in dance or advanced dance standing. Same as DANC:5060.

DPA:5550 Collaborative Performance**3-4 s.h.**

Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DANC:5550, THTR:5610.

Division of World Languages, Literatures and Cultures

Director

- Russell Ganim

Faculty: <https://clas.uiowa.edu/dwllc/people>

Website: <https://clas.uiowa.edu/dwllc/>

The Division of World Languages, Literatures and Cultures includes several academic units: the Departments of Asian and Slavic Languages and Literatures, French and Italian, German, Linguistics, and Spanish and Portuguese, and the programs in American Sign Language, Comparative Literature, Second Language Acquisition, and Translation. An undergraduate minor is offered in translation for global literacy and a graduate certificate in literary translation. In addition to providing administrative leadership for all of its units, the division fosters interdisciplinary scholarship in languages, literatures, and cultures. It encourages synergy and collaboration among its faculty and enhances opportunities for cross-cultural course development and research.

Undergraduate and graduate programs in the division serve students with varied interests and career aspirations. Students are educated to become global citizens who understand and are understood by diverse populations. They are trained to be critical thinkers and problem solvers who are also capable scholars, lucid writers, and proficient speakers.

The division offers instruction in numerous fields related to language, literature, and culture.

- American Sign Language [p. 37] Program: American Sign Language and Deaf Studies
- Department of Asian and Slavic Languages and Literatures [p. 119]: Chinese, Japanese, Korean, Russian, Sanskrit
- Department of French and Italian [p. 438]: Arabic, French, Italian, Swahili
- Department of Linguistics [p. 698]: linguistics
- Department of German [p. 523]: German
- Department of Spanish and Portuguese [p. 966]: Portuguese, Spanish

The Division of World Languages, Literatures and Cultures also serves as the administrative home for Comparative Literature [p. 266], Literary Translation [p. 709], Second Language Acquisition [p. 909], and Translation [p. 1025].

The Department of Linguistics [p. 698] provides scientific study of familiar languages, as well as less well-known languages. The division's Second Language Acquisition [p. 909] Program brings multidisciplinary resources together to examine the processes that underlie non-native-language learning. The Translation [p. 1025] Program explores the literary, cultural, and historical contexts of work and their linguistic, aesthetic, and ideological dimensions while it builds skills for translating works from one language to another. The Comparative Literature [p. 266] Program addresses culture across regions and languages in relation to literature, social theory and philosophy, history, and other disciplines. The minor in Translation for Global Literacy [p. 1029] introduces undergraduate students to the exploration of translation both as a practical application and as a tool for global literacy. The

graduate Certificate in Literary Translation [p. 710] offers students the opportunity to develop stronger competencies in translation as a method of scholarly inquiry and pedagogy, and the advantage of the ongoing synergy between creative writing and literary translation.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language (including American Sign Language) and English as a Second Language digital media materials.

Courses

World Languages, Literatures and Cultures Courses

WLLC:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

WLLC:1100 Contraception Across Time and Cultures 3 s.h.

Methods and history of contraception and abortion; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Same as CLSA:1100, GHS:1100, GRMN:1100, GWSS:1100.

WLLC:1200 Disability and Inclusion in Film and Writing Around the World 3 s.h.

Exploration of human experiences of dis/ability and exclusion/inclusion as represented in recent international film and popular writing from Europe, Latin America, Asia, Africa, and the Middle East; how these experiences contribute to and reflect awareness of the challenges of disabilities as well as public policy; strategies that filmmakers and authors deploy to contain, complicate, and challenge cultural preconceptions of the disabled body; how disability intersects with other major identity categories (i.e., sexuality, nationality, race); tools for researching history, policy, and activism. GE: Diversity and Inclusion. Same as DST:1200, GHS:1200, GRMN:1200.

WLLC:1355 Approaches to Global Cultural Studies 3 s.h.
 Framework for thinking about global perspectives on culture; examination of themes within a transnational context; analysis of cultural expression from national and linguistic contexts.

WLLC:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248.

WLLC:2550 Mardi Gras and More: Cultures of Carnival 3-4 s.h.

Literature and customs associated with carnival from antiquity through present day; readings on theories of carnivalesque (Mikhail Bakhtin, Peter Burke, and others); materials from three distinct carnival cultures—Renaissance Europe (Francois Rabelais, German carnival plays), 19th-century New Orleans, and present day Rio de Janeiro. GE: Values and Culture. Same as GRMN:2550.

WLLC:2620 Anne Frank and Her Story 3-4 s.h.

Analysis of the *Diary of Anne Frank*, its media adaptations, and related materials (e.g., fictionalizations, additional first-hand accounts); examination of Holocaust in the Netherlands, Belgium, and other countries outside Germany; anti-Semitism, discrimination, tolerance, resistance, identity formation, human aspiration and belief. Taught in English. GE: Diversity and Inclusion. Same as GRMN:2620.

WLLC:3131 Undergraduate Reading Workshop 3 s.h.

Analysis of different types of texts—theoretical, cultural, political, philosophical, literary, poetic—and exploration of varying ways to frame and read them. Same as CL:3131.

WLLC:3185 Global Women's Cinema 3 s.h.

Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on post-1968 period and cinema produced outside the United States. Same as GWSS:3185.

WLLC:3191 International Literature Today 1,3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3595, IWP:3191.

WLLC:3700 Topics in Global Cinema 3 s.h.

Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Same as ASIA:3700, JPNS:3700, TRNS:3700.

WLLC:3834 Arab Spring in Context: Media, Religion, and Geopolitics 3 s.h.

Protest movements that started in Tunisia in 2011 and swept across North Africa and the Middle East transforming Arab and Islamic societies in radically different ways; function of social media, satellite television, communication technology; influence of religious leaders and groups on some protest outcomes; impact of wealth and geopolitics on social fabric of Islamic societies within and outside Arab countries. Same as IS:3834, JMC:3146, RELS:3834.

WLLC:4512 Topics in Global and Transnational Culture 3-4 s.h.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as ARAB:4512, GRMN:4512.

WLLC:4800 Topics in Global and Transnational Culture arr.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; material from literature, visual arts, music, mass media, and more; general process through which cultures are formed in mutual and uneven relationships; original research project. Requirements: GE CLAS Core International and Global Issues course.

WLLC:4801 Seminar in Comparative Literature 3 s.h.

Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Same as CL:4800, GRMN:4800, TRNS:4800.

WLLC:5000 Teaching and Learning Languages 3 s.h.

Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Same as FREN:5000, GRMN:5001, SLA:5000, SPAN:5000.

WLLC:6320 Topics in Contemporary Critical Theory 3 s.h.

Focused discussion of critical discourses and paradigms that have contributed to development of contemporary literary and cultural theory.

Earth and Environmental Sciences

Chair

- Charles "Tom" Foster Jr.

Undergraduate major: geoscience (B.A., B.S.)

Undergraduate minor: geoscience

Graduate degrees: M.S. in geoscience; Ph.D. in geoscience

Faculty: <https://clas.uiowa.edu/ees/people>

Website: <https://clas.uiowa.edu/ees/>

Faculty and students in the Department of Earth and Environmental Sciences study the physical, chemical, and biological systems of Earth. Using modern observational, analytical, and computational methods, they examine how the planet's interior, surface, hydrosphere, biosphere, and atmosphere have evolved since Earth was born in the solar system 4.6 billion years ago. Topics commonly studied in the department include how plate movements cause earthquakes, volcanoes, and mountain building; global climate change and how climate change and catastrophic events cause changes in biodiversity; mass extinctions and patterns of evolution through Earth history; how and where economic resources are generated on Earth; and how these resources are located and used in modern society.

The earth and environmental sciences curriculum provides students with hands-on experience analyzing rocks, minerals, fossils, soils, and waters, generally in a small classroom setting. Much of this experience is obtained in laboratory and field courses. Field courses include travel to other states or countries to view Earth's materials and fossils in the context of their natural surroundings.

The department offers a variety of courses appropriate for nonmajors, including several approved for the Natural Sciences requirement of the GE CLAS Core [p. 459]; see "Courses for Nonmajors" below.

Courses for Nonmajors

Each year more than 1,800 students enroll in Department of Earth and Environmental Sciences introductory courses that are approved for GE CLAS Core; look for courses with the prefix EES under "Natural Sciences" in the GE CLAS Core [p. 459] section of the Catalog.

The department also offers the following upper-level courses with few or no prerequisites.

Code	Title	Hours
EES:3020	Earth Surface Processes	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3100	Introduction to Applied Remote Sensing	4
EES:3210	Principles of Paleontology	3

Cooperative Activities

The department does collaborative work with the Iowa Geological Survey and the Office of the State Archaeologist of Iowa. Earth and environmental sciences students sometimes work on projects for the survey.

The Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences share services, expertise, joint instruction, and equipment. The Department of Earth and Environmental Sciences is an important participant in the Iowa Quaternary Studies group, an interdisciplinary program that promotes projects combining work in anthropology, biology, geography, geology, and statistics. Course work, degree programs, and facilities are shared among departments. The Department of Earth and Environmental Sciences and its faculty also support and actively participate in the interdisciplinary Environmental Sciences [p. 413] Program, which offers two undergraduate majors and a minor, and a number of the department's courses satisfy requirements of the undergraduate Certificate in Sustainability [p. 1857].

Field Trips

Field trips are integral parts of several courses in earth and environmental sciences. The geology of the Iowa City region is characterized by Quaternary glacial sediments on a largely Paleozoic sedimentary section a few hundred meters thick, overlying a Precambrian crystalline basement. Marine and terrestrial fossil assemblages, extensive reefs, and unique geode sites are located within a few hours' drive. Numerous Pleistocene glaciations are represented in Iowa, and field studies of landforms, exposures, and cores continue to yield information on sedimentology, stratigraphy, soil formation, paleopedology, and fossil biotas from both glacial and interglacial deposits.

Spring break and summer provide time for longer trips, which are open to all earth and environmental sciences students. In recent years, students have traveled to the southern Appalachians, Arizona, China, Death Valley, the Dominican Republic, the Florida Keys, Hawaii, New Mexico, the Ozarks, Puerto Rico, and Texas. Advanced classes have visited California, Colorado, Kansas, Montana, Oklahoma, Wisconsin, and Ontario, Canada.

Programs

Undergraduate Programs of Study

Majors

- Major in Geoscience (Bachelor of Arts) [p. 346]
- Major in Geoscience (Bachelor of Science) [p. 349]

Minor

- Minor in Geoscience [p. 353]

Graduate Programs of Study

Majors

- Master of Science in Geoscience [p. 354]
- Doctor of Philosophy in Geoscience [p. 355]

Facilities

Resources and equipment available for research in the Department of Earth and Environmental Sciences include the following.

Computer facilities: three teaching classrooms with 10-12 networked PC workstations; a computing classroom with

20 PCs and 10 Mac workstations with GIS, GMS, remote sensing, image analysis, and specialized computational software packages; a student computer room with six PCs and two Macs; and a number of multiprocessor workstations in research laboratories.

Electron microprobe: JOEL JXA-8230 electron probe microanalyzer with five wavelength-dispersive spectrometers capable of quantitatively analyzing a full spectrum of elements in solid materials to a spot size as small as one micron.

Environmental and Hydrogeology Laboratory: permeameters and tensionometers; pumping and slug/bail test units with transducers and data-loggers; water-quality analysis facility; advanced groundwater modeling and geostatistics software; advanced data logging systems for field research; 3-D sensor arrays (wind and water systems); and facilities for field instrumentation design and construction.

Environmental instrumentation laboratories: storage, testing, and teaching facility focusing on field instrumentation; assembly, housing, and testing of climatic, meteorological, fluvial, water quality and associated environmental instrumentation data recording systems and sampling systems.

Geomorphic Computing Laboratory: high-end visualization, digitizing, remote sensing and GIS systems; and high-end multiprocessor workstations.

Mineral Separation and Geochronology Preparation Facility: jaw crushers, disk pulverizer, shaker table, electromagnetic separators and heavy liquid separation equipment for mineral separation; core drill apparatus and saws for removing grains from thin sections and slabs; microscopes and digital imaging for grain selection and characterization; polishing equipment for slabs, thin section stubs, and grain mounts; natural standards for co-mounting with unknowns prior to analysis at a variety of geochronology facilities.

Morphometric laboratories: reflex microscope and microscribe for capturing 3-D data; high-resolution digital cameras and microscopes for 2-D image analysis; and laboratories for micro- and macro-fossil preparation.

Paleontological Repository: more than a million specimens, including some 25,000 type and referred specimens, with 6,000-7,000 primary types; invertebrate, vertebrate, and plant fossils of all geologic ages, and more than 90 percent Paleozoic invertebrates; one of the largest university collections in North America.

Petrology and geochemistry laboratories: laser-ablation inductively coupled plasma mass spectrometer (LA-ICPMS); clean laboratory for preparation of samples for elemental and isotopic analysis; alpha- and gamma-spectrometry laboratories; image analysis; petrographic microscopes; photo microscopy; wet-chemistry facilities; rock preparation and mineral separation; UNIX, Windows, and Mac workstations for data analysis and modeling; and one atm gas-mixing furnace for melt inclusion homogenization.

Quaternary Materials Laboratory: pipette grain-size analysis apparatus; chittick apparatus; Sedigraph 5100 X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; wet-chemistry facilities; C-H-N element analyzer; a Flotech flotation system; and a Giddings drill rig.

Scanning electron microscope: Hitachi S-3400N, a variable-pressure scanning electron microscope (SEM) equipped with a motorized stage, large chamber, and digital

image capture; capable of imaging specimens with no metal coating, or specimens that are slightly hydrated or porous, as well as conventionally processed specimens; equipped with a Bruker AXS Quantax 400 X-ray microanalysis system; XFlash silicon drift detector with excellent energy resolution and light element detection, providing ultra-fast acquisition of line scans and elemental maps; and a Gatan ChromaCL cathodoluminescence detector system for imaging grain textures.

Sedimentary geology laboratories: water ion chromatograph; image analysis; Sedigraph X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; and a soil/sediment characterization laboratory.

Thin-Section and Rock Preparation Laboratory: diamond saws and specialized grinding equipment used to prepare ultrathin slices (30 microns thick) of rocks and fossils for microscopic and electron microprobe analysis.

Courses

Not all courses are offered every year.

Earth and Environmental Sciences Courses

EES:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

EES:1021 Spring Break Service Learning Trip 1 s.h.

Special topics, directed research.

EES:1030 Introduction to Earth Science 3-4 s.h.

Relationships between plate tectonics, geologic time, and the rock cycle with volcanoes and igneous, sedimentary, metamorphic rocks; fossils; radioactive isotopes; landscape evolution; mountain building; natural resources; their impacts on civilization. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as CEE:1030.

EES:1031 Introduction to Earth Science Laboratory 1 s.h.

Laboratory component of EES:1030. Requirements: completion of 3 s.h. in EES:1030 or CEE:1030. GE: Natural Sciences Lab only. Same as CEE:1031.

EES:1040 Evolution and the History of Life 3-4 s.h.

Fossils over the past 3.5 billion years, origin and evolution of life, evolutionary radiations and mass extinctions, the invasion of land, dinosaurs, the age of mammals, relationship between biological systems and environmental change in earth history. Offered spring semesters. GE: Natural Sciences with Lab; Natural Sciences without Lab.

EES:1050 Introduction to Geology 4 s.h.

Minerals, rocks, and rock-forming processes (including volcanoes and sedimentary environments); surface processes (rivers, groundwater, glaciers, deserts, ocean shorelines), major earth processes (continental drift, plate tectonics, earthquakes, mountain building); impact on civilization. Offered fall semesters. GE: Natural Sciences with Lab.

EES:1060 Big Ideas: Origins of the Universe, Earth, and Life 3 s.h.

Fundamental questions (How old is the universe? What is the nature of life? How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe?) that revolve around understanding origins from different perspectives (i.e., astronomy, physics, geoscience, biology, chemistry, anthropology); work with faculty from several departments to investigate these questions; inquiry-based activities to build success in critical thinking, teamwork, effective written and oral communication; origin of the universe, biochemistry of life, and origin of life on Earth; first of a two-part sequence. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as ASTR:1060, BIOL:1060.

EES:1061 Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe 4 s.h.

How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe? These fundamental questions revolve around understanding the origins of life from different perspectives—astronomy and physics, geoscience, biology, chemistry, and anthropology; students will work together with faculty from across four different departments to investigate these questions using inquiry-based activities to build success in critical thinking, teamwork, and effective written and oral communication; second half of the origins sequence (though either course also may be taken alone). GE: Natural Sciences with Lab. Same as ANTH:1061, ASTR:1061, BIOL:1061.

EES:1070 Age of Dinosaurs 4 s.h.

Origin and evolutionary history of dinosaurs; diversity of dinosaurian groups, their geographic distributions and paleoecology; origins of flight among dinosaurs; environmental context, including other animals and plants that lived alongside dinosaurs; the so-called extinction of dinosaurs and radiation of modern forms; the role dinosaurs play in the interaction between science and the popular media. Offered fall semesters. GE: Natural Sciences with Lab.

EES:1080 Introduction to Environmental Science 3-4 s.h.

Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as ENVS:1080.

EES:1081 Introduction to Environmental Sciences Laboratory 1 s.h.

Laboratory component of EES:1080. Requirements: completion of 3 s.h. in EES:1080 or ENVS:1080; or 3 s.h. of transfer equivalent. GE: Natural Sciences Lab only. Same as ENVS:1081.

EES:1085 Fundamentals of Environmental Science 4 s.h.

Interdisciplinary study of how Earth's natural systems interact, how these systems affect society, and how they respond to human activity; how environmental problems can be solved and avoided by drawing upon knowledge in disciplines as diverse as ecology, anthropology, economics, chemistry, and political science; blended instructional environment, including traditional lectures, discussions in TILE classrooms, laboratory, online learning, peer-reviewed writing exercises, and service learning. Offered fall semesters. GE: Natural Sciences with Lab. Same as ENVS:1085.

EES:1086 Fundamentals of Environmental Science Lab 1 s.h.

Laboratory component of EES:1085. Prerequisites: EES:1085 or ENVS:1085.

EES:1115 The History and Science of Oil 3 s.h.

Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Historical Perspectives. Same as ENVS:1115, GEOG:1115, HIST:1115.

EES:1170 Geology of the U.S. National Parks 2 s.h.

Geologic features, geologic history, important biological and archaeological characteristics, with emphasis on features that caused certain areas to be included in national park system.

EES:1180 Geology Field Trip: Selected National Parks 2 s.h.

Observation, interpretation of prominent geologic, geomorphic, biological features; semester-break or semester-end visits to different parks or groups of parks each year. Offered spring semesters.

EES:1290 Energy and the Environment 3 s.h.

Scientific concepts related to potentially significant energy sources of the 21st century; environmental impacts, positive and negative, of each energy source as well as geologic and geographical distributions and applications. GE: Natural Sciences without Lab.

EES:1400 Natural Disasters 3 s.h.

How earth-atmosphere-hydrosphere-space systems produce events catastrophic to humans on the scale of individual lives to civilizations; root causes of earthquakes, landslides, volcanic eruptions, floods, hurricanes, tsunamis, tornadoes, and asteroid impact, and their local, national, and global impact; spatial and temporal occurrences of these hazards; methods and processes for hazard preparedness, response, and recovery; social, economic, and policy aspects that affect and compound the magnitude of disasters associated with natural phenomena; case studies drawn from contemporary and ancient societies. GE: Natural Sciences without Lab.

EES:2001 Second-Year Field Trip for Earth and Environmental Sciences 1 s.h.

Opportunity for students to begin developing an appreciation of earth system and earth history scales; application of classroom learning to field-based inquiry; real-world examples of introductory course material in an outdoor classroom setting. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080. Requirements: geoscience or environmental sciences major. Same as ENVS:2001.

EES:2190 Directed Study arr.

Special topics, independent research.

EES:2200 Historical Geology 4 s.h.

Framework of earth history that is essential to understand how the earth system works; investigation of physical, biological, atmospheric, oceanographic, and chemical history of the earth to prepare for further earth and environmental science courses. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:1085 or ENVS:1085. Same as ENVS:2200.

EES:2310 Introduction to Climatology 3 s.h.

Introduction to atmospheric processes that determine weather and climate; flow of energy through the atmosphere, distribution and movement of moisture and air, and atmospheric disturbances such as cyclones, hurricanes and tornadoes, and climate change. Recommendations: GEOG:1020 or similar earth systems science course. Same as GEOG:2310.

EES:2410 Mineralogy 4 s.h.

Physical, chemical, and optical properties of minerals; phase relations; structures; associations; diagnostic features for identification. Offered fall semesters. Prerequisites: (CHEM:1110 or CHEM:1070) and (EES:1050 or EES:1030).

EES:2831 Geologic Field Methods 3 s.h.

Introduction to basic methods of geologic fieldwork in southwest Montana using topographic maps and GPS to locate oneself, identifying geologic map units (including superficial deposits), recognizing geologic contacts, constructing stratigraphic sections, measuring planar structures, and making geologic maps complete with a legend and cross-section. Offered summer session. Prerequisites: EES:1400 or EES:1080 or EES:1030 or EES:1050.

EES:3000 Geologic Training Assignment 1-3 s.h.

Practical experience.

EES:3001 Third-Year Field Trip for Earth and Environmental Sciences 1 s.h.

Opportunity for students to apply their major course work to real-world problems; field trip to visit parks, mines, and/or quarries in Missouri and Arkansas that illustrate many of the lessons learned in EES:2410 and EES:3500. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:2410. Requirements: geoscience or environmental sciences major, and junior standing. Same as ENVS:3001.

EES:3003 Natural History Research Collections 3 s.h.

Techniques, methods, and issues specific to natural history research collections; practice in preparing and cleaning specimens; role of natural history specimens in modern scientific research. Recommendations: basic understanding of the diversity of plants and animals and natural history museum collections, MUSM:3001 or MUSM:3200, and BIOL:1411 or BIOL:1412; or other experience. Same as MUSM:3003.

EES:3020 Earth Surface Processes 3 s.h.

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as ENVS:3020, GEOG:3020.

EES:3030 Conservation Paleobiology 4 s.h.

Exploration of how near- and deep-time geologic record pertains to conservation; restoration targets; best practices for conservation of ecosystems; human impacts. Same as ENVS:3030.

EES:3040 Writing for the Earth and Environmental Sciences 1-3 s.h.

Practical methods of content creation across curriculum; effective communication to lay and academic audiences; methods of planning, drafting, revising, and editing everything from general articles of interest to scientific papers. Same as WRIT:3200.

EES:3050 Geology of Iowa 2 s.h.

Exploration of geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; background of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms, utilizing natural landscapes in Iowa. Same as ENVS:3050.

EES:3051 Geology of Iowa Field Trip 1 s.h.

Exploration of the geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; field-based examples of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms utilizing the natural landscapes in Iowa. Recommendations: EES:3050. Same as ENVS:3051.

EES:3070 Marine Ecosystems and Conservation 3 s.h.

Introduction to ocean ecosystems, including coral reefs, mangroves, estuaries and salt marshes, sandy and rocky shores, seagrass and kelp beds, the deep sea, plankton; biodiversity of each ecosystem; interrelationship of biota and physical/chemical environment; interactions among organisms, including food webs and symbiosis; local and global threats such as overfishing, pollution, ocean acidification, global warming, sea level change; ongoing biodiversity crisis, solutions for conservation problems.

EES:3080 Introduction to Oceanography 2 s.h.

Descriptive, chemical, physical, biological, geological aspects of oceans; impact on weather, climate, shorelines, food supply, other aspects of civilization. Offered spring semesters. Recommendations: knowledge of basic chemistry, biology, physics, earth science.

EES:3090 Topics in Museum Studies 1 s.h.

Systematic and analytic methods used for research in physical collections; tutorials in collection building, curation, and preservation; designed by members of the University of Iowa Collections Coalition. Same as MUSM:3090.

EES:3100 Introduction to Applied Remote Sensing 4 s.h.

Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Prerequisites: EES:1050 or EES:1080 or EES:1030. Same as ENVS:3100.

EES:3110 Chemical Evolution of the Oceans 3 s.h.

Investigation of various physicochemical states oceans have assumed over the past four billion years of Earth history; use of isotope geochemistry as a proxy for ancient ocean conditions; focus on integrated Earth system science, paleoceanographic and paleoclimate modeling, role of chemical stratigraphy in deciphering past climate states of ocean-atmosphere system; relationship between chemical changes in ocean/atmosphere and biological systems of the Earth. Same as ENVS:3110.

EES:3130 Career Path Planning for Earth and Environmental Sciences 1 s.h.

Opportunity to cultivate a sense of what employers deem as important skills beyond the technical requirements, develop a set of polished application materials and practice interviewing skills, and investigate a wide variety of potential career paths through interaction with department alumni.

- EES:3150 Sustainability Project** arr. Individual or collective project related to sustainability under the direction and supervision of a faculty member; involves regularly scheduled meetings, data collection and interpretation, and a final project report.
- EES:3160 Field Trip** 1-3 s.h. Field trip to an area of geologic interest, such as localities in the Midwest, Hawaii, Grand Canyon (Arizona), Rio Grande Rift (New Mexico), Death Valley (California, Nevada), Appalachian Mountains (Virginia), as well as international destinations such as the Caribbean and China; preceded by weekly discussions of destination's geology.
- EES:3190 Directed Study** arr. Special topics, independent research.
- EES:3200 Collection Care and Management** 3 s.h. How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as MUSM:3200.
- EES:3210 Principles of Paleontology** 3 s.h. Patterns of evolution in fossil record; species and analysis of their evolutionary relationships; paleoecology, paleocommunity evolution; evolutionary radiation and mass extinctions; large-scale relationships between biodiversity and climatic change. Offered fall semesters.
- EES:3220 Evolution of the Vertebrates** 3 s.h. Evolutionary history of vertebrates revealed by fossils and information from living animals; biogeographic, stratigraphic, paleoecological aspects of selected groups, especially mammals and dinosaurs; transitions from aquatic to terrestrial life, origins of flight, major events in vertebrate history (including mass extinctions and explosive radiations). Requirements: introductory course in geoscience or bioscience.
- EES:3260 Wetlands: Function, Geography, and Management** 3 s.h. Hydrological, geomorphological, and ecological processes and their interaction in wetlands; geographic differences in wetlands based on climate and hydrology; wetlands, lakes, and rivers; role of wetlands in drainage basin hydrology and flooding; values and valuation of wetlands; wetland law and wetland delineation; wetlands and water resources. Prerequisites: GEOG:2310 or GEOG:2374. Same as GEOG:3320.
- EES:3300 Sedimentary Geology** 4 s.h. Basic concepts of sedimentology, stratigraphy, depositional environments, sedimentary petrology; hands-on analyses of sediments and sedimentary rocks, including thin-section petrography; lecture/laboratory. Offered fall semesters.
- EES:3360 Soil Genesis and Geomorphology** 3 s.h. Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as GEOG:3360.
- EES:3380 Fluvial Geomorphology** 3 s.h. Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: EES:3020 or another 3000-level geology or hydraulics course. Same as CEE:3328.
- EES:3390 Integrated Watershed Analysis** 3 s.h. Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment; basin management issues related to forestry, agriculture, urbanization, floods, droughts.
- EES:3410 Analytical Methods** 2-3 s.h. Theory and practice of analyzing chemical, isotopic, and mineralogical compositions of rocks, organic materials, and waters; use of modern analytical instruments. Offered spring semesters. Prerequisites: EES:3500 and (PHYS:1512 or PHYS:1702) and CHEM:1070.
- EES:3500 Igneous and Metamorphic Petrology** 4 s.h. Nature, origin, and petrography of igneous and metamorphic rocks in hand specimen and thin-section. Offered spring semesters. Prerequisites: (MATH:1010 or MATH:0300 or MATH:0100) and (EES:1050 or EES:1030) and (CHEM:1110 or CHEM:1070) and EES:2410.
- EES:3770 Global Stratigraphy** 3 s.h. Types of stratigraphy (e.g., biostratigraphy, lithostratigraphy, sequence stratigraphy, chemostratigraphy, magnetostratigraphy, cyclostratigraphy, chronostratigraphy) that share a number of procedures and practices and how differences cloud understanding of Earth history; central role of stratigraphy in modern geoscience pursuits; issue of time in stratigraphic record as an organizing theme for investigation of comparative stratigraphy.
- EES:3840 Structural Geology** 4 s.h. Rock deformation; description, classification of geologic structures such as faults and folds; processes that generate geologic structures; solution of structural problems; interpretation of geologic maps. Prerequisites: EES:1030 or EES:1050.
- EES:4001 Fourth-Year Field Trip for Earth and Environmental Sciences** 2 s.h. Application of core course learning to real-world examples; students develop a broader understanding of interrelated aspects of earth and environmental sciences as truly integrated scientific endeavors; field trip to Big Bend National Park to highlight a wide range of geoscience and environmental science studies and provide students an opportunity to apply all aspects of their training to the amazing geologic landscape of southwest Texas; capstone field experience for students heading into their senior year. Prerequisites: EES:2831. Requirements: geoscience or environmental sciences major, and senior standing. Same as ENVS:4001.
- EES:4156 Scanning Electron Microscopy and X-Ray Microanalysis** arr. Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as ACB:4156, CBE:4156.

- EES:4200 Advanced Collection Care** 3 s.h.
Builds on MUSM:3200; types and materials of museum objects and their care; storage and preservation of paper, books, photographs, works of art, electronic media, textiles, furniture, archaeological artifacts, and natural history specimens; collections project and hands-on practice in preservation techniques, enclosures, and supports; for students planning museum careers or professions that require care of collections. Same as MUSM:4200.
- EES:4230 Special Topics** 1-3 s.h.
Contemporary issues in earth sciences.
- EES:4300 Quantitative Methods in the Geosciences** 3 s.h.
Quantitative data analysis and introduction to scientific computing in the geosciences.
- EES:4410 Analytical Methods Seminar** 2 s.h.
Theory and practice of analyzing chemical, isotopic, and mineralogical compositions of rocks, organic materials, and waters; use of modern analytical instruments. Offered spring semesters. Prerequisites: (PHYS:1512 or PHYS:1702) and CHEM:1070.
- EES:4420 Vertebrate Osteology and Phylogeny** 3 s.h.
Anatomy of the vertebrate skeleton from developmental, functional, and phylogenetic perspectives; relationship between skeletal, muscular, and nervous systems; history of the skeleton through modern forms; lecture and laboratory. Prerequisites: EES:3220 or ANTH:3305.
- EES:4440 Phylogenetics and Biodiversity** 3 s.h.
Methods available for reconstructing evolutionary history and measuring biodiversity, including distance, parsimony, likelihood, and taxic approaches; applications to molecular and morphological systematics, historical biogeography, study of diversity through time. Prerequisites: EES:1040 or (BIOL:1411 and BIOL:1412) or EES:3210.
- EES:4490 Elements of Geochemistry** 3 s.h.
Introduction to application of chemical principles to solution of geologic problems concerning earth and environmental processes; origin of elements, chemical differentiation of Earth and the solar system, geochronology, application of radiogenic and stable isotopes, chemical equilibrium, elementary thermodynamics and kinetics, carbonate and silicate stability relationships, chemical weathering, adsorption, trace element behavior, oxidation-reduction reactions, characterization of surface and ground waters, and ocean chemistry. Prerequisites: (EES:1030 or EES:1050) and (CHEM:1070 or CHEM:1110).
- EES:4520 Isotope Geochemistry** 3 s.h.
Radiogenic and stable isotope systematics, applications to geological, cosmological, and environmental problems.
- EES:4530 Volcanology** 3 s.h.
Comprehensive overview of the process of volcanism; principles of physical volcanology. Prerequisites: EES:2410 and EES:3500.
- EES:4620 Approaches to Geoarchaeology** 3 s.h.
Geoarchaeology as multidisciplinary contextual framework for human paleoecology; natural processes that create the archaeological record, approaches to reconstructing landscapes of the past as a context for archaeological deposits; weekend field trip. Prerequisites: EES:3360 or EES:4720. Same as ANTH:4620.
- EES:4630 Hydrogeology** 3 s.h.
Role of groundwater in water cycle, subsurface water profile, aquifers and aquitards, basic principles and laws of physical and chemical processes of groundwater flow and contaminant transport in geological formations for sustainable development and protection of groundwater resources; groundwater geology and hydrology, regional aquifer systems, well hydraulics, slug/bail and pumping test and their analyses, groundwater contamination and remediation, management and sustainability of groundwater resources.
- EES:4660 Groundwater Modeling** 3 s.h.
Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: MATH:1860 and (EES:4630 or CEE:4103). Same as CEE:4104.
- EES:4680 Field Methods in Hydrologic Science** 3 s.h.
Collection and interpretation of physical hydrology and hydraulics field measurements; basic data quality assurance and quality control; hands-on experience with field equipment and data collection. Prerequisites: EES:4720 or EES:2831 or EES:3020 or EES:3360 or EES:3300 or EES:3380 or ENGR:2510 or EES:4800 or EES:4630 or CEE:3371 or EES:4790 or EES:3390 or EES:3020.
- EES:4700 Evolution of Ecosystems** 3 s.h.
Evolutionary history of terrestrial and marine ecosystems; ecological processes from population to ecosystem levels; community assembly, trophic levels, networks, biodiversity dynamics; practical aspects of paleoecological data collection, statistical analysis, modeling. Requirements: two courses in geoscience, biology, environmental sciences, anthropology, or geography. Same as ENVS:4700.
- EES:4710 Evolution of Plants** 3 s.h.
Evolutionary history of plants over geologic time: relationships, morphology, and fossil record of major plant lineages; patterns and processes in evolution of plant morphology and diversity; ecological innovations and evolution of terrestrial ecosystems; relationships between biotic and environmental change; paleobotanical tools in stratigraphy, paleoclimatology, sedimentology; practical aspects of paleobotanical data collection, statistical analysis, modeling; field trip. Requirements: two courses in geoscience, anthropology, biology, environmental science, or geography.
- EES:4720 Glacial and Pleistocene Geology** 3 s.h.
Introduction to glaciers and glacial and interglacial Earth systems; linkages among glacial, oceanic, and atmospheric systems and their effects on landscapes and biota over the past two million years; how oceans, atmosphere, and glaciers interact and landscape effects of past glacial and interglacial cycles. Requirements: physical geology or physical geography or anthropology.
- EES:4750 Mineral and Petroleum Exploration Geology** 3 s.h.
Fundamentals of resource exploration philosophy and methods, with project-based presentation of techniques and strategies for mineral exploration and petroleum exploration; integration and evaluation of geological, geochemical, and geophysical techniques for mineral exploration; hydrocarbon systems and seismic interpretation for petroleum exploration. Corequisites: EES:3500 and EES:3840.

- EES:4790 Engineering Geology** 3 s.h.
Application of geology, water, and earth processes to civil and environmental engineering practice; physical properties of rock and soil, geologic mapping and surveying, groundwater supplies and wells, stream engineering, watershed management, site investigations for environmental assessment, and geologic hazards. Prerequisites: EES:1030 or EES:1080 or EES:1050.
- EES:4800 Solid Earth Geophysics** 3 s.h.
Geophysics is the broad geoscience field interested in discovering the unseen characteristics of the Earth and other planets, including the internal structure of the Earth, the current motions of tectonic plates, the sources and causes of geological disasters, and the locations of economic resources; methods to accomplish these goals include seismology, gravity and magnetic studies, geodesy, and measurements of heat; course offers a broad introduction to these topics that is rooted in current and growing fields of active research. Requirements: introductory geology or physics.
- EES:4820 Tectonics and Basin Analysis** 3 s.h.
Dynamic processes responsible for crustal genesis, plate movements, mountain building; plate boundary zones; sedimentologic, structural, petrologic, geophysical characteristics of major tectonic settings; multidisciplinary approach; week-long field trip. Corequisites: EES:3840.
- EES:4832 Geologic Field Analysis** 3 s.h.
Structural, stratigraphic, and regional analysis of geology in the Rocky Mountains of Montana; emphasis on making reasonable geologic interpretations from field relationships; mapping projects in vicinity of Dillon, Montana that build on experience gained in EES:2831; capstone experience dedicated to synthesizing the geology of a fold-and-thrust belt near Glacier National Park. Offered summer session. Prerequisites: EES:2831 and EES:3840.
- EES:4870 Applied Geostatistics** 3 s.h.
Applications of geostatistical methods to geology, geography, hydrology, environmental sciences, and engineering; variogram, Kriging, analysis of spatial-varied data with varied computer software in participants' specialties. Same as GEOG:4870.
- EES:4990 Senior Thesis in Geoscience** arr.
Independent research resulting in a senior thesis. Requirements: senior standing.
- EES:4999 Honors Thesis in Geoscience** arr.
Independent research resulting in an honors thesis. Requirements: honors standing.
- EES:5010 Geoscience Seminar Series** 1 s.h.
Scholarly work and research in geoscience.
- EES:5015 American Association of Petroleum Geologists Fall Field Trip** 1 s.h.
Resource-related topics in mineral and hydrocarbon exploration; joint field trip with Iowa State University. Requirements: AAPG student chapter member or graduate standing, and basic understanding of mineralogy, petrology, and structural geology.
- EES:5070 Geologic Orientation** arr.
Department degree requirements, programs; field survey of local geology; tips for TAs; introduction to specialized facilities; for new graduate students.
- EES:5250 Environmental Seminar** 1 s.h.
Environmental topics selected by student and instructor.
- EES:5330 Carbonate Petrology** 2 s.h.
Identification of constituents and interpretation of genesis, structures, environments of formation, and patterns and processes of diagenesis in limestones; laboratory-based. Requirements: familiarity with optical microscope and sedimentation principles.
- EES:5350 Depositional Environments** 3-4 s.h.
Modern patterns of sedimentation; emphasis on interpreting depositional environments of ancient sedimentary rocks and deciphering resulting stratigraphic patterns. Requirements: knowledge of basic sedimentary geology and paleontology.
- EES:5380 Process Geomorphology Seminar** 1-3 s.h.
Topics in process geomorphology ranging from fluvial dynamics to mass movement to sediment transport and related environmental processes.
- EES:5530 Geochronology** 3 s.h.
How to evaluate published ages, and assumptions/errors involved; how to select and sample suitable materials for dating, and choose a suitable dating method and analytical technique; opportunity to develop skills for research and professional careers. Prerequisites: EES:4490 or EES:4520.
- EES:5550 Metamorphic Petrology** 3 s.h.
Interpretation of metamorphic rocks using hand specimens, thin sections, field relationships, mineralogical composition, texture, geochronology, isotope geochemistry, thermodynamics, kinetics, and tectonic setting; phase equilibria in pelitic, mafic, and carbonate rocks; thermobarometry, petrogenetic grids, P-T-X relationships, and pseudosections; kinetic models of metamorphic textures, heat-flow modeling, P-T-t paths, and tectonic evolution of metamorphic rocks. Prerequisites: EES:3500.
- EES:6250 Paleontology Seminar** 1-3 s.h.
Current controversial issues in paleontology. Recommendations: EES:3210.
- EES:6390 Advanced Watershed Analysis Seminar** 1-3 s.h.
Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment, and basin management issues related to forestry, agriculture, urbanization, floods, droughts.
- EES:6570 Tectonics and Petrology Seminar** 1-2 s.h.
Topics in tectonics, structural geology, petrology.
- EES:6920 Advanced Structural Geology** 3 s.h.
Kinematic and dynamic analysis of deformed rocks; microstructural analysis; strain analysis, field investigations of highly deformed rocks. Prerequisites: EES:3840.
- EES:7270 Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research** 1 s.h.
Department degree requirements, programs; field survey of local geology; scholarly integrity; responsible conduct of research; tips for TAs; introduction to specialized facilities; for new graduate students.
- EES:7604 Principles of Scholarly Integrity** 0 s.h.
Training in responsible conduct of research and scholarly activities; student/mentor responsibilities, authorship, plagiarism/falsification/fabrication of data, intellectual property, conflict of interest; fiscal, institutional, and societal; data handling. Requirements: postdoctoral standing in geoscience.

EES:7990 Research: Geoscience

arr.

Independent research related to theses or dissertations in geoscience.

Geoscience, B.A.

Learning Outcomes

Geoscience graduates will:

- understand the structure, composition, and physical processes of the Earth;
- understand the coevolution of the Earth-Life System;
- have the ability to interpret the geologic record in the field;
- understand how to assess and utilize our natural resources in a sustainable manner; and
- develop a quantitative analytical skill set to integrate the diverse array of Earth sciences and related disciplines.

Overview

The geoscience degree offers students an extensive and comprehensive background in the Earth sciences and related scientific disciplines. Strengths of the department include environmental geology, geochemistry, geophysics, paleontology, stratigraphy, tectonics and basin analysis, surficial processes, and volcanology. Students gain extensive field experience and training and are able to integrate field and analytical research. Opportunities are provided for field experience and individual research locally, regionally, and internationally.

Requirements

The Bachelor of Arts with a major in geoscience requires a minimum of 120 s.h., including at least 55 s.h. of work for the major (at least 39 s.h. in earth and environmental sciences courses and at least 16 s.h. in supporting disciplines). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must complete a minimum of 15 s.h. of course work in the Department of Earth and Environmental Sciences.

The geoscience major for the B.A. is designed to provide students with a varied background in geology and a broader choice of electives than is practical in the Bachelor of Science program. The major for the Bachelor of Arts is intended for students who are interested in the fundamentals of geology or earth science teaching (see "Teacher Licensure" below). Completing the minimum requirements for this degree may not adequately prepare a student for an entry-level professional job in geology.

The department recommends that students fulfill the GE CLAS Core World Languages requirement with French, German, Russian, or Spanish and the Social Sciences requirement with approved course work in economics, geography, or anthropology.

The B.A. with a major in geoscience requires the following course work.

Code	Title	Hours
	Earth and Environmental Sciences Required Courses	24-28
	Earth and Environmental Sciences Electives	12
	Mathematics Courses	10
	Chemistry Courses	6-8

Field Requirement	3-4
Total Hours	55-62

Earth and Environmental Sciences Required Courses

Code	Title	Hours
These two:		
EES:2200	Historical Geology	4
EES:2410	Mineralogy	4
One of these:		
EES:1030	Introduction to Earth Science	4
EES:1050	Introduction to Geology	4
One or both of these:		
EES:1040	Evolution and the History of Life	4
EES:3210	Principles of Paleontology	3
At least three of these:		
EES:3300	Sedimentary Geology	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4630	Hydrogeology	3
And:		
Earth and environmental sciences electives numbered EES:3000 or above		12

Mathematics

Students must complete the following course work in mathematics.

Code	Title	Hours
	College-level mathematics (may include computer science and statistics)	10

Chemistry

Students must complete at least two college-level chemistry courses as a sequence, as follows. Chemistry courses numbered below CHEM:1070 General Chemistry I do not count toward this requirement.

Code	Title	Hours
One of these sequences:		
CHEM:1070 & CHEM:1080	General Chemistry I-II	6
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8

Field Requirement

To complete the major, students must have field experience. They may take at least 4 s.h. of EES:1180 Geology Field Trip: Selected National Parks and/or EES:3160 Field Trip to satisfy this requirement. Either course may be repeated and/or combined to fulfill the necessary semester hours. Or they may take one semester of EES:2831 Geologic Field Methods or the Iowa Lakeside Laboratory [p. 1822] session.

Code	Title	Hours
EES:1180	Geology Field Trip: Selected National Parks	2
EES:2831	Geologic Field Methods	3
EES:3160	Field Trip	2

One natural science session at Iowa Lakeside Laboratory for a minimum of 3 s.h.

Independent Research Option for Geoscience Majors

A junior or senior who is ready to pursue independent research for credit in geoscience may assist a faculty member or graduate student with a current research project in EES:2190 Directed Study or may initiate a small-scale project involving a combination of field, laboratory, and library investigation in EES:3190 Directed Study. Independent study is encouraged and may lead to an honors thesis in EES:4999 Honors Thesis in Geoscience or a senior thesis in EES:4990 Senior Thesis in Geoscience that may be published subsequently.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning section of the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all University of Iowa course work and in all geoscience courses. Students must complete a senior thesis, registering in EES:4999 Honors Thesis in Geoscience. They must obtain approval of their honors thesis contract from their advisor and the department's undergraduate committee, and they must earn a grade of B or higher in EES:4999.

National Honor Society

The department sponsors a chapter of Sigma Gamma Epsilon National Honor Society for the Earth Sciences. Students with an overall g.p.a. of at least 2.80 and at least 3.20 in geoscience courses are considered for membership after they have completed a minimum of 16 s.h. of course work in geoscience. Consult the departmental honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geoscience major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

These checkpoints show the range of required course work; the Bachelor of Arts requires a minimum of 17 courses.

The major requires field trip experiences, many of which take place during breaks in or between semesters or during the summer session. These checkpoints do not include the field trip requirements.

Before the third semester begins: competence in math through trigonometry and the first required chemistry course

Before the fifth semester begins: three to five courses in the major, including the remainder of the chemistry requirement and continuation of the mathematics requirement

Before the seventh semester begins: 7-11 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 10-14 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Geoscience, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
While only one field course is required, students are encouraged to participate in additional field experiences, whenever possible.		
Hours		0
First Year		
Fall		
EES:1050 or EES:1030	Introduction to Geology or Introduction to Earth Science	4

CHEM:1070	General Chemistry I ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: math/statistics/computer science course ^{a, b}		3 - 4
CS:1600	Success at Iowa	2
	Hours	15-17

Spring

EES:2200	Historical Geology	4
CHEM:1080	General Chemistry II	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: math/statistics/computer science course ^b		3 - 4
GE CLAS Core: Diversity and Inclusion ^c		3
	Hours	16-18

Summer

EES:2831	Geologic Field Methods	3
	Hours	3

Second Year**Fall**

EES:2410	Mineralogy	4
EES:3210 or EES:1040	Principles of Paleontology or Evolution and the History of Life	4
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
	Hours	15-16

Spring

Major: geoscience "choose three" course ^f		3 - 4
Major: math/statistics/computer science course ^b		4
GE CLAS Core: Values and Culture ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-16

Third Year**Fall**

Major: geoscience "choose three" course ^f		3 - 4
GE CLAS Core: International and Global Issues ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^g		3
Elective course ^g		1 - 3
	Hours	14-18

Spring

Major: geoscience "choose three" course ^f		3 - 4
GE CLAS Core: Social Sciences ^c		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^g		3
Elective course ^g		1 - 3
	Hours	14-18

Fourth Year**Fall**

Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3

Elective course ^g	3
Elective course ^g	1 - 3
Hours	13-17

Spring

Major: geoscience elective course prefix EES numbered 3000 or above	3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above	3 - 4
Elective course ^g	3
Elective course ^g	3
Elective course ^g	3
Hours	15-17
Total Hours	119-140

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students must complete 10 s.h. in college-level mathematics courses (may include computer science and statistics). Students should choose at least one course that will also complete the Quantitative or Formal Reasoning GE CLAS Core requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d If EES:1040 is chosen, it must be taken with the lab for 4 s.h.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Choose from EES:3300, EES:3360, EES:3380, EES:3500, EES:3840, or EES:4630.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

The geoscience major is designed to prepare students for immediate employment after graduation or for admission to graduate study in earth and environmental sciences, public policy, environmental engineering, law, business, archaeology, science education, oceanography, or other allied fields. Nearly all University of Iowa geoscience graduates gain employment or move on to graduate programs following completion of their degree.

Graduates are typically employed in environmental service or corporations/consultancy; local, state, and federal agencies, such as geological surveys; education; conservation agencies; urban planning; natural resource evaluation and utilization; water resource management; nonprofit organizations; resource and research institutes; and ecotourism. Companies such as ExxonMobil routinely recruit Iowa graduates on campus.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Geoscience, B.S.

Learning Outcomes

Geoscience graduates will:

- understand the structure, composition, and physical processes of the Earth;
- understand the coevolution of the Earth-Life System;
- have the ability to interpret the geologic record in the field;
- understand how to assess and utilize our natural resources in a sustainable manner; and
- develop a quantitative analytical skill set to integrate the diverse array of Earth sciences and related disciplines.

Overview

The geoscience degree offers students an extensive and comprehensive background in the Earth sciences and related scientific disciplines. Strengths of the department include environmental geology, geochemistry, geophysics, paleontology, stratigraphy, tectonics and basin analysis, surficial processes, and volcanology. Students gain extensive field experience and training and are able to integrate field and analytical research. Opportunities are provided for field experience and individual research locally, regionally, and internationally.

Requirements

The Bachelor of Science with a major in geoscience requires a minimum of 120 s.h., including at least 74 s.h. of work for the major (at least 43 s.h. in earth and environmental sciences courses and at least 31 s.h. in supporting disciplines). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must complete a minimum of 15 s.h. of course work in the Department of Earth and Environmental Sciences.

The department recommends that students fulfill the GE CLAS Core World Languages requirement with French, German, Russian, or Spanish and the Social Sciences requirement with approved course work in economics, geography, or anthropology.

The B.S. with a major in geoscience requires the following course work.

Code	Title	Hours
	Earth and Environmental Sciences Courses	43-44
	Mathematics Courses	11-12
	Chemistry Courses	8
	Physics Courses	8
	Biology Course	4
	Independent Research Option	
Total Hours		74-76

Earth and Environmental Sciences

Code	Title	Hours
One of these:		
EES:1030	Introduction to Earth Science	4
EES:1050	Introduction to Geology (preferred)	4
All of these:		
EES:1040	Evolution and the History of Life	4
EES:2200	Historical Geology	4
EES:2410	Mineralogy	4
EES:2831	Geologic Field Methods	3
EES:3300	Sedimentary Geology	4
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4832	Geologic Field Analysis	3
One of these:		
EES:3210	Principles of Paleontology	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	3
EES:4790	Engineering Geology	3
EES:4800	Solid Earth Geophysics	3
And:		
At least two earth and environmental sciences electives numbered EES:3000 or above; see "Recommended Electives" below		6-7

Mathematics

Code	Title	Hours
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
And:		
An additional mathematics course numbered MATH:2000 or above, or a computer science course numbered CS:1110 or above, or a statistics course numbered STAT:2010 or above		3-4

Chemistry

Students must complete at least 8 s.h. of college-level chemistry, including the following sequence or equivalent courses or more advanced courses. Chemistry courses numbered below CHEM:1110 Principles of Chemistry I do not count toward this requirement.

Code	Title	Hours
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8

Physics

Students must complete at least 8 s.h. of college-level physics, as follows. Physics courses numbered below PHYS:1511 College Physics I do not count toward this requirement.

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

Biology

Students must complete at least one biology course that includes a laboratory (4 s.h.). Students with an interest in paleontology are encouraged to take BIOL:1411 Foundations of Biology and BIOL:1412 Diversity of Form and Function.

Code	Title	Hours
One biology course (includes a lab)		4

Recommended Electives

All students should take elective courses from the following groups in order to broaden their undergraduate experience and prepare themselves for graduate study or professional employment. Students who have clear career goals are advised to take three or more elective courses from the group that fits their needs most closely. Students also may seek a broad education in geoscience by choosing elective courses from a number of groups.

Quaternary Geology

Code	Title	Hours
EES:3020	Earth Surface Processes	3
EES:3100	Introduction to Applied Remote Sensing	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4620	Approaches to Geoarchaeology	3
EES:4630	Hydrogeology	3
EES:4720	Glacial and Pleistocene Geology	3
EES:4790	Engineering Geology	3
EES:4870	Applied Geostatistics	3

Environmental Geology

Code	Title	Hours
EES:1400	Natural Disasters	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3100	Introduction to Applied Remote Sensing	4
EES:3380	Fluvial Geomorphology	3

EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	3
EES:4680	Field Methods in Hydrologic Science	3
EES:4790	Engineering Geology	3
EES:4800	Solid Earth Geophysics	3
EES:4870	Applied Geostatistics	3

Geochemistry

Code	Title	Hours
EES:3410	Analytical Methods	2
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	3
EES:4820	Tectonics and Basin Analysis	3
EES:4870	Applied Geostatistics	3

Tectonics/Petrology

Code	Title	Hours
EES:1400	Natural Disasters	3
EES:3410	Analytical Methods	2
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4750	Mineral and Petroleum Exploration Geology	3
EES:4800	Solid Earth Geophysics	3
EES:4820	Tectonics and Basin Analysis	3

Sedimentary Geology

Code	Title	Hours
EES:3080	Introduction to Oceanography	2
EES:3300	Sedimentary Geology	4
EES:3380	Fluvial Geomorphology	3
EES:3770	Global Stratigraphy	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4750	Mineral and Petroleum Exploration Geology	3
EES:4820	Tectonics and Basin Analysis	3

Paleobiology

Code	Title	Hours
EES:3030	Conservation Paleobiology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3210	Principles of Paleontology	3
EES:3220	Evolution of the Vertebrates	3
EES:3300	Sedimentary Geology	4
EES:3770	Global Stratigraphy	3
EES:4420	Vertebrate Osteology and Phylogeny	3

EES:4440	Phylogenetics and Biodiversity	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4700	Evolution of Ecosystems	3
EES:4710	Evolution of Plants	3
EES:4820	Tectonics and Basin Analysis	3

Independent Research Option

A junior or senior who is ready to pursue independent research for credit in geoscience may assist a faculty member or graduate student with a current research project EES:2190 Directed Study or may initiate a small-scale project involving a combination of field, laboratory, and library investigation in EES:3190 Directed Study. Independent study is encouraged and may lead to an honors thesis in EES:4999 Honors Thesis in Geoscience or a senior thesis in EES:4990 Senior Thesis in Geoscience that may be published subsequently.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning section of the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all University of Iowa course work and in all geoscience courses. Students must complete a senior thesis, registering in EES:4999 Honors Thesis in Geoscience. They must obtain approval of their honors thesis contract from their advisor and the department's undergraduate committee, and they must earn a grade of B or higher in EES:4999.

National Honor Society

The department sponsors a chapter of Sigma Gamma Epsilon National Honor Society for the Earth Sciences. Students with an overall g.p.a. of at least 2.80 and at least 3.20 in geoscience courses are considered for membership after they have completed a minimum of 16 s.h. of course work in geoscience. Consult the departmental honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geoscience major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

These checkpoints show the range of required course work; the Bachelor of Science requires a minimum of 19 courses.

The major requires field trip experiences, many of which take place during breaks in or between semesters or during the summer session. These checkpoints do not include the field trip requirements.

Before the third semester begins: competence in math through trigonometry and the first required chemistry course

Before the fifth semester begins: three to five courses in the major, including the remainder of the chemistry requirement and continuation of the mathematics requirement

Before the seventh semester begins: 7-11 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 10-14 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Geoscience, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
While only two field courses are required, students are encouraged to participate in additional field experiences, whenever possible.		
Hours		0
First Year		
Fall		
EES:1030 or EES:1050	Introduction to Earth Science or Introduction to Geology	4
CHEM:1110	Principles of Chemistry I ^{b, c}	4
MATH:1850	Calculus I ^{b, d}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

CSI:1600	Success at Iowa	2
	Hours	17-18
Spring		
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
EES:2200	Historical Geology	4
CHEM:1120	Principles of Chemistry II	4
MATH:1860	Calculus II	4
	Hours	15-16
Summer		
EES:2831	Geologic Field Methods	3
	Hours	3
Second Year		
Fall		
EES:2410	Mineralogy	4
EES:1040	Evolution and the History of Life	4
PHYS:1611	Introductory Physics I	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
	Hours	16-17
Spring		
EES:3500	Igneous and Metamorphic Petrology	4
PHYS:1612	Introductory Physics II	4
GE CLAS Core: Values and Culture ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	15-16
Third Year		
Fall		
EES:3300	Sedimentary Geology	4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
GE CLAS Core: Historical Perspectives ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-16
Spring		
EES:3840	Structural Geology	4
Major: biology lab science course (prefix BIOL)		4
GE CLAS Core: Social Sciences ^f		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
	Hours	15-16
Summer		
EES:4832	Geologic Field Analysis	3
	Hours	3
Fourth Year		
Fall		
Major: math/statistics/computer science course ^g		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
GE CLAS Core: International and Global Issues ^f		3
Elective course ^h		1 - 3
	Hours	13-17

Spring

Major: geoscience "select one" course ⁱ	3 - 4
GE CLAS Core: Diversity and Inclusion ^f	3
Elective course ^h	3
Elective course ^h	3
Elective course ^h	3
Hours	15-16
Total Hours	126-138

- a EES:1050 is preferred.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in chemistry courses requires completion of a placement exam.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Choose from: a course in prefix MATH numbered 2000 or above, a course in prefix CS numbered 1110 or above, or a course in prefix STAT numbered 2010 or above.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i Choose from EES:3210, EES:4490, EES:4630, EES:4790, or EES:4800.

Career Advancement

The geoscience major is designed to prepare students for immediate employment after graduation or for admission to graduate study in earth and environmental sciences, public policy, environmental engineering, law, business, archaeology, science education, oceanography, or other allied fields. Nearly all University of Iowa geoscience graduates gain employment or move on to graduate programs following completion of their degree.

Graduates are typically employed in environmental service or corporations/consultancy; local, state, and federal agencies, such as geological surveys; education; conservation agencies; urban planning; natural resource evaluation and utilization; water resource management; nonprofit organizations; resource and research institutes; and ecotourism. Companies such as ExxonMobil routinely recruit Iowa graduates on campus.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Geoscience, Minor

The undergraduate minor in geoscience requires a minimum of 15 s.h. in earth and environmental sciences courses, including 12 s.h. in courses considered advanced for the minor offered by the Department of Earth and Environmental Sciences at the University of Iowa. EES:2410 Mineralogy, EES:2831 Geologic Field Methods, and all earth and environmental sciences courses numbered 3000 or above are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

College-level courses in mathematics, physics, chemistry, and biology usually are required as collateral work for geoscience students. Those seeking a minor in geoscience should be sufficiently prepared in the areas of supporting sciences before they take advanced courses in geoscience.

Recommended advanced courses in earth and environmental sciences that deal with important areas of earth materials and earth processes are as follows.

Code	Title	Hours
EES:2410	Mineralogy	4
EES:2831	Geologic Field Methods	3
EES:3020	Earth Surface Processes	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3210	Principles of Paleontology	3
EES:3300	Sedimentary Geology	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4490	Elements of Geochemistry	3
EES:4790	Engineering Geology	3
EES:4800	Solid Earth Geophysics	3
EES:4820	Tectonics and Basin Analysis	3

Geoscience, M.S.

The M.S. degree in geoscience is regarded by most hiring agencies as the working degree. The master's program in geoscience prepares students for employment in industry or for doctoral study.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Requirements

The Master of Science program in geoscience requires a minimum of 30 s.h. of graduate credit. Students may count up to 8 s.h. of research credit toward the 30 s.h. required for the degree. They must earn at least 24 s.h. toward the degree in University of Iowa courses taken after they enroll in the program. Throughout their graduate study, students must maintain a g.p.a. of at least 3.00 in all course work required for their degree and in all graduate-level geoscience course work. Students whose grade-point average drops below 3.00 are placed on academic probation.

All entering students are required to enroll in EES:5070 Geologic Orientation during the fall semester of their first year in the graduate program. Students also must complete EES:5010 Geoscience Seminar Series each semester until they defend their thesis.

During the second semester of study, each student should propose an advisory committee of at least three faculty members to the department chair for approval. Thesis students are responsible for obtaining their advisory committee's approval of a suitable program of course work and for satisfactory development of research plans as outlined in a thesis proposal, which should be completed and approved by the department chair before the end of the second semester of full-time study. The thesis typically has depth and breadth similar to those of a published research paper. Thesis students must deliver a half-hour public presentation of their thesis, followed by an oral defense.

Students are encouraged to present their research at local, regional, national, or international meetings. The department provides partial funding for travel to such meetings.

Detailed information about graduate degree requirements and timelines for making satisfactory progress toward a degree is available under "Graduate Student Guidelines" on the Department of Earth and Environmental Sciences Graduate Program web page.

Admission

All geoscience graduate students must meet the admission and degree requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College (particularly sections IX, X, and XII). They also should acquaint themselves with the University calendar, for deadline dates and so forth.

Career Advancement

Career opportunities are readily available for geoscience graduates. Professional geologists work in resource companies, environmental corporations, educational institutions, conservation agencies, urban planning, state and federal geological surveys, and government resource and research organizations. Companies such as ExxonMobil routinely recruit Iowa graduates on campus.

Geoscience, Ph.D.

A Ph.D. degree in geoscience is designed to bring students to the forefront of a specialized area of geoscience for future employment in higher education or in industry or government research.

Requirements

The Doctor of Philosophy program in geoscience requires a minimum of 72 s.h. of graduate credit. The Ph.D. requires a dissertation, which has the approximate research content of three published papers. Throughout their graduate study, Ph.D. students must maintain a g.p.a. of at least 3.00 in all course work required for their degree and in all graduate-level geoscience course work. Students whose grade-point average drops below 3.00 are placed on academic probation.

Students usually enter the program with established fields of interest and a research advisor already selected. Under exceptional circumstances, a student may be admitted to the Ph.D. program without an established field of interest.

Entering students must consult with a research advisor or the department's director of graduate study before they enroll in courses. By the first month of their second semester of doctoral study, all students must select an advisor. Each student also must select a thesis topic and forward it to the department chair for approval by the end of the first month of the second semester of doctoral study.

Within broad limits, students should select courses that reflect their individual needs, interests, and talents; their advisor and advisory committee must approve their course selections.

During the second semester of doctoral study, each student should propose an advisory committee of at least five faculty members to the department chair for approval. Before the end of the second semester, students must obtain their committee's approval of a suitable plan of study to be submitted to the department chair for approval. In consultation with the advisor and other faculty members, each doctoral candidate prepares a formal dissertation proposal approved by their committee and submitted to the department chair for approval by the end of the candidate's third semester of doctoral study.

Students are required to include in their plan of study at least 18 s.h. of regular course work taught by tenured or tenure-track faculty members in the Department of Earth and Environmental Sciences. Students must earn the 18 s.h. after being admitted to and enrolling in the Ph.D. program. Directed study and research credit do not count toward the required 18 s.h.

All entering students are required to enroll in EES:5070 Geologic Orientation during the fall semester of their first year in the graduate program. Students must enroll in EES:5010 Geoscience Seminar Series each semester they are registered until they successfully defend their dissertation, or for two consecutive semesters after the semester in which they pass their comprehensive examination, whichever comes first.

After earning their first 24 s.h. of graduate credit, students must be enrolled at least two consecutive semesters in full-time study (at least 9 s.h. per semester) at the University of Iowa; or they must be enrolled three consecutive semesters for at least 6 s.h. per semester at the University, during which time they hold at least a one-quarter-time assistantship that

is certified by the department as contributing to their doctoral program.

Students should complete most of their course work before taking the comprehensive examination, which consists of both written and oral portions and which must be passed before the end of the fourth semester of doctoral study.

Once candidates have passed the comprehensive examination, they are required to register each semester until they receive the degree. Those who have completed their plan of study may register for GRAD:6002 Doctoral Continuous Registration or GRAD:6003 Doctoral Final Registration.

Students must submit their written dissertation to the committee at least two weeks before the final examination. All candidates must deliver a one-hour public presentation associated with the dissertation defense. They also are required to submit a manuscript presenting the results of their graduate research to a refereed journal or other publication approved by the department chair before they may defend their dissertation.

Students are encouraged to present their research at local, regional, national, or international meetings. The department provides partial funding for travel to such meetings.

Detailed information about graduate degree requirements and timelines for making satisfactory progress toward a degree is available under "Graduate Student Guidelines" on the Department of Earth and Environmental Sciences Graduate Program web page.

Admission

All geoscience graduate students must meet the admission and degree requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College (particularly sections IX, X, and XII). They also should acquaint themselves with the University calendar, for deadline dates and so forth.

Career Advancement

The doctoral degree is required for college and university faculty positions and for some research positions in industry.

Career opportunities are readily available for geoscience graduates. Professional geologists work in resource companies, environmental corporations, educational institutions, conservation agencies, urban planning, state and federal geological surveys, and government resource and research organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

English

Chair

- Claire Fox

Undergraduate majors: English (B.A.); English and creative writing (B.A.)

Undergraduate minor: English

Graduate degrees: M.A. in English; M.F.A. in English (creative writing, nonfiction writing); Ph.D. in English

Faculty: <https://english.uiowa.edu/people>

Website: <https://english.uiowa.edu>

The Department of English offers courses in literature, cultural studies, language, and critical and creative writing. In these courses, students read poetry, fiction, essays, criticism, and theory to acquire methods for understanding literature and culture and respond creatively to the texts. In addition to providing these essential elements of a liberal arts and sciences education, the department's courses can augment students' specialized interests in other fields. Visit the Department of English website to learn more about courses and upcoming events.

Many undergraduate and graduate students enroll in the department's degree programs. Most Ph.D. students in English are preparing for careers as teachers and scholars, and many M.F.A. students in the creative writing program and the nonfiction writing program are preparing for lives as published writers. The B.A. and M.A. programs provide valuable training for careers in a variety of fields. Students who have earned English degrees from the University of Iowa write for advertising firms, newspapers, the entertainment industry and book publishers; teach in primary and secondary schools; practice law and medicine; work in business, industry, and nonprofits; and participate in state and federal government. Many students who earn a B.A. go on to pursue a M.F.A. in creative writing fields. As much as possible, each student's course of study is arranged to meet individual needs and objectives.

The Department of English participates in several of the University's interdisciplinary units: the Departments of American Studies, Cinematic Arts, and Gender, Women's, and Sexuality Studies; the African American Studies Program; the Native American and Indigenous Studies Program; the Comparative Literature Program; and the Center for the Book.

Creative Writing Programs

For the past 75 years, the University of Iowa has been a national leader in all areas of creative writing. The University offers graduate degrees in creative writing, with specializations in fiction, nonfiction, and poetry. Undergraduate students may declare a major in English and creative writing or in English with a writing specialization. All qualified undergraduates in other majors may enroll in many of the creative writing courses offered by the Department of English.

View creative writing courses (prefixes CW, CNW, and ENGL) under Courses [p. 357] in this section of the Catalog. See which ones are offered in certain semesters by searching for course subjects CW, CNW, and ENGL on the MyUI Courses page.

GE CLAS Core

All students earning a degree from the College of Liberal Arts and Sciences, except English majors, must take ENGL:1200

The Interpretation of Literature in the GE CLAS Core [p. 459]. English majors should substitute a course from the Literary, Visual, and Performing Arts area of the GE CLAS Core, excluding MUS:1020 Performance Instruction for Nonmajors and DANC:1010 Beginning Tap through DANC:2040 Intermediate Modern.

The Interpretation of Literature (ENGL:1200), or its equivalent by examination or as a transfer course, is prerequisite for courses ENGL:1320 Heroes and Villains through ENGL:1350 Literature and Sexualities. The pass/nonpass option is available only for students in the Colleges of Nursing and Engineering with consent of a student's advisor and the instructor.

Department of English Opportunities

Several periodicals are published under the department's aegis. The Iowa Review, Walt Whitman Quarterly Review, and Philological Quarterly offer opportunities for especially qualified graduate students to work as research assistants or editorial associates, and pursue some undergraduate volunteer opportunities.

The Department of English, the Nonfiction Writing Program, and the Iowa Writers' Workshop sponsor a rich and extensive series of readings and lectures by poets, fiction writers, and scholars, all open to students in the department.

The English Society, a student organization for those interested in English literature, creative writing, and related areas, is open to all students and organizes events of interest throughout the year. The Department of English also collaborates with Alpha Tau Iota, the University of Iowa chapter of Sigma Tau Delta, the International English Honors Society. Sigma Tau Delta's central purpose is to confer distinction for high achievement in English language, literature, and writing.

The Association of Graduate Students in English sponsors social and intellectual events during the year and provides a forum for student opinion. All graduate students in the department are members.

Programs

Undergraduate Programs of Study

Majors

- Major in English (Bachelor of Arts) [p. 371]
- Major in English and Creative Writing (Bachelor of Arts) [p. 381]

Minor

- Minor in English [p. 386]

Graduate Programs of Study

Majors

- Master of Arts in English [p. 387]
- Master of Fine Arts in English (creative writing) [p. 389]
- Master of Fine Arts in English (nonfiction writing) [p. 390]
- Doctor of Philosophy in English [p. 391]

Facilities

The University of Iowa Libraries collection is strong in all areas of English and American literature. Partly because of the influence of the Iowa Writers' Workshop, University Libraries has particular strengths in 20th-century fiction and poetry, including manuscript collections of 20th-century authors.

Courses

- English Courses [p. 357]
- Creative Nonfiction Writing Courses [p. 366]
- Creative Writing—Writers' Workshop Courses [p. 369]

Individual descriptions for most English courses are not included because content and emphasis may vary considerably from one semester to the next. For detailed descriptions of each semester's courses, visit the University's MyUI website.

English department courses are open to all undergraduates who have satisfied the rhetoric requirement. Undergraduates are encouraged to complete the required course ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures as soon as they declare the English major. Students also are encouraged to take a required course in reading and writing about a genre (ENGL:2012-ENGL:2016) at an early stage in their studies.

Courses ENGL:4000 English Honors Seminar, ENGL:4040 Undergraduate Honors Project, and ENGL:4010 Special Project for Undergraduates may be repeated. Most courses with the prefix ENGL may not be repeated. Occasionally, with written consent from the department's Undergraduate Advising Office, a student may repeat a course if the course's subject matter is different from that of a course the student already has taken.

English Courses

ENGL:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ENGL:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, CSD:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

ENGL:1100 City of Literature 3 s.h.

Literary history of Iowa City from the founding of Writers' Workshop to its designation as a UNESCO City of Literature.

ENGL:1150 Flashwrite: Young Writers, No Borders 1 s.h.

Opportunity for aspiring writers to engage in the study and practice of poetry and prose under the guidance of University of Iowa faculty.

ENGL:1200 The Interpretation of Literature 3 s.h.

Ways of reading; focus on reader, text, contexts; poetry, short fiction, drama, novels. GE: Interpretation of Literature.

ENGL:1320 Heroes and Villains 3 s.h.

Heroes, heroines, and villains as products of the imagination; literary representations of heroes, heroines, and villains in varied social and historical situations; how their representation shapes our understanding of heroism and of villainy. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200. GE: Literary, Visual, and Performing Arts.

ENGL:1330 The Art of Storytelling 3 s.h.

Selected masterpieces and recent developments in the art of storytelling in poetry and prose. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200. GE: Literary, Visual, and Performing Arts.

ENGL:1345 American Lives 3 s.h.

Major works of American literature. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200. GE: Literary, Visual, and Performing Arts.

ENGL:1350 Literature and Sexualities 3 s.h.

Works from various genres, time periods, cultures that reflect and construct a wide range of sexual identities. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200. GE: Literary, Visual, and Performing Arts.

ENGL:1410 Sex and Popular Culture in America 3 s.h.

Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as AMST:1060, GWSS:1060.

ENGL:1420 Technologies and Literatures of the Future 3 s.h.

Introduction to discourses of futurology; dramatic advances in machine intelligence, promise of nanotechnology, and future of biological research that have blurred long-held distinctions between science and science fiction; issues and controversies prominent in this futurological discourse. GE: Values and Culture.

ENGL:1510 Introduction to Environmental Literature 3 s.h.

Introduction to diverse ways writers have conveyed humans' interaction with the environment.

ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures 3 s.h.

History and practice of English as a discipline; four central aspects of literary study.

ENGL:2012 Reading and Writing About the Novel 3 s.h.

Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors, elective course for English and Creative Writing majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

ENGL:2013 Reading and Writing About Poetry 3 s.h.

Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors, elective course for English and Creative Writing majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

ENGL:2014 Reading and Writing About the Short Story 3 s.h.

Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors, elective course for English and Creative Writing majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

ENGL:2015 Reading and Writing About Drama 3 s.h.

Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors, elective course for English and Creative Writing majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

ENGL:2016 Reading and Writing About the Essay 3 s.h.

Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors, elective course for English and Creative Writing majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure 3 s.h.

Introduction to discipline of creative writing: fiction, poetry, and creative nonfiction; required course for English and Creative Writing majors.

ENGL:2030 Literary Readings Attendance 1 s.h.

Attendance at diverse literary readings and scholarly presentations on the University of Iowa campus and in Iowa City, featuring visiting, local, and University of Iowa writers and scholars.

ENGL:2040 English at Work 1 s.h.

What can be done with an English degree; knowledge and skills gained as an English major that are in high demand among a wide variety of employers; important steps taken as a student that translate unique career dreams into reality; work with Pomerantz Career Center staff.

ENGL:2100 Introduction to Criticism and Theory 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2105 Disability in Literature and Cultural Theory 3 s.h.

Introduction to disability studies; examination of disability in cultural and literary contexts; core course for the Certificate in Disability Studies. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2130 Introduction to the Novel 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.

ENGL:2140 Introduction to Poetry 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.

ENGL:2150 Introduction to the Short Story 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2160 Introduction to Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2170 Introduction to the Essay 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2191 Modern Fiction 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2192 Postmodern Fiction 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2193 Literature, Culture, and Women 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as GWSS:2193.

ENGL:2194 Lyric Structures 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2206 Classical and Biblical Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:2216 Selected Works of the Middle Ages 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:2236 Selected Early Authors 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:2309 Selected British Authors Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2310 Selected British Authors After 1900 3 s.h.

English majors and English and Creative Writing majors may apply the following course to the area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2329 Topics in Modern British Literature Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2330 Topics in Modern British Literature After 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2338 Eighteenth-Century British Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2348 British Romanticism 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2359 Victorian Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2360 Twentieth-Century British Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2361 Twenty-first-Century British Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2369 Topics in British Culture and Identity 3 s.h.

How culture and identity of British society are created and reflected through literature and other discursive systems; focus on a specific topic and area. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.

ENGL:2409 Selected American Authors Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2410 Selected American Authors After 1900 2-3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2420 American Literary Classics 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.

ENGL:2425 American Poetry 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.

ENGL:2438 American Novel Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:2440 American Novel After 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:2450 American Short Story 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.

ENGL:2460 Black Literature and Politics: Controversies of National Allegiance 3 s.h.

Black literature born amid political controversy, from slave narratives to award-winning texts of late 20th century; evolving politics of African American writers; changing political landscape of this expansive period and representative literature; how African American writers shape U.S. political debate; surprising politics of many canonical African American writers. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:2781, POLI:2107.

ENGL:2462 The Look of Blackness: African American Literature and Visual Art 3 s.h.

Examination of African American literature over a 200-year span; how preoccupation with blackness as a visual marker of difference impacts formation of written works; how black writers wield, emphasize, and manipulate visuality; blackness foregrounded as if literary texts operate in league with, or in defiance of, visual images circulating throughout American culture, from late 18th-century poetry to mid 20th-century novels; primary texts placed alongside high art and popular visual forms of distinct historical moments to explore how black American writers deploy visual art forms in narrative conceptions of black identity. Same as AFAM:2055.

ENGL:2463 Topics in African American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.

ENGL:2465 Selected African American Authors 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:2465.

ENGL:2475 Asian American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.

ENGL:2505 Introduction to Postcolonial Studies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2510 Selected Transnational Authors 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:2560 Topics in Culture and Identity 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: Varies by semester.

ENGL:2570 Love, War, Activism: Stories About Women from Across the World 3 s.h.

Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:2500, SJUS:2500.

ENGL:2571 Visualizing Human Rights 3 s.h.

Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:2571, SJUS:2571.

ENGL:2900 Book Design for Publishing 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, UICB:2900, WRIT:2900.

ENGL:3010 Children's Literature 3 s.h.

Classic children's literature and contemporary critical approaches to the genre. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies, or Modern British Literature. PERIOD: Varies by semester.

ENGL:3100 Topics in Criticism and Theory 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3102 Topics in Poetry and Poetics 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.

ENGL:3105 Topics in Popular Culture 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3107 Literature and Anthropology 3 s.h.

Topics vary. Same as ANTH:3107, CL:3107.

ENGL:3130 Topics in Film and Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3135 Narrative and the Cinema 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3140 Literature and the Book 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as UICB:3140.

ENGL:3142 Topics in Book History 3 s.h.

Authorship, publishing, and so forth within specific historical and cultural contexts. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as UICB:3142.

ENGL:3145 The Contemporary Literary Magazine and Editorial Practice 3 s.h.

Focus on literary magazines of the current era, including engagement with editorial practice. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3150 Literature and Philosophic Thought 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3152 Literature and Society 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as CL:3379.

ENGL:3155 Literature and Art 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as CL:3277.

ENGL:3160 Literary Genres and Modes 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.

ENGL:3165 Literature and the Environment 3 s.h.

Literary studies within the contexts of environmental history and ecological concerns. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures Through 17th Century, or 18th/19th-Century Literature, or 20th/21st-Century Literature.

ENGL:3173 Gender, Sexuality, and Literature 3 s.h.

Representations of gender, class, and sexuality in British, American, or postcolonial literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:3173.

ENGL:3180 Media Studies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as THTR:3180.

ENGL:3181 Digital Media and Poetics 3 s.h.

Theory and practice of one or more varieties of digital composition; digital art analyzed and created in specific forms—radio drama, interactive fiction, procedural and constructivist poetics. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3182 Digital Cultures and Literacies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3186 Science Fiction 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3190 Language and Learning 2-3 s.h.

How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as EDTL:3382.

ENGL:3191 Reading and Teaching Adolescent Literature 3 s.h.

Reading and evaluation of literature suitable for junior and senior high school students. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as EDTL:3393.

ENGL:3216 Topics in Medieval and Renaissance Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3226 Literature and Culture of the Middle Ages 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as MDVL:3226.

ENGL:3228 Literature and Culture of the Restoration 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3236 Literature and the Culture of the Renaissance 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3237 Literature and Culture of Seventeenth-Century England 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3246 16th- and 17th-Century Poetry 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3247 The English Bible 3 s.h.

Study of the Hebrew Bible and Christian New Testament; students become familiar with its legacies in English language and literature. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3256 Old English Language and Literature 3 s.h.

Reading knowledge of Old English; introduction to Anglo-Saxon literature and culture. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3257 Old English Beowulf 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3266 Medieval Celtic Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3267 Medieval Norse Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3276 Medieval Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as THTR:3276.

ENGL:3277 English Renaissance Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as THTR:3277.

ENGL:3286 Chaucer 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3287 Shakespeare 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3288 Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage arr. 3 s.h.

London was a distant outpost of the Roman empire, but the Romans had an outsized influence on Shakespeare's plays and poems; students explore those works and their sources in classical authors, including Ovid and Plutarch. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as CLSA:3288.

ENGL:3296 Milton 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.

ENGL:3320 Modern British Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.

ENGL:3329 Literature and Culture of Eighteenth-Century Britain 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3338 Literature and Culture of the Romantic Period 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3339 Literature and Culture of Nineteenth-Century Britain 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3348 Literature and Culture of Nineteenth-Century Scotland 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3350 Literature and Culture of 20th- and 21st-Century Britain 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3355 British Poetry 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.

ENGL:3360 British Fiction 3 s.h.

British fiction written since 1700. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.

ENGL:3418 Literature and Culture of America Before 1800 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3419 Literature and Culture of Nineteenth-Century America 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3420 Literature and the Culture of Twentieth-Century America 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3429 Topics in American Literature Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3430 Topics in American Literature After 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3431 American Novel Since 1945 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3439 American Drama Before 1900 3 s.h.

American playwrights and plays before 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.

ENGL:3440 American Drama Since 1900 3 s.h.

American playwrights and plays after 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. Same as THTR:3440.

ENGL:3441 Native American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as NAIS:3441.

ENGL:3444 Literatures of the American Peoples 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.

ENGL:3450 American Regional Literatures 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.

ENGL:3455 Jewish American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.

ENGL:3459 African American Literature Before 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3459.

ENGL:3460 African American Literature After 1900 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3460.

ENGL:3462 African American Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3462, THTR:3462.

ENGL:3465 African American Autobiography 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3465.

ENGL:3470 Gender, Sexuality, and American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3489 Contemporary American Women Writers 3 s.h.

Interdisciplinary study of contemporary American women writers whose works depict the shaping force of race, class, gender, and sexuality on individuals, families, and communities.

ENGL:3510 Topics in Transnational Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3515 Topics in Postcolonial Studies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3520 Literature and Culture of the 20th and 21st Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3525 Literature and Culture of the Americas 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3530 Caribbean Literature and Culture 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th/21st-Century Literature.

ENGL:3532 Modernist Women Writers 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3535 Inter-American Studies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as LAS:3535.

ENGL:3540 Literature of the Indian Subcontinent 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

ENGL:3550 African Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as AFAM:3550.

ENGL:3555 Topics in African Cinema 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as AFAM:3555.

ENGL:3570 Transnational and Postcolonial Writing by Women 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as CL:3570, GWSS:3570.

ENGL:3580 Identity and Social Issues 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: Varies by semester.

ENGL:3595 International Literature Today 1,3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as IWP:3191, WLLC:3191.

ENGL:3721 Writers' Seminar: Fiction 3 s.h.

In-depth exploration and analysis of creative works in fiction. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.

ENGL:3722 Writers' Seminar: Poetry 3 s.h.

In-depth exploration and analysis of creative works in poetry. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.

ENGL:3723 Writers' Seminar: Nonfiction 3 s.h.

Rigorous exploration and analysis of a range of nonfiction creative works. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.

ENGL:3724 Writers' Seminar: Literary Translation 3 s.h.

Rigorous exploration and analysis of a range of creative works in literary translation. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.

ENGL:3725 Writers' Seminar: Playwriting 3 s.h.

Rigorous exploration and analysis of a range of creative works in drama. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.

ENGL:3820 Writing About Girls 3 s.h.

Examination of a wide range of critical and creative works by contemporary women writers on girlhood; common use of the word "girls" to describe adult women; representations of girls in film and television; role of media in sexualization of girls; impact of gender, race, and class in girls' lives; nature of girls' relationships with one another; ways in which girlhood traumas can continue into adult life; contemporary issues of body image and sexuality (e.g., pressures to be thin, disparagement of sexually active girl as "slut"); poverty, hunger, and homelessness; resistance and rebellion. Same as GWSS:3450.

ENGL:3850 Undergraduate Translation Workshop 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CL:3179, CLSA:3979, TRNS:3179.

ENGL:4000 English Honors Seminar 3 s.h.

English majors and English and Creative Writing majors may apply this course to varied area and/or period requirements. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4001 Honors Seminar: American Literature, 20th/21st Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4002 Honors Seminar: British Literature, 20th/21st Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4003 Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4004 Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4005 Honors Seminar: American Literature, 18th/19th Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4006 Honors Seminar: British Literature, 18th/19th Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4007 Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4008 Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.

ENGL:4009 Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Requirements: undergraduate standing and English major g.p.a. of 3.33.

- ENGL:4010 Special Project for Undergraduates** arr.
- ENGL:4011 Honors Seminar: Creative Writing** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the advanced creative writing requirement. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4020 Honors Thesis Workshop** 3 s.h.
Requirements: English major or English and Creative Writing major, and g.p.a. of 3.33.
- ENGL:4040 Undergraduate Honors Project** 1-3 s.h.
Requirements: admission to English honors program.
- ENGL:4150 Introduction to Book Studies** 3 s.h.
Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as SLIS:4150, UICB:4150.
- ENGL:4172 London Performance Study** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as THTR:4630.
- ENGL:4195 Interdisciplinary Studies** 3 s.h.
Exploration of how readings of theory can be evaluated through discussions and readings in literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:4410 Midwest African American Literature and Culture** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:4710.
- ENGL:4720 Advanced Creative Writing: Special Topic** 3 s.h.
Reading and writing; topics vary; advanced creative writing elective for English and Creative Writing majors. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:4721 Advanced Writers' Seminar: Fiction** 3 s.h.
In-depth exploration and analysis of creative works in fiction. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4722 Advanced Writers' Seminar: Poetry** 3 s.h.
In-depth exploration and analysis of creative works in poetry. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4723 Advanced Writers' Seminar: Nonfiction** 3 s.h.
In-depth exploration and analysis of creative works in nonfiction. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4724 Advanced Writers' Seminar: Literary Translation** 3 s.h.
Rigorous exploration and analysis of a range of creative works in literary translation. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4725 Advanced Writers' Seminar: Playwriting** 3 s.h.
Rigorous exploration and analysis of a range of creative works in drama. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4810 Learning to Teach Secondary English/ Language Arts and Field Experience** 3 s.h.
Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: EDTL:4314. Same as EDTL:4315.
- ENGL:5000 Introduction to Graduate Study** 1 s.h.
- ENGL:5050 Professional Development Practicum** 1 s.h.
Navigation of academic job market and exploration of professional development and career planning; writing cover letters, curriculum vitae, dissertation abstracts, and teaching statements; application strategies for various jobs in research, liberal arts, community colleges, and outside academia; opportunity to practice interviews and other hands-on coaching; for advanced English department Ph.D., M.A., and M.F.A. students.
- ENGL:5990 M.A. Portfolio in Literary Studies** arr.
- ENGL:5999 M.A. Thesis in Literary Studies** arr.
- ENGL:6000 Introduction to Contemporary Theory** 3 s.h.
- ENGL:6020 Literature as Letters** 3 s.h.
- ENGL:6030 Gender, Sexuality, and Literature** 3 s.h.
Representations of gender, class, race, and sexuality in British, American, or Anglophonic/world literatures; role of gender in its intersection with class, race, and sexuality in authorship, text, print cultures, reading, aesthetics, criticism, theory, and the literary marketplace.
- ENGL:6075 Sentimentalism and Affect Theory** 3 s.h.
Readings in sentimentalism as literary genre, rhetorical practice, cultural mode, and psychosocial phenomenon; focus on attendant theories of affect; integration of literature and culture with work on politics of affect in postcolonial and transnational studies, critical race and ethnic studies, American studies, gender and sexuality studies. Same as RHET:6071.
- ENGL:6080 New Media Poetics** 3 s.h.
- ENGL:6090 Topics in Interdisciplinary Studies** 3 s.h.
Interdisciplinary approaches to literature and culture.
- ENGL:6100 Readings in Medieval Literature and Culture** 3 s.h.
- ENGL:6104 Literature for Children II** 3 s.h.
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as EDTL:6104.
- ENGL:6110 Medieval Authors** 3 s.h.
- ENGL:6200 Sixteenth- and Seventeenth-Century Authors** 3 s.h.
- ENGL:6210 Readings in Sixteenth- and Seventeenth-Century Genres** 3 s.h.

ENGL:6220 Shakespeare	3 s.h.	ENGL:6950 Colloquium: Teaching Foundations of the English Major	1 s.h.
ENGL:6300 Restoration and Eighteenth-Century Literature	3 s.h.	ENGL:6960 Colloquium: Teaching Literature	2 s.h.
ENGL:6315 M.A. Seminar: English Education	arr.	Professional development program for new ENGL:1200 teachers, including three-day pre-semester workshop.	
Significant developments in English education; primary and collateral readings. Same as EDTL:6315.		ENGL:7000 Seminar: Cultural Studies	arr.
ENGL:6400 Romantic Literature	3 s.h.	ENGL:7010 Seminar: Literary Criticism and Theory	3 s.h.
Same as CL:6323.		Analysis of issues in current literary criticism and theory and of texts from related fields, such as aesthetics, cultural studies, political science, psychology, and philosophy.	
ENGL:6500 Victorian Literature	3 s.h.	ENGL:7050 Seminar: Performance Theory and Practice	3 s.h.
ENGL:6601 Readings in American Literature	3 s.h.	Foundational and recent work in interdisciplinary field of performance studies; focus on intersections of performance theory and theater and drama studies; production and reception of visual and participatory art, dance, music, and various forms of embodied activity.	
American literature of the 18th century.		ENGL:7100 Seminar: Medieval Literature and Culture	arr.
ENGL:6602 Readings in American Literature II	3 s.h.	Same as CL:7302.	
Nineteenth-century American literature.		ENGL:7200 Seminar: Early Modern Literature and Culture	arr.
ENGL:6603 Readings in American Literature III	3 s.h.	Same as CL:7307.	
Twentieth- and twenty-first-century American literature.		ENGL:7300 Seminar: Restoration and Eighteenth-Century Literature	arr.
ENGL:6610 Studies in African American Literature	3 s.h.	ENGL:7400 Seminar: Romantic Literatures	arr.
ENGL:6620 Readings in Native American Literatures	3 s.h.	ENGL:7500 Seminar: Victorian Literature	arr.
Same as NAIS:6620.		ENGL:7560 Seminar: Walt Whitman	3 s.h.
ENGL:6630 Readings in Latina/o Literary and Cultural Studies	3 s.h.	Walt Whitman's writings and career.	
Survey of Latina/o literature and criticism to prepare for comprehensive exam; organized by thematic units that stress canonical and emerging research areas in Latina/o literary and cultural studies.		ENGL:7600 Seminar: American Literature and Culture	arr.
ENGL:6635 Crossing Borders Seminar	2-3 s.h.	ENGL:7700 Seminar: Studies in the 20th and 21st Century	arr.
Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.		ENGL:7800 Seminar: Postcolonial Studies	3 s.h.
ENGL:6640 Readings in American Literary Genres	3 s.h.	Same as CL:7054.	
ENGL:6670 American Literary Magazines	3 s.h.	ENGL:7900 Advanced Studies in an Author	arr.
Aspects of American literary magazines, from city journals to monthly periodicals, historical moment to marketplace demand.		ENGL:7910 Advanced Studies in a Literary Period	arr.
ENGL:6720 Twentieth-Century Literatures	3 s.h.	ENGL:7920 Advanced Studies in a Literary Form	arr.
Literatures of 20th century; varied topics (e.g., transnational approach, focus on particular theme, genre, or critical perspective).		ENGL:7930 Advanced Studies in a Literary Genre	arr.
ENGL:6730 Modernist Studies	3 s.h.	ENGL:7940 Advanced Studies in a Literary Mode	arr.
ENGL:6760 Topics in Contemporary Literature	3 s.h.	ENGL:7950 Advanced Studies in a Literary Movement	arr.
ENGL:6765 Literature, Culture, and Environment	3 s.h.	ENGL:7960 Advanced Studies in a Literary Theme	arr.
Introduction to theories and practices articulating relationship among literature, other cultural production, and environmental issues.		ENGL:7970 Advanced Studies in Literary Criticism	arr.
ENGL:6770 Writing and Revolution	3 s.h.	ENGL:7980 Advanced Studies in an Interdisciplinary Subject	arr.
ENGL:6800 Readings in Postcolonial Literature and Theory	3 s.h.	ENGL:7990 Special Project for Graduate Students	arr.
Introduction to central concerns and questions of postcolonial theory; impact of imperial ideologies on formation of racial and ethnic identities; nationalist and pan-nationalist challenges to colonialism; postcolonial revisions of Western history; representations of gender and sexuality; diasporic and transnational cultural production; alternative versions of modernity; relationship between past and contemporary forms of globalization.		ENGL:7999 Ph.D. Thesis	arr.
ENGL:6850 Topics in Creative Writing	3 s.h.	Creative Nonfiction Writing Courses	
Engagement with different topics in creative writing.		Courses CNW:6654 Forms of the Essay, CNW:6650 Readings in Nonfiction, CNW:6610 Essay Writing Workshop, and CNW:6620 Nonfiction Writing Workshop may be repeated. Others may be repeated with consent of the instructor and the director of graduate studies.	
ENGL:6900 Doctoral Workshop in English	1-2 s.h.		

Course CNW:1620 Introduction to Creative Nonfiction does not count toward the English major or minor.

Course CNW:3630 Advanced Nonfiction Writing has a prerequisite.

Course CNW:4631 Advanced Essay Workshop requires consent of instructor (see course description on MyUI).

CNW:1620 Introduction to Creative Nonfiction 3 s.h.

Exploration of creative nonfiction genres through readings, discussion, and writing exercises; introduction to workshop environment. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

CNW:2680 The Art and Craft of Creative Nonfiction 3 s.h.

How we tell stories—every time people talk about themselves, someone they know, places visited or events experienced; creation of a story with intention to entertain and inform a particular audience; how to create compelling, thought-provoking, and resonant texts from raw material of daily life; exploration of three fundamentals of great storytelling—taking emotional and intellectual risks, being imaginatively rigorous, and revising, revising, revising. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2690 The Art and Craft of Writing About Business 3 s.h.

Preparation for real world writing situations; techniques for revision; creation of texts that are clear, persuasive, and coherent; practice techniques by revising many kinds of transactional documents, from letters and memos to procedures and reports; examples from actual business transactions; enhancement of writing, editing, job search, and managerial skills. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2700 The Art and Craft of Personal Writing 3 s.h.

Moments of wonder, confusion, and blips in memory that can reveal deep and complicated truths in life; different kinds of personal writing with focus on strategies that writers employ to create rich and compelling stories; character, scene, voice, point of view, suspense, and timing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2710 The Art and Craft of Food Writing 3 s.h.

Vivid prose that evokes memories, moods, places, and events; creating a visceral bond with readers as powerful as in any other art form; basics of food writing; how to heighten awareness of physical world through exercises that focus on sensory details. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2720 The Art and Craft of Writing About Culture 3 s.h.

Writing about the culture surrounding us—literature, songs, movies, magazines, television, food, concerts, theater, commercials, billboards, comic books, internet, museums, sports, architecture; readings, field trips, and multiple approaches to writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2730 The Art and Craft of Science Writing 3 s.h.

Introduction to science writing; development of a clear and engaging prose style through readings and workshops. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2740 The Art and Craft of Writing about the Environment 3 s.h.

Tradition of nature writing and how it has inspired writers, artists, and activists to find more complicated and daring interpretations of what constitutes an environment; reading and writing that challenges assumptions and pushes boundaries of environmental writing and nonfiction. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2760 The Art and Craft of Writing for Social Change 3 s.h.

How nonfiction writers have responded to tumultuous social, political, and cultural topics of their day through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2770 The Art and Craft of Writing for New Media 3 s.h.

Fundamental elements of new media; readings that celebrate and challenge today's newest experiments in podcasts, video games, internet, Twitter feeds, and Tumblr narratives; crafting and critiquing texts in these media. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2780 The Art and Craft of Writing About Sports 3 s.h.

Introduction to sports writing through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2790 The Art and Craft of Humor Writing 3 s.h.

How comedy functions as one of many tools writers have at their disposal through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2800 The Art and Craft of Writing Across Genres 3 s.h.

Hybrid texts that defy classification—graphic books, stand-up comedy, lists, letters, poems, freestyle rap—engaged through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2810 The Art and Craft of Writing with Emotion 3 s.h.

Role of emotion in creative writing through readings and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2820 The Art and Craft of the Literary Essay 3 s.h.

Different forms of the essay—reviews, memoirs, profiles, travelogues, journalism, cultural criticism—through readings and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2830 The Art and Craft of Immersion Journalism**3 s.h.**

Immersion in fieldwork, leading to nonfiction writing; writer-in-residence for a particular place, institution, or organization; observation and exploration of everything that happens within those boundaries. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2840 The Art and Craft of Travel Writing**3 s.h.**

How to capture a journey's details and sensations through explorations of character, scene, point of view, and timing; why a person does not need to be a world traveler to become a compelling "writer about place"; readings, field trips, multiple approaches to workshoping. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2850 The Art and Craft of Writing About Politics**3 s.h.**

How to observe and reveal complex personalities, relationships, beliefs, and histories that underlie political events and races; strong emphasis on how to gather field research and shape it into compelling literary prose; Iowa's unique role in political theater. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2900 The Essay Prize**3 s.h.**

Discussion and evaluation of a variety of essays nominated by an independent committee of writers, editors, filmmakers, sound designers, performance artists, and readers for the Essay Prize; selection of winner. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:2910 Writing for Applications and Awards**3 s.h.**

Practical exploration of how to prepare applications for fellowships, awards, grants, and graduate schools; emphasis on composing and revising personal statements, project narratives, funding proposals; fundamentals of how to clearly, concisely, and compellingly present ideas to specialized and general audiences. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CNW:2991 Publishing I: Introduction to Literary Publishing**3 s.h.**

Introduction to major aspects of book and literary publishing, including evaluating submissions, copy editing, production calendars, and planning marketing campaigns; discussion of industry trends. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Same as WRIT:2991.

CNW:2992 Publishing II: Advanced Literary Publication**3 s.h.**

Hands-on experience of entire literary publishing process including reading submissions, selecting texts, editing, layout and design, marketing and promotion, and book release. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CNW:2991. Same as WRIT:2992.

CNW:3600 Issues in Creative Nonfiction**3 s.h.**

Exploration and discussion of a single topic in creative nonfiction through a variety of reading assignments and creative writing exercises. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:3630 Advanced Nonfiction Writing**3 s.h.**

Essay writing; focus on workshop environment. Prerequisites: CNW:2830 or CNW:2720 or CNW:2840 or CNW:2710 or CNW:2700 or CNW:2900 or CNW:2760 or CNW:2800 or CNW:2910 or CNW:2810 or CNW:2780 or CNW:2850 or CNW:2730 or CNW:2740 or CNW:2770 or CNW:2820 or CNW:2680 or CNW:2790 or CNW:2690. Requirements: undergraduate standing.

CNW:3632 Prose Style**3 s.h.**

Sentences: how they work, what they do; how sentences can help writing, expand understanding of prose style, stretch options. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as WRIT:3632.

CNW:3633 Personal Writing**3 s.h.****CNW:3640 Writing for Business and Industry****3 s.h.**

GE: Engineering Be Creative.

CNW:3644 Dublin Writing Workshop**3 s.h.**

Intensive writing workshops for aspiring creative writers; study abroad in Dublin, Ireland. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CNW:3660 Multimedia Writing**3 s.h.**

Multidisciplinary sessions mixing media production, creative nonfiction, and literary theory; topics ranging from hypertext authoring and electronic magazine publishing to sound art and digital video; principles and practices of writing for alternative media, theoretical understanding of how various media frame the situation; radio essay, video essay, interactive animation, web authoring, electronic magazine publishing.

CNW:3661 Film and Writing**3 s.h.**

Writers' introduction to digital video; compelling forms of nonfiction filmmaking from the film essay to the environmental documentary; how to convert texts into film, conduct interviews, and shoot and edit digital video; emphasis on careful analysis and making of whitely films.

CNW:3662 Graphic Writing**3 s.h.**

The photo essay and the graphic memoir, two modes of nonfiction that have steadily increased in prominence and popularity; key texts in both genres (i.e., Dorothea Lange's *American Exodus*, Marjane Satrapi's *Persepolis*, or Art Spiegelman's *Maus*); writing and producing photo essays and short graphic memoirs.

CNW:3663 Radio and Writing**3 s.h.**

Writing with sound; introduction to radio essays and documentaries with focus on digital audio; analyze key radio works and essayists; produce voiceovers, record interviews, mix music, edit sound and spoken texts in making radio art.

CNW:3664 Writing About Science**3 s.h.**

Writing about science and technology from neurobiology to astrophysics; exploration of classic literary nonfiction on the sciences; focus on various stylistic practices for making complex topics compelling for a general audience and developing a clear and readable prose style.

CNW:4355 Approaches to Teaching Writing**3 s.h.**

Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as EDTL:4355.

CNW:4631 Advanced Essay Workshop 3 s.h.

Experience working on new nonfiction projects, drafting and preparing one piece throughout a semester; individualized work to promote understanding of and creation in genres of nonfiction writing. Requirements: undergraduate standing and successful completion of one CNW course.

CNW:4635 Advanced Creative Nonfiction Writing 3 s.h.

Close work with faculty and peers on advanced creative nonfiction writing projects. Requirements: one 2000- or 3000-level CNW course.

CNW:4642 Team Writing for Business 3 s.h.**CNW:4690 Undergraduate Project in Nonfiction Writing arr.****CNW:5375 Teaching in a Writing Center 3 s.h.**

Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as RHET:5375.

CNW:6600 Teaching Nonfiction 3 s.h.

Theories and practices of teaching nonfiction writing; writing workshop approaches, strategies to encourage response and revision, connections between reading and writing, diversity of form, language, and assessment.

CNW:6610 Essay Writing Workshop 4 s.h.**CNW:6620 Nonfiction Writing Workshop arr.**

Intensive workshop focusing on student work; students will have an essay critiqued and a conference with the advisor; wide-ranging discussion dealing with various aspects of this multi-faceted genre and new trends in contemporary nonfiction.

CNW:6630 Graduate Thesis Workshop 4 s.h.

Thesis work in supportive workshop environment. Prerequisites: CNW:6610 and CNW:6620.

CNW:6650 Readings in Nonfiction 3 s.h.**CNW:6654 Forms of the Essay arr.****CNW:6656 Approaches to Nonfiction 3 s.h.**

Investigation into forms of nonfiction writing.

CNW:6660 Twenty-first-Century Nonfiction arr.**CNW:6666 Performance and Profession 3 s.h.**

Making and maintaining a writing career, with lessons on navigating the writer's job market; developing cover letters and curriculum vitae, interviewing, finding an agent, negotiating with publishers, handling social media, and delivering a reading.

CNW:6670 Overseas Writing Workshop arr.**CNW:7900 Special Project in Nonfiction Writing arr.****CNW:7950 Thesis in Nonfiction Writing arr.**

Creative Writing—Writers' Workshop Courses

Course CW:1800 Creative Writing Studio Workshop does not count toward the English major or minor.

CW:1200 Creative Writing for Non-Native English Speakers 3 s.h.

Designed to help non-native English speakers who would like to learn more about creative writing; guided readings and creative writing exercises in fiction, poetry, and creative nonfiction, with special emphasis on the interests of writers from diverse backgrounds; creative writing as a means of self-expression, while improving writing and speaking skills in a friendly, supportive environment.

CW:1800 Creative Writing Studio Workshop 3 s.h.

Experience reading and writing fiction, poetry, and personal narrative in a workshop setting; study of published work and critical discussion from a writer's standpoint; critique of class members' work. GE: Literary, Visual, and Performing Arts.

CW:2100 Creative Writing 3 s.h.

Guidance in the process of writing fiction and poetry; writing as exploration; development of students' critical skills as readers; application of new knowledge and skills to students' own writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CW:2870 Fiction Writing 3 s.h.

Analysis of works of accomplished fiction writers; critique of class members' short stories, in writing and in class; discussion of how class members use language, characterization, point of view, other elements of fiction in their work. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CW:2875 Poetry Writing 3 s.h.

Careful writing of poems, reading of poetry by class members as well as established poets; supportive workshop context. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

CW:3003 Writing and Reading Science Fiction 3 s.h.

Science fiction literature as an ongoing conversation about the possible; exploration of world boundaries we have by imagining worlds that we don't (yet); alien encounters that consider ways we react to beings we see as unlike ourselves; alternate histories to illuminate what might have been; transhumanist fiction to explore what we may become; issues of composition and craft that underlie all effective fiction; students write and revise works of science fiction and engage in constructive discussion of each other's work. GE: Engineering Be Creative.

CW:3005 Professional and Creative Business Communication 3 s.h.

Solid foundation for creative and professional communication in today's modern work world; exploration of techniques, strategies, and craft of writing résumés, letters of interest, email and its related etiquette, and organization of ideas into presentable form; semester-long creative project that builds a bridge between office and the world using modern technology and social media; readings and discussions of literature to better understand issues of ethics, leadership, conflict, moral judgment, decision making, and human nature; how to navigate and succeed in business or any professional field. GE: Engineering Be Creative. Same as INTD:3005.

CW:3107 Creative Writing for the Health Professions 3 s.h.

GE: Engineering Be Creative. Same as INTD:3107.

CW:3210 Creative Writing and the Natural World 3 s.h.

How humans tether to their environment through stories; students write stories and through writing explore if there is a new tie to sustainable history. GE: Engineering Be Creative. Same as INTD:3210.

CW:3215 Creative Writing and Popular Culture 3 s.h.

Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. GE: Engineering Be Creative. Same as INTD:3300.

CW:3217 Writing and Reading Young Adult Fiction 3 s.h.

Early to contemporary young adult fiction; how the genre addresses issues that are relevant to young people through its wide-ranging subject matter; issues facing the genre, including the debate over what constitutes it; readings and experience writing young adult fiction.

CW:3218 Creative Writing for New Media 3 s.h.

Prepares creative writers for evolving marketplace of electronic text and media; experience writing in varied media (e.g., internet, e-books, video games, mobile devices, emergent social narratives). GE: Engineering Be Creative. Same as INTD:3200.

CW:3870 Advanced Fiction Writing 3 s.h.

Analysis of accomplished fiction writers' work; critique of class members' short stories, in writing and in class; discussion of how class members use language, characterization, point of view, other elements of fiction in their work. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CW:2870.

CW:3875 Advanced Poetry Writing 3 s.h.

Writing poems, reading poetry by class members and established poets; workshop context. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CW:2875.

CW:4745 The Sentence: Strategies for Writing 3 s.h.

Writing dynamic, cogent, and grammatically correct sentences; effectively communicating ideas; writing with clarity and confidence; review of grammar and various types of sentences; building complexity by adding adverbial, subordinate, and connective clauses to simple sentences; how rhythm, syntax, and word order expand the meaning of a sentence; application and appreciation. GE: Engineering Be Creative. Same as WRIT:4745.

CW:4750 Writing and Activism 3 s.h.

Exploration of writing as a political act; examination of texts that focus on activism (e.g., environment, social inequality, racism, war); best practices for literary advocacy and social/political persuasion/instruction; improving dexterity with written persuasion; argumentation, and personal statements; application of study of writing to broader world.

CW:4751 Creative Writing for the Musician 3 s.h.

Better writing by focused appreciation of classical and popular music; musical forms and storytelling; music as a source of inspiration, performance of free-form writing exercises set to different soundtracks; what music can teach about language; scansion; methods for applying musical techniques in word form; how punctuation and grammar create rhythm; tone and diction used to create and modify dynamics of prose; multimedia project incorporating written, visual, and audio storytelling techniques. GE: Engineering Be Creative.

CW:4760 The Art of Revision: Rewriting Prose for Clarity and Impact 3 s.h.

Writing and rewriting of short stories and essays; specific choices to help writing reach its full potential; examination of first drafts and making strategic or radical decisions on what needs to happen in subsequent drafts in order for writing to better match original intentions; students gain insight from peers on where first drafts are succeeding or falling short, and write second and third drafts of short stories and personal narratives; structural and aesthetic choices. GE: Engineering Be Creative. Same as WRIT:4760.

CW:4870 Undergraduate Writers' Workshop: Fiction arr.

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CW:4875 Undergraduate Writers' Workshop: Poetry arr.

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CW:4885 Undergraduate Writers' Seminar arr.

Exploration of literature to develop substance and craft; craft sessions designed around topic chosen by instructor; modeled after Iowa Writers' Workshop graduate reading seminars. Prerequisites: ENGL:2020.

CW:4894 Undergraduate Project in Creative Writing arr.

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

CW:4897 Novel Writing 3 s.h.

Introduction to the process of writing a novel through focused lessons on character, perspective, plot, scene, and dialogue; organizing a longer work; creating notes and sections of a novel with progression towards completing a draft. Requirements: creative writing or fiction writing course.

CW:5870 Graduate Fiction Writing 3 s.h.

Reading and discussion of published stories and those written by class members, with the aim of improving writing through careful reading and reflection, spirited discussion, and written comments.

CW:5875 Graduate Poetry Writing 3 s.h.

Careful writing and reading of poems by students as well as by established poets; thorough discussion in a supportive context.

CW:7810 Form of Fiction 3 s.h.**CW:7820 Form of Poetry 3 s.h.****CW:7830 Seminar: Problems in Modern Fiction arr.****CW:7840 Seminar: Problems in Modern Poetry arr.****CW:7870 Fiction Workshop arr.****CW:7875 Poetry Workshop arr.****CW:7890 Graduate Project in Creative Writing arr.****CW:7895 M.F.A. Thesis arr.**

English, B.A.

Learning Outcomes

The goal is for students who graduate from the Department of English to demonstrate the skills of reflective reading, critical thinking, effective speaking, compelling writing, and engaged citizenship.

- Reflective readers:
 - analyze literary and cultural texts through close reading;
 - gain broad knowledge of several fields of literature;
 - grasp formal elements of key literary genres; and
 - learn to read comparatively to illuminate aesthetic, social, and cultural contributions of texts.
- Critical thinkers:
 - approach texts with a spirit of critical inquiry and flexibility;
 - formulate productive questions;
 - use textual evidence to support individual interpretations; and
 - draw upon several different critical approaches to literature in English.
- Effective speakers:
 - express opinions about the texts they read through discussion and written assignments;
 - listen respectfully to others' opinions; and
 - work in class—whether through active listening or discussion—to learn by synthesizing a range of texts, insights, and opinions.
- Compelling writers:
 - express their ideas in clear, fluent, and lively prose;
 - organize their ideas effectively;
 - use textual evidence to illustrate and support their insights and arguments;
 - demonstrate the ability to write in different modes that are appropriate to particular contexts;
 - engage properly with relevant scholarship and creative work; and
 - use research skills that include understanding of methods, technology, and conventions.
- Engaged world citizens:
 - communicate respect and understanding for the literatures and cultures of diverse historical periods, geographical regions, and cultures;
 - explore ethical issues raised by literature;
 - reflect on the ways that literature addresses issues of social justice; and
 - use reading, speaking, and writing skills to engage with the ethical concerns raised by literature in their daily and professional lives.

Overview

The Department of English challenges students to strive for excellence as writers. It provides instruction in and opportunities for writing in all of its classes. Students in the English major pursue a concentration in one of six areas, which may include a historical period, a theoretical focus, or creative and nonfiction writing. The department also offers an honors program in which students work closely with a faculty member to complete a major critical or creative project. See Honors [p. 378] in this section of the Catalog.

Students who plan to teach English in secondary schools should consult with an advisor in the College of Education as early as possible; contact the Office of Student Services. The education endorsement requires that students choose particular courses in the English major in order to meet state requirements. See "Teacher Licensure" under Requirements [p. 371] in this section of the Catalog.

Students interested in the English major should consult the academic advisor in the English undergraduate advising office.

Requirements

The Bachelor of Arts with a major in English requires a minimum of 120 s.h., including at least 36 s.h. (usually 12 courses) of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students must earn at least 21 s.h. of credit for the major at the University of Iowa. Transfer students may count a maximum of 15 s.h. of approved transfer credit toward the major.

Students majoring in English should not use ENGL:1200 The Interpretation of Literature to fulfill the GE CLAS Core Interpretation of Literature requirement. They may substitute a course from the Literary, Visual, and Performing Arts area of the GE CLAS Core, excluding these: DANC:1010 through DANC:2040 and MUS:1020 Performance Instruction for Nonmajors.

Only courses numbered above 2000 count toward the English major. The following courses do not count toward the English major.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3
Courses numbered ENGL:1000 through ENGL:1999		

Students may count up to 6 s.h. earned in courses with prefix CW toward the English major.

All English majors must complete ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures, as well as one course in reading and writing about a genre (ENGL:2012-ENGL:2016).

Other course work for the major is divided into six areas and three historical periods. Students must complete a total of eight area courses (see "Areas" below) and six historical period courses (see "Historical Periods" below). Most courses (except those in the creative writing and nonfiction writing

list) satisfy both an area and a historical period requirement, so students generally fulfill the historical period requirements as they complete the area requirements. This allows them to choose additional elective course work to complete the major.

Each course's area and period designations are included in its course description, which is provided in the comprehensive list of Department of English courses; see Courses [p. 357] in this section of the Catalog. A course's area and/or period designation may vary by semester; consult MyUI for semester-specific course information. Additional information about courses is available on the Department of English website and from the academic advisor.

Students pursuing the B.A. in English can choose to complete requirements for the publishing track; see "Publishing Track" below for information.

The B.A. with a major in English requires the following course work.

Code	Title	Hours
Introductory Courses		6
Area/Period Courses		24
Electives		6
Total Hours		36

Introductory Courses

All English majors must complete two introductory courses and are encouraged to enroll in them as soon as they declare the major. Students must take ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures as well as one reading and writing about a genre course (ENGL:2012-ENGL:2016).

Code	Title	Hours
This course:		
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures	3
One of these:		
ENGL:2012	Reading and Writing About the Novel	3
ENGL:2013	Reading and Writing About Poetry	3
ENGL:2014	Reading and Writing About the Short Story	3
ENGL:2015	Reading and Writing About Drama	3
ENGL:2016	Reading and Writing About the Essay	3

Areas

Students must complete at least one course (3 s.h.) from each of the following six areas. Each student also must choose one of the six areas as a concentration area and take an additional two courses in that area, for a total of three courses (9 s.h.) in one area, and eight area courses in all.

Literary Theory and Interdisciplinary Studies

Code	Title	Hours
ENGL:2100	Introduction to Criticism and Theory	3

ENGL:2105	Disability in Literature and Cultural Theory	3
ENGL:2130	Introduction to the Novel	3
ENGL:2140	Introduction to Poetry	3
ENGL:2150	Introduction to the Short Story	3
ENGL:2160	Introduction to Drama	3
ENGL:2170	Introduction to the Essay	3
ENGL:2191	Modern Fiction	3
ENGL:2192	Postmodern Fiction	3
ENGL:2193	Literature, Culture, and Women	3
ENGL:2194	Lyric Structures	3
ENGL:3100	Topics in Criticism and Theory	3
ENGL:3102	Topics in Poetry and Poetics	3
ENGL:3105	Topics in Popular Culture	3
ENGL:3130	Topics in Film and Literature	3
ENGL:3135	Narrative and the Cinema	3
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3145	The Contemporary Literary Magazine and Editorial Practice	3
ENGL:3150	Literature and Philosophic Thought	3
ENGL:3152	Literature and Society	3
ENGL:3155	Literature and Art	3
ENGL:3160	Literary Genres and Modes	3
ENGL:3165	Literature and the Environment	3
ENGL:3173	Gender, Sexuality, and Literature	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:3186	Science Fiction	3
ENGL:3190	Language and Learning	2-3
ENGL:3191	Reading and Teaching Adolescent Literature	3
ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century	3
ENGL:4007	Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century	3
ENGL:4150	Introduction to Book Studies	3
ENGL:4172	London Performance Study	3
ENGL:4195	Interdisciplinary Studies	3

Medieval and Early Modern Literature and Culture

Code	Title	Hours
ENGL:2206	Classical and Biblical Literature	3
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:2236	Selected Early Authors	3

ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226	Literature and Culture of the Middle Ages	3
ENGL:3228	Literature and Culture of the Restoration	3
ENGL:3236	Literature and the Culture of the Renaissance	3
ENGL:3237	Literature and Culture of Seventeenth-Century England	3
ENGL:3246	16th- and 17th-Century Poetry	3
ENGL:3256	Old English Language and Literature	3
ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276	Medieval Drama	3
ENGL:3277	English Renaissance Drama	3
ENGL:3286	Chaucer	3
ENGL:3287	Shakespeare	3
ENGL:3296	Milton	3
ENGL:4009	Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century	3

Modern British Literature and Culture

Code	Title	Hours
ENGL:2309	Selected British Authors Before 1900	3
ENGL:2310	Selected British Authors After 1900	3
ENGL:2329	Topics in Modern British Literature Before 1900	3
ENGL:2330	Topics in Modern British Literature After 1900	3
ENGL:2338	Eighteenth-Century British Literature	3
ENGL:2348	British Romanticism	3
ENGL:2359	Victorian Literature	3
ENGL:2360	Twentieth-Century British Literature	3
ENGL:2361	Twenty-first-Century British Literature	3
ENGL:2369	Topics in British Culture and Identity	3
ENGL:3320	Modern British Drama	3
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3
ENGL:3338	Literature and Culture of the Romantic Period	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3
ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
ENGL:3355	British Poetry	3

ENGL:3360	British Fiction	3
ENGL:4002	Honors Seminar: British Literature, 20th/21st Century	3
ENGL:4006	Honors Seminar: British Literature, 18th/19th Century	3

American Literature and Culture

Code	Title	Hours
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2410	Selected American Authors After 1900	3
ENGL:2420	American Literary Classics	3
ENGL:2425	American Poetry	3
ENGL:2438	American Novel Before 1900	3
ENGL:2440	American Novel After 1900	3
ENGL:2450	American Short Story	3
ENGL:2460	Black Literature and Politics: Controversies of National Allegiance	3
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:3418	Literature and Culture of America Before 1800	3
ENGL:3419	Literature and Culture of Nineteenth-Century America	3
ENGL:3420	Literature and the Culture of Twentieth-Century America	3
ENGL:3429	Topics in American Literature Before 1900	3
ENGL:3430	Topics in American Literature After 1900	3
ENGL:3431	American Novel Since 1945	3
ENGL:3439	American Drama Before 1900	3
ENGL:3440	American Drama Since 1900	3
ENGL:3441	Native American Literature	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3450	American Regional Literatures	3
ENGL:3455	Jewish American Literature	3
ENGL:3459	African American Literature Before 1900	3
ENGL:3460	African American Literature After 1900	3
ENGL:3462	African American Drama	3
ENGL:3465	African American Autobiography	3
ENGL:3470	Gender, Sexuality, and American Literature	3
ENGL:3489	Contemporary American Women Writers	3
ENGL:4001	Honors Seminar: American Literature, 20th/21st Century	3

ENGL:4005	Honors Seminar: American Literature, 18th/19th Century	3
ENGL:4410	Midwest African American Literature and Culture	3

Transnational Literature and Postcolonial Studies

Code	Title	Hours
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2510	Selected Transnational Authors	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:2570	Love, War, Activism: Stories About Women from Across the World	3
ENGL:2571	Visualizing Human Rights	3
ENGL:3510	Topics in Transnational Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
ENGL:3520	Literature and Culture of the 20th and 21st Century	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3532	Modernist Women Writers	3
ENGL:3535	Inter-American Studies	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3550	African Literature	3
ENGL:3555	Topics in African Cinema	3
ENGL:3570	Transnational and Postcolonial Writing by Women	3
ENGL:3580	Identity and Social Issues	3
ENGL:3595	International Literature Today	1-3
ENGL:4004	Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century	3
ENGL:4008	Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century	3

Nonfiction and Creative Writing

Code	Title	Hours
ENGL:3721	Writers' Seminar: Fiction	3
ENGL:3722	Writers' Seminar: Poetry	3
ENGL:3723	Writers' Seminar: Nonfiction	3
ENGL:3724	Writers' Seminar: Literary Translation	3
ENGL:3725	Writers' Seminar: Playwriting	3
ENGL:4011	Honors Seminar: Creative Writing	3

ENGL:4720	Advanced Creative Writing: Special Topic	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2690	The Art and Craft of Writing About Business	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2710	The Art and Craft of Food Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2730	The Art and Craft of Science Writing	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2760	The Art and Craft of Writing for Social Change	3
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2800	The Art and Craft of Writing Across Genres	3
CNW:2810	The Art and Craft of Writing with Emotion	3
CNW:2820	The Art and Craft of the Literary Essay	3
CNW:2830	The Art and Craft of Immersion Journalism	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:2850	The Art and Craft of Writing About Politics	3
CNW:2900	The Essay Prize	3
CNW:2910	Writing for Applications and Awards	3
CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3
CNW:3600	Issues in Creative Nonfiction	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3632	Prose Style	3
CNW:3633	Personal Writing	3
CNW:3640	Writing for Business and Industry	3
CNW:3644	Dublin Writing Workshop	3
CNW:3660	Multimedia Writing	3
CNW:3661	Film and Writing	3
CNW:3662	Graphic Writing	3
CNW:3663	Radio and Writing	3
CNW:3664	Writing About Science	3
CNW:4355	Approaches to Teaching Writing	3
CNW:4631	Advanced Essay Workshop	3
CNW:4635	Advanced Creative Nonfiction Writing	3
CNW:4642	Team Writing for Business	3

CNW:4690	Undergraduate Project in Nonfiction Writing	1-2
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3107	Creative Writing for the Health Professions	3
CW:3210	Creative Writing and the Natural World	3
CW:3215	Creative Writing and Popular Culture	3
CW:3217	Writing and Reading Young Adult Fiction	3
CW:3218	Creative Writing for New Media	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
CW:4894	Undergraduate Project in Creative Writing	arr.

Area Determined by Course Content

The following course's area is designated either as literary theory and interdisciplinary studies or as modern British literature and culture, depending on course context, which varies by semester. Consult MyUI for the semester-specific area designation.

Code	Title	Hours
ENGL:3010	Children's Literature	3

Historical Periods

Students must take at least two courses from each of the following three historical periods.

Early Literatures Through the 17th Century

Code	Title	Hours
ENGL:2206	Classical and Biblical Literature	3
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:2236	Selected Early Authors	3
ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226	Literature and Culture of the Middle Ages	3
ENGL:3228	Literature and Culture of the Restoration	3
ENGL:3236	Literature and the Culture of the Renaissance	3
ENGL:3237	Literature and Culture of Seventeenth-Century England	3
ENGL:3246	16th- and 17th-Century Poetry	3
ENGL:3256	Old English Language and Literature	3

ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276	Medieval Drama	3
ENGL:3277	English Renaissance Drama	3
ENGL:3286	Chaucer	3
ENGL:3287	Shakespeare	3
ENGL:3296	Milton	3
ENGL:4009	Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century	3

Literature of the 18th/19th Century

Code	Title	Hours
ENGL:2309	Selected British Authors Before 1900	3
ENGL:2329	Topics in Modern British Literature Before 1900	3
ENGL:2338	Eighteenth-Century British Literature	3
ENGL:2348	British Romanticism	3
ENGL:2359	Victorian Literature	3
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2438	American Novel Before 1900	3
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3
ENGL:3338	Literature and Culture of the Romantic Period	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3
ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3
ENGL:3418	Literature and Culture of America Before 1800	3
ENGL:3419	Literature and Culture of Nineteenth-Century America	3
ENGL:3429	Topics in American Literature Before 1900	3
ENGL:3439	American Drama Before 1900	3
ENGL:3459	African American Literature Before 1900	3
ENGL:4005	Honors Seminar: American Literature, 18th/19th Century	3
ENGL:4006	Honors Seminar: British Literature, 18th/19th Century	3
ENGL:4007	Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century	3
ENGL:4008	Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century	3

Literature of the 20th/21st Century

Code	Title	Hours
ENGL:2100	Introduction to Criticism and Theory	3
ENGL:2105	Disability in Literature and Cultural Theory	3
ENGL:2150	Introduction to the Short Story	3
ENGL:2160	Introduction to Drama	3
ENGL:2170	Introduction to the Essay	3
ENGL:2191	Modern Fiction	3
ENGL:2192	Postmodern Fiction	3
ENGL:2194	Lyric Structures	3
ENGL:2310	Selected British Authors After 1900	3
ENGL:2330	Topics in Modern British Literature After 1900	3
ENGL:2360	Twentieth-Century British Literature	3
ENGL:2361	Twenty-first-Century British Literature	3
ENGL:2410	Selected American Authors After 1900	3
ENGL:2440	American Novel After 1900	3
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2510	Selected Transnational Authors	3
ENGL:2570	Love, War, Activism: Stories About Women from Across the World	3
ENGL:2571	Visualizing Human Rights	3
ENGL:3100	Topics in Criticism and Theory	3
ENGL:3105	Topics in Popular Culture	3
ENGL:3130	Topics in Film and Literature	3
ENGL:3135	Narrative and the Cinema	3
ENGL:3145	The Contemporary Literary Magazine and Editorial Practice	3
ENGL:3150	Literature and Philosophic Thought	3
ENGL:3152	Literature and Society	3
ENGL:3173	Gender, Sexuality, and Literature	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:3186	Science Fiction	3
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
ENGL:3420	Literature and the Culture of Twentieth-Century America	3

ENGL:3430	Topics in American Literature After 1900	3
ENGL:3431	American Novel Since 1945	3
ENGL:3440	American Drama Since 1900	3
ENGL:3441	Native American Literature	3
ENGL:3455	Jewish American Literature	3
ENGL:3460	African American Literature After 1900	3
ENGL:3465	African American Autobiography	3
ENGL:3470	Gender, Sexuality, and American Literature	3
ENGL:3489	Contemporary American Women Writers	3
ENGL:3510	Topics in Transnational Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
ENGL:3520	Literature and Culture of the 20th and 21st Century	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3532	Modernist Women Writers	3
ENGL:3535	Inter-American Studies	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3550	African Literature	3
ENGL:3555	Topics in African Cinema	3
ENGL:3570	Transnational and Postcolonial Writing by Women	3
ENGL:3595	International Literature Today	1, 3
ENGL:4001	Honors Seminar: American Literature, 20th/21st Century	3
ENGL:4002	Honors Seminar: British Literature, 20th/21st Century	3
ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century	3
ENGL:4004	Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century	3
ENGL:4172	London Performance Study	3
ENGL:4195	Interdisciplinary Studies	3
ENGL:4410	Midwest African American Literature and Culture	3

Historical Period Determined by Course Content

The historical period of each of the following courses is designated as 18th/19th-century literature or 20th/21st-century literature, depending on course content, which varies by semester. Consult MyUI for semester-specific period designations.

Code	Title	Hours
ENGL:2130	Introduction to the Novel	3
ENGL:2140	Introduction to Poetry	3
ENGL:2193	Literature, Culture, and Women	3
ENGL:2369	Topics in British Culture and Identity	3
ENGL:2420	American Literary Classics	3
ENGL:2425	American Poetry	3
ENGL:2450	American Short Story	3
ENGL:2460	Black Literature and Politics: Controversies of National Allegiance	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:3010	Children's Literature	3
ENGL:3102	Topics in Poetry and Poetics	3
ENGL:3155	Literature and Art	3
ENGL:3160	Literary Genres and Modes	3
ENGL:3320	Modern British Drama	3
ENGL:3355	British Poetry	3
ENGL:3360	British Fiction	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3450	American Regional Literatures	3
ENGL:3462	African American Drama	3
ENGL:3580	Identity and Social Issues	3

The historical period of each of the following courses is designated as early literatures through the 17th century, or 18th/19th-century literature, or 20th/21st-century literature, depending on course content, which varies by semester. Consult MyUI for semester-specific period designations.

Code	Title	Hours
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3165	Literature and the Environment	3
ENGL:4000	English Honors Seminar	3
ENGL:4011	Honors Seminar: Creative Writing	3
ENGL:4150	Introduction to Book Studies	3

Publishing Track

The world of publishing includes many different careers: editors, designers, agents, even sales representatives. Students who are interested in these careers may wish to pursue the publishing track. By selecting courses carefully, students may complete the track without adding additional semester hours to their total credit required for graduation.

Courses range across print and digital media, exposing students to the history and practice of literary publishing while developing their skills in editing, proofreading, and writing with clarity and purpose. Internships and hands-on class learning offer students the opportunity to produce their own publications and gain practical experience.

Students in the publishing track must complete the following.

Code	Title	Hours
Literary Publishing		
Both of these (6 s.h.):		
CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3
Editing, Book Design, or Revision		
One of these (3 s.h.):		
ENGL:2900	Book Design for Publishing	3
ENGL:3145	The Contemporary Literary Magazine and Editorial Practice	3
CNW:3632	Prose Style	3
History of the Book and the Publishing Industry		
One of these (3 s.h.):		
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:4150	Introduction to Book Studies	3
Career Preparation		
One of these (1-3 s.h.):		
ENGL:2040	English at Work	1
ENGL:4010	Special Project for Undergraduates	arr.
CCP:1201	Academic Internship	1-3

Students should consult the department's advisor for information about completing the English major with the publishing track.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the College of Education's Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors interested in earning elementary school licensure should contact the Office of Student Services for information about requirements.

The following courses are required for students earning secondary school licensure.

English Courses

Students complete these courses as part of the English major.

Code	Title	Hours
ENGL:3190/ EDTL:3382	Language and Learning (area: literary theory and interdisciplinary studies)	2-3

ENGL:3191/ EDTL:3393	Reading and Teaching Adolescent Literature (area: literary theory and interdisciplinary studies)	3
CNW:4355/ EDTL:4355	Approaches to Teaching Writing (area: nonfiction and creative writing)	3

A Shakespeare course

Three American literature courses

A British literature course

One nonfiction or creative writing course in
addition to CNW:4355

Education Courses

These College of Education courses are required for teacher education.

Code	Title	Hours
EDTL:3002	Technology in the Classroom	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	1,3
EDTL:4087	Seminar: Curriculum and Student Teaching	1-3
EDTL:4091	Observation and Laboratory Practice in the Secondary School (student teaching)	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School (student teaching)	6
EDTL:4314	Introduction and Practicum: Secondary English	3
EDTL:4315/ ENGL:4810	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	2-3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:1075	Educational Psychology and Measurement	3

One college-level mathematics or statistics
course

Admission

Applicants to the Teacher Education Program (TEP) in English must complete a minimum of 30 s.h., including ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures and an additional 12 s.h. in English courses, before they are admitted to the program. The following courses do not count toward the additional 12 s.h.: ENGL:1200 through ENGL:1350, ENGL:3190 Language and Learning, ENGL:3191 Reading and Teaching Adolescent Literature, and CNW:4355 Approaches to Teaching Writing.

Admission to the TEP is selective; contact the College of Education's Office of Student Services for information.

Minor Licensure in English

Students who seek licensure for secondary teaching in fields other than English may seek minor licensure in English. First-

year courses in rhetoric, speech, or writing do not count toward this requirement.

The English minor licensure program includes the following course work.

Code	Title	Hours
ENGL:3190/ EDTL:3382	Language and Learning	2-3
ENGL:3191/ EDTL:3393	Reading and Teaching Adolescent Literature	3
CNW:4355/ EDTL:4355	Approaches to Teaching Writing	3
EDTL:4315/ ENGL:4810	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	2-3

An American literature course

A British literature course

A course in creative or nonfiction writing

An additional English course

While this program meets minimum requirements for licensure, the department recommends that students who want to teach English have considerably more training in the field.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major and to enhance their course of study through honors seminars and thesis writing. All students interested in taking honors course work are encouraged to join the English Honors Program as soon as they qualify. Students may join online; visit English Honors Program on the Department of English website.

Students must take two honors seminars, complete a two-semester thesis project, and maintain a University of Iowa g.p.a. of at least 3.33 and an English major g.p.a. of at least 3.50.

Each year the department offers four honors seminars covering a wide range of subject areas and historical periods. Honors seminars are limited to 18 students, carry 3 s.h. of credit, and meet three hours each week. These courses require substantial reading and research and culminate in a 15-20 page essay. Students register for ENGL:4001-ENGL:4009; the honors seminars cover different areas and historical periods.

To register for a seminar, students are encouraged to have a University of Iowa g.p.a. of at least 3.33 and they must have completed three English courses (not including introductory courses in nonfiction or creative writing) with an English major g.p.a. of at least 3.33. The department also recommends that students complete ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures before taking an honors seminar.

The two-semester thesis project requires ENGL:4020 Honors Thesis Workshop (fall) and ENGL:4040 Undergraduate Honors Project (independent study), for a total of 6 s.h. To enroll in ENGL:4020, students must have completed one honors seminar with a grade of A-minus or higher and must have a

University of Iowa g.p.a. of at least 3.33 and an English major g.p.a. of at least 3.50.

The English Honors Program has established careful guidelines for each of the six types of honors theses accepted by the department: literary and cultural studies, nonfiction writing, electronic writing and multimedia production, English education, creative writing, and the interdisciplinary thesis for double honors, which allows a student to earn honors in two majors with one longer project. Information on thesis guidelines is available on the English Honors Program web page.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the English major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least two courses in the major

Before the seventh semester begins: at least four more courses (total of six) in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two more courses (total of eight) in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

English, B.A.

Course	Title	Hours
First Year		
Fall		
GE CLAS Core: Literary, Visual, and Performing Arts ^{a, b}		3
RHET:1030	Rhetoric	4
GE CLAS Core: Diversity and Inclusion ^b		3
Major: "Reading and Writing About" course numbered ENGL:201X		3
CSI:1600	Success at Iowa	2
	Hours	15
Spring		
ENGL:2030	Literary Readings Attendance	1
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures ^c	3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^e		3
	Hours	17-18
Second Year		
Fall		
Major: transnational literature course numbered ENGL:25XX or ENGL:35XX		3
WRIT:1600	Fast Fixes: Improving Your Writing in Six Short Weeks	1
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: Values and Culture ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^e		1
	Hours	16-17
Spring		
Major: American 18th-/19th-century literature course numbered ENGL:24XX or ENGL:34XX		3
Major: creative nonfiction or fiction writing course ^f		3
Major: literary theory course numbered ENGL:21XX or ENGL:31XX		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
	Hours	16-17
Third Year		
Fall		
Major: English concentration course (or English honors seminar)		3
Major: medieval literature course numbered ENGL:22XX or ENGL:32XX		3
ENGL:2040	English at Work	1
GE CLAS Core: Literary, Visual, and Performing Arts ^{a, b}		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course ^e		3
	Hours	17-18

Spring

Study Abroad (optional)

Major: British 18th/19th-century literature course numbered ENGL:23XX or ENGL:33XX	3
GE CLAS Core: International and Global Issues ^b	3
GE CLAS Core: Social Sciences ^b	3
Elective course ^e	3
Elective course ^e	3
Hours	15

Fourth Year**Fall**

Major: early literature/17th-century literature course numbered ENGL:22XX or ENGL:32XX	3
Major: elective course or honors thesis/capstone project	3
Major: English concentration course	3
GE CLAS Core: Values and Culture ^b	3
Elective course ^e	2
Hours	14

Spring

Major: internship or ENGL:4040 Undergraduate Honors Project (Honors thesis project part 2)	3
Major: elective course	3
Major: English concentration course	3
Elective course ^e	3
Elective course ^e	3
Hours	15
Total Hours	125-129

- a Students majoring in English are not required to fulfill the GE CLAS Core Interpretation of Literature requirement but instead may substitute a Literary, Visual, and Performing Arts course excluding: DANC:1010 through DANC:2040, DANC:4880, and MUS:1020.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Major courses can be taken in any order as long as ENGL:2010 is taken before any 3000-level-course.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students may count up to 6 s.h. earned in courses with prefix CW toward the major.

Career Advancement

The English major prepares students for a wide variety of career paths including teaching, medicine, law, graduate school, and jobs in the private and nonprofit sector where writing, organization, research, and communication is highly valued. Within a year of graduation, over 92 percent of Department of English students are employed or in graduate programs.

The department's advisor helps guide students in their career path. The Department of English partners with the Pomerantz Career Center to introduce career development strategies and offer resources to help students find internships and jobs. For more information, students are encouraged to explore Career Planning for English Majors on the Department of English

website or enroll in the 1 s.h. course, ENGL:2040 English at Work.

English and Creative Writing, B.A.

Learning Outcomes

The goal is for students who graduate from the Department of English to demonstrate the skills of reflective reading, critical thinking, effective speaking, compelling writing, and engaged citizenship.

- Reflective readers:
 - analyze literary and cultural texts through close reading;
 - gain broad knowledge of several fields of literature;
 - grasp formal elements of key literary genres; and
 - learn to read comparatively to illuminate aesthetic, social, and cultural contributions of texts.
- Critical thinkers:
 - approach texts with a spirit of critical inquiry and flexibility;
 - formulate productive questions;
 - use textual evidence to support individual interpretations; and
 - draw upon several different critical approaches to literature in English.
- Effective speakers:
 - express opinions about the texts they read through discussion and written assignments;
 - listen respectfully to others' opinions; and
 - work in class—whether through active listening or discussion—to learn by synthesizing a range of texts, insights, and opinions.
- Compelling writers:
 - express their ideas in clear, fluent, and lively prose;
 - organize their ideas effectively;
 - use textual evidence to illustrate and support their insights and arguments;
 - demonstrate the ability to write in different modes that are appropriate to particular contexts;
 - engage properly with relevant scholarship and creative work; and
 - use research skills that include understanding of methods, technology, and conventions.
- Engaged world citizens:
 - communicate respect and understanding for the literatures and cultures of diverse historical periods, geographical regions, and cultures;
 - explore ethical issues raised by literature;
 - reflect on the ways that literature addresses issues of social justice; and
 - use reading, speaking, and writing skills to engage with the ethical concerns raised by literature in their daily and professional lives.

Overview

The major enables students to experience the historical, traditional, and innovative aspects of literature in English and the relationship between critical reading and creative writing. The major provides the transferable skills important for a liberal arts major, including the ability to think deeply and creatively, read complex texts with comprehension, and master writing and speaking skills at an advanced level.

The English and creative writing major introduces students to the wealth of resources associated with the University of Iowa and the Iowa City writing communities. For over 75 years, the Department of English and the University of Iowa Writers' Workshop have been leaders in the area of writing. The M.F.A. offered by the Nonfiction Writing Program and administered by the Department of English has been voted the top M.F.A. program in creative nonfiction in the United States. Likewise, the M.F.A. program in the Writers' Workshop is annually noted as the top graduate program in the country.

The international reputation of writing at Iowa is boosted by synergy across colleges, with the International Writing Program hosting published writers each fall from countries around the world and each spring traveling to other countries, taking Iowa writing on the road. This synergy helps the University and Iowa City draw writers of all ages and nationalities to its writing community. The community is bolstered by the strong readings series offered by the Nonfiction Writing Program, the Writers' Workshop, and Prairie Lights Books, with hundreds of readings archived by the Iowa Digital Library, creating a resource for future writers and scholars.

The status of Iowa City as a UNESCO City of Literature also has enriched the writing community, with people from across the Midwest visiting the city during the annual Book Festival. The new Massive Open Online Courses (MOOCs) offered by the Department of English, "Every Atom: Walt Whitman's Song of Myself," and by the International Writing Program's series called "How Writers Write" have enrolled thousands of students and adult learners, enhancing the reputation of the University of Iowa as the "Writing University." The Summer Writing Festival, Iowa Young Writers' Studio, the Certificate in Writing, the Center for the Book, the Iowa Playwrights Workshop, and the Iowa Youth Writing Project all help to turn Iowa City into a destination for young writers, who are drawn to the city for its heritage and for its current community of writers.

Requirements

The Bachelor of Arts in English and creative writing requires a minimum of 120 s.h., including at least 42 s.h. of work for the major. Of the 42 s.h., at least 36 s.h. must be selected from the Department of English courses (prefix ENGL, CNW, CW). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn at least 30 s.h. work for the major at the University of Iowa.

Students earning a major in English and creative writing may not earn a major in English.

Students pursuing the B.A. in English and creative writing can choose to complete requirements for the publishing track; see "Publishing Track" below for information.

Only courses numbered above 2000 count toward the English and creative writing major. The following courses do not count toward the major.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3
Courses numbered ENGL:1000-ENGL:1999		

The B.A. with a major in English and creative writing requires the following course work.

Code	Title	Hours
Introductory Courses		6
Literature Core Courses		15
Creative Writing Core Courses		18
Electives (prefix ENGL, CNW, or CW courses)		3
Total Hours		42

Introductory Courses

Students complete both of the following.

Code	Title	Hours
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures	3
ENGL:2020	Foundations of Creative Writing: Craft, Practice, Pleasure	3

Literature Core Courses

Core courses help students to learn and practice critical reading and analysis, to understand the relation of literature to history and culture, and introduce students to the context and tradition of literature written in English.

The area and historical periods for English courses are identified under English Courses [p. 357] in this section of the Catalog and in the MyUI Courses descriptions. Since most courses satisfy both an area requirement and a historical period requirement, most students complete these requirements with the same courses.

Area Requirement

A minimum of 3 s.h. must be completed from each of the following five areas of English literary study for a minimum total of 15 s.h. of course work.

- American literature and culture
- Literary theory and interdisciplinary studies
- Medieval and early modern literature and culture
- Modern British literature and culture
- Transnational literature and postcolonial studies

Historical Period Requirement

A minimum of 3 s.h. from each of the following three historical periods in English literary study (total of 9 s.h.) must be completed.

- Early literature through the 17th century
- 18th/19th-century literature
- 20th/21st-century literature

Diversity Requirement

Multiethnic American Literature and Culture

Students must complete one multiethnic American literature and culture course (at least 3 s.h.) from the following.

Code	Title	Hours
ENGL:2460	Black Literature and Politics: Controversies of National Allegiance	3
ENGL:2462	The Look of Blackness: African American Literature and Visual Art	3
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:3441	Native American Literature	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3455	Jewish American Literature	3
ENGL:3459	African American Literature Before 1900	3
ENGL:3460	African American Literature After 1900	3
ENGL:3462	African American Drama	3
ENGL:3465	African American Autobiography	3
ENGL:4410	Midwest African American Literature and Culture	3

The following courses may be designated as fulfilling the Multiethnic American Literature and Culture requirement depending on course content, which varies by semester (consult MyUI for semester-specific information):

ENGL:2409	Selected American Authors Before 1900	3
ENGL:2410	Selected American Authors After 1900	3
ENGL:3431	American Novel Since 1945	3

Creative Writing Core Courses

The creative writing core provides courses in a range of literary genres. Students choose a minimum of 9 s.h. in electives and a minimum of 9 s.h. in advanced courses, as listed below.

Creative Writing Electives

The creative writing electives give students flexible choices to focus on fiction, nonfiction, poetry, or other genres of writing, and allow students to experiment across genres. Courses focus on the particulars of craft, tradition, and innovation. Many of the courses are repeatable, enabling students to further develop in a particular writing form. Some of these courses have prerequisites.

Students must select a minimum of 9 s.h. from the following.

Code	Title	Hours
CINE:2861	Screenwriting: Short Form	3
CINE:2867	Screenwriting: Long Form	3

Courses numbered CNW:2680-4999

Courses numbered CW:2000-4999

THTR:2301	Playwriting I	3
THTR:3301	Playwriting II	3
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:3320	Writing for Film	3
TRNS:3179	Undergraduate Translation Workshop	3

Advanced Requirements

Students must first complete the two introductory courses —ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures and ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure—before they enroll in advanced courses. Advanced courses give students flexible choices so they can focus on fiction, nonfiction, poetry, or other genres of writing, and provide the opportunity to experiment across genres. Courses focus on the particulars of craft, tradition, and innovation. Most of the advanced courses are repeatable and most have prerequisites.

Students must select a minimum of 9 s.h. in advanced creative writing courses from the following.

Code	Title	Hours
ENGL:4020	Honors Thesis Workshop	3
ENGL:4720	Advanced Creative Writing: Special Topic	3
ENGL:4721	Advanced Writers' Seminar: Fiction	3
ENGL:4722	Advanced Writers' Seminar: Poetry	3
ENGL:4723	Advanced Writers' Seminar: Nonfiction	3
ENGL:4724	Advanced Writers' Seminar: Literary Translation	3
ENGL:4725	Advanced Writers' Seminar: Playwriting	3
CNW:4631	Advanced Essay Workshop	3
CNW:4635	Advanced Creative Nonfiction Writing	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3
THTR:3310	Undergraduate Playwriting Workshop	1-3

Publishing Track

The world of publishing includes many different careers: editors, designers, agents, even sales representatives. Students who are interested in these careers may wish to pursue the publishing track. By selecting courses carefully, students may complete the track without adding additional semester hours to their total credit required for graduation.

Courses range across print and digital media, exposing students to the history and practice of literary publishing while developing their skills in editing, proofreading, and writing with clarity and purpose. Internships and hands-on class

learning offer students the opportunity to produce their own publications and gain practical experience.

Students in the publishing track must complete the following.

Literary Publishing

Both of these (6 s.h.):

CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3

Editing, Book Design, or Revision

One of these (3 s.h.):

ENGL:2900	Book Design for Publishing	3
ENGL:3145	The Contemporary Literary Magazine and Editorial Practice	3
CNW:3632	Prose Style	3

History of the Book and the Publishing Industry

One of these (3 s.h.):

ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:4150	Introduction to Book Studies	3

Career Preparation

One of these (1-3 s.h.):

ENGL:2040	English at Work	1
ENGL:4010	Special Project for Undergraduates	arr.
CCP:1201	Academic Internship	1-3

Students should consult the department's advisor for information about completing the English and creative writing major with the publishing track.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. They must complete these requirements:

- maintain a University of Iowa g.p.a. of at least 3.33 and an English and creative writing major g.p.a. of at least 3.50;
- complete 6 s.h. of course work in Department of English honors seminars, ENGL:4000 English Honors Seminar-ENGL:4009 Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century (3 s.h. each), with a grade of at least A-minus in one enrollment;
- complete a 3 s.h. enrollment in ENGL:4020 Honors Thesis Workshop; and
- successfully complete a thesis in accordance with existing requirements in the English Honors Program. Information on thesis guidelines is available on the English Honors Program web page.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the English and creative writing major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least six courses in the major, including ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures; ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure; and an approved introduction to creative writing course (consult advisor)

Before the seventh semester begins: at least four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

English and Creative Writing, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:2020	Foundations of Creative Writing: Craft, Practice, Pleasure	3
RHET:1030	Rhetoric	4
GE CLAS Core: Diversity and Inclusion ^a		3
GE CLAS Core: Literary, Visual, and Performing Arts ^{a, b}		3
CSI:1600	Success at Iowa	2
Hours		15
Spring		
Major: Creative Writing elective		3
ENGL:2030	Literary Readings Attendance	1
GE CLAS Core: Historical Perspectives ^a		3
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
Elective course ^c		3
Elective course ^c		2 - 3
Hours		15-16

Second Year

Fall

ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures ^d	3
Major: Creative Writing elective		
GE CLAS Core: Natural Sciences without Lab ^a		3
GE CLAS Core: Values and Culture ^a		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
Hours		13-14

Spring

ENGL:4720	Advanced Creative Writing: Special Topic	3
Major: literary theory course numbered ENGL:21XX, ENGL:31XX, or ENGL:41XX		
GE CLAS Core: Natural Sciences with Lab ^a		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^c		2 - 3
Hours		16-18

Third Year

Fall

Major: Multiethnic American Literature and Culture course numbered ENGL:24XX or ENGL:34XX		3
Major: writing seminar course numbered ENGL:472X		3
GE CLAS Core: Literary, Visual, and Performing Arts ^{a, f}		3
GE CLAS Core: Social Sciences ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^c		1
Hours		17-18

Spring

Study Abroad (optional)		
Major: British 18th/19th-century literature course numbered ENGL:23XX or ENGL:33XX or ENGL:4006		3
Honors Seminar: British Lit, 18/19 C		
Major: Advanced Writing course		3
GE CLAS Core: International and Global Issues ^a		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^c		3
Elective course ^c		1
Hours		17-18

Fourth Year

Fall

ENGL:2040	English at Work	1
Major: advanced writing elective or senior capstone project		3
Major: early literature/17th-century literature course numbered ENGL:22XX or ENGL:32XX		3
Major: elective writing or literature course		3
Elective course ^c		3
Elective course ^c		2
ENGL:4040	Undergraduate Honors Project	3
Hours		18

Spring

Major: transnational literature course numbered ENGL:25XX or ENGL:35XX		3
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Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	12
Total Hours	123-129

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Recommended courses to fulfill this requirement: THTR:2301 or CW:1800
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Major courses can be taken in any order as long as ENGL:2010 is taken before any 3000-level course.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students majoring in English are not required to fulfill the GE CLAS Core Interpretation of Literature requirement but instead may substitute a Literary, Visual, and Performing Arts course excluding: DANC:1010 through DANC:2040, DANC:4880, and MUS:1020.

Career Advancement

The English and creative writing major prepares students for a wide variety of career paths including teaching, medicine, law, graduate school, and jobs in the private and nonprofit sector where writing, organization, research, and communication is highly valued. Within a year of graduation, over 92 percent of Department of English students are employed or in graduate programs.

The department's advisor helps guide students in their career path. The Department of English partners with the Pomerantz Career Center to introduce career development strategies and offer resources to help students find internships and jobs. For more information, students are encouraged to explore Career Planning for English Majors on the Department of English website, or enroll in the 1 s.h. course, ENGL:2040 English at Work.

English, Minor

The undergraduate minor in English requires a minimum of 15 s.h. in English courses, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. of approved transfer credit toward the minor. Before taking courses for the minor, students must complete the GE CLAS Core [p. 459] requirement, ENGL:1200 The Interpretation of Literature.

The minor must include at least 6 s.h. in literature courses numbered ENGL:2100 through ENGL:4810; the remaining 9 s.h. may be selected from additional courses in literature and from most courses in writing (prefixes CNW and CW), with a maximum of 6 s.h. earned in courses with the prefix CW.

Only courses numbered above 2000 count toward the English minor. The following courses do not count toward the English minor.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3
Courses numbered ENGL:1000 through ENGL:1645		

Students may declare the English minor on MyUI. In order for the minor to be recorded, students must indicate completion of the minor on their degree application.

Students who would like help declaring the minor or in planning how to meet its requirements may stop by the Department of English advising office or schedule an appointment with an advisor by contacting the English department's front desk administrator.

English, Master of Arts

The Master of Arts program in English introduces students to the professional study of literature.

The M.A. is appropriate for students who would like graduate training in English and who may have an undergraduate major in a different field or who may intend to earn a Ph.D. at another institution. Students interested in careers in any area of book studies (professional writing, editing, web design, or publishing) may wish to earn the M.A. as a terminal degree, as may teachers seeking to enhance their credentials or students pursuing intellectual growth unrelated to a specific career.

M.A. and Ph.D. students in English mix freely in graduate courses, share the same access to faculty, and meet the same standards of quality in their work.

Exam for the Master of Arts in Teaching

The department administers the English component of the exam for the Master of Arts in Teaching (M.A.T.) in coordination with the College of Education. M.A.T. students should contact the Department of Teaching and Learning for information.

Requirements

The Master of Arts program in English requires a minimum of 30 s.h. of graduate credit. The program's focus is literary studies. Students may receive credit for up to 6 s.h. of transfer courses toward the M.A. degree. They must maintain a University of Iowa g.p.a. of at least 3.00. Students who wish to transfer to Iowa's Ph.D. program must complete two semesters or 15 s.h. of course work in literature (whichever is completed first) before applying for admission to the doctoral program.

Course Work

Each student must take five courses numbered 5000 or above as indicated below. Applicable transfer courses must be approved by the director of graduate study in English.

Code	Title	Hours
One course in criticism and theory numbered 5000 or above		
Four courses numbered 5000 or above, chosen from the following five eras of British, American, and/or Anglophone literature and culture: pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries		

Elective courses constitute half of the total credit for the degree and may be chosen from graduate courses both in and outside the English department. Students may wish to explore opportunities for interdisciplinary study, language study, experience in theory and practice of writing, or specialization in a field of literary scholarship.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

Completion of the M.A. requires either a thesis or a portfolio. Students submit a written description of their choice to the director of the program before the semester in which they plan to graduate.

M.A. Thesis

Students who choose to write a thesis must submit a brief prospectus approved by a thesis director before they register for thesis credit and at least one semester before they submit the thesis. The thesis committee consists of the thesis director, the director of the M.A. program, and one other faculty member. The thesis is evaluated by the committee as either satisfactory or unsatisfactory.

A copy of the thesis must be presented to the Graduate College for approval. For detailed information about Graduate College deadlines and policies, see the Manual of Rules and Regulations of the Graduate College.

Portfolio

Near the end of their course work, students who do not choose the thesis option must submit a portfolio of work to the M.A. examination committee, which consists of the director of the M.A. program and two other English faculty members. All three read the full portfolio. To pass, the candidate must have a majority vote of the committee members.

Students take the first step toward preparing to submit a portfolio by meeting with the director of the M.A. program to discuss the portfolio, early during the semester in which they plan to graduate. After fulfilling all distribution and eligibility requirements and clearing all incomplete grades, students present the director with a draft of the portfolio's introductory statement. Students planning to graduate at the end of fall semester should present the statement by the first week of October; those who plan to graduate at the end of spring semester should present the statement by the first week of March. Once the director approves the statement, the student must submit three copies of the full portfolio; the submission deadline is November 1 for students planning to graduate at the end of fall semester and April 1 for those who will graduate at the end of spring semester.

The work in the portfolio should demonstrate the student's knowledge of literature as a broad historical and theoretical inquiry. Students submit approximately 50 pages (12,500 words) of their best work, along with a self-reflective introductory statement of five to seven pages. The body of the portfolio should contain papers originally produced for classes, revised for a broader audience unfamiliar with the original classes. The introduction should detail the student's trajectory in the program and the literary-critical or methodological skills gained. It also should explain the contents of the portfolio, contextualize each paper, and give a brief overview of the writing. Students are expected to describe the research methods used in assembling their portfolios and the critical practices that ground their work.

Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14. Applicants should submit their applications and supporting materials to the University of Iowa Office of Admissions website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The Master of Arts in English degree helps prepare students for careers in professional writing, editing, web design, and publishing. It also is desirable for teachers seeking to enhance their credentials.

English (creative writing), M.F.A.

The Master of Fine Arts in English with a creative writing subprogram features advanced courses in writing fiction and poetry. Students in creative writing study at the Iowa Writers' Workshop, renowned as a pioneer in teaching writers since its founding in 1936.

Requirements

The Master of Fine Arts program in English with a creative writing subprogram requires a minimum of 48 s.h. of graduate credit. The degree is offered through the Creative Writing Program (Iowa Writers' Workshop), a two-year residency program that culminates in a creative thesis, such as a novel, a collection of stories, or a book of poetry.

Throughout the program, workshop students craft their manuscripts and engage in an exchange of ideas about writing and reading with each other and with the renowned teacher-authors who make up the workshop's faculty.

Admission to the program is competitive.

For details about the M.F.A. in English (creative writing) and about the Iowa Writers' Workshop, see Creative Writing (Iowa Writers' Workshop) [p. 303] in the Catalog.

English (nonfiction writing), M.F.A.

The Master of Fine Arts in English with a nonfiction writing subprogram, known as the Nonfiction Writing Program, is one of the few programs in the nation that offers a full range of graduate courses in nonfiction.

Requirements

The Master of Fine Arts program English with a nonfiction writing subprogram requires 48 s.h. of graduate credit. It is designed for accomplished students and writers of literary nonfiction; most complete it in three years. The program culminates in a thesis of at least 75 pages.

M.F.A. students must complete 32 s.h. in residence at the University of Iowa, in courses specified by the program. They also have plentiful room in their schedules to take advantage of a variety of electives offered by the English department and by all other University of Iowa departments.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

In addition to completing course work, students are required to enroll for at least 2 s.h. and no more than 8 s.h. of thesis credit. The thesis may be a single extended piece of nonfiction, a collection of shorter nonfiction pieces, or a collection of essays. Whatever the project, the thesis is expected to be of publishable quality.

For more information, consult the director of the Nonfiction Writing Program.

Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14. Applicants should submit their applications and supporting materials to the University of Iowa Office of Admissions website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Graduate scholarships, fellowships, and teaching and research assistantships are awarded on a competitive basis. The department strives to provide three years of support for students who maintain good standing, which requires a University of Iowa g.p.a. of at least 3.00, full-time enrollment, and satisfactory progress through the program.

Financial aid applications are considered only from students who have applied or been admitted to a degree program in the Graduate College. Applications and all necessary supporting material must be submitted by the end of January for the following academic year. Forms are available from the Department of English and the University's Office of Admissions.

Career Advancement

An Our Alum page on the Department of English website provides information about Nonfiction Writing Program graduates.

English, Ph.D.

The Doctor of Philosophy program in English is designed as preparation for the teaching, publishing, and administrative service required of a career in academia and to provide depth of study in the field of English.

For further information, see the Ph.D. in English on the department's website.

Requirements

The Doctor of Philosophy program in English requires a minimum of 72 s.h. of graduate credit. Concentrations are offered in areas such as literary history and critical theory, as well as interdisciplinary areas such as cultural studies and transnational studies.

Of the minimum 72 s.h. required for the degree, at least 51 s.h. must in graded course work at the 3000-level or above. Of those, at least 30 s.h. must be in English courses at the 5000-level or above.

Students must gain formal admission to Ph.D. candidacy by a vote of the Graduate Steering Committee, usually during the third semester of doctoral study.

Students complete course work in literature and culture of any four of these historical periods, as expressed in texts of the English-speaking and -writing world (usually but not always British or American): pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries. They also complete three seminars in the Department of English at the University of Iowa.

Students also must fulfill the program's foreign language requirement, usually by taking a standardized test or completing an advanced undergraduate course numbered 3000 or above in a language other than English.

The comprehensive examination consists of the following: a portfolio of five scholarly questions based on a period of literary history (usually British or American); a review essay and annotated bibliography in a special area of interest; two course syllabi; an article to be submitted for publication; and an introduction to the portfolio that synthesizes its parts in preparation for a two-hour oral exam.

A dissertation is required. Students present their prospectus formally to a faculty committee and must undergo a final exam defending the dissertation.

All doctoral candidates are strongly advised to gain some teaching experience, preferably in the College of Liberal Arts and Sciences Department of Rhetoric and in GE CLAS Core [p. 459] literature courses.

For application forms and a complete description of the Ph.D. program, contact the department's graduate program academic coordinator.

Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Graduate scholarships, fellowships, and teaching and research assistantships are awarded on a competitive basis. The department strives to provide five years of support for students who enter with an M.A. and six years of support for students who enter with a B.A. Students must be in good standing, which requires a University of Iowa g.p.a. of at least 3.00, full-time enrollment, and satisfactory progress through the program.

Financial aid applications are considered only from students who have applied or been admitted to a degree program in the Graduate College. Applications and all necessary supporting material must be submitted by the end of January for the following academic year. Forms are available from the Department of English and the University's Office of Admissions.

Career Advancement

Most Ph.D. graduates seek employment at colleges and universities. Although the Department of English cannot guarantee such employment, it does supply vigorous assistance. Because there is no certainty that all doctoral graduates in English will find continuing academic employment, it is valuable to remain open to the opportunity of jobs outside the profession of teaching. A number of graduates are finding employment in academic administration, the digital humanities, business, and government.

See information about Ph.D. job placement within and without academia at Ph.D. Placement on the department's website.

English as a Second Language

Director

- Maureen E. Burke

Assistant Directors

- Jeffrey D. Knowling, Melissa Meisterheim

Faculty: <https://clas.uiowa.edu/esl/people>

Website: <https://clas.uiowa.edu/esl/>

The University of Iowa offers English as a Second Language (ESL) instruction in three distinct, but related, programs: ESL credit classes, the Iowa Intensive English Program (IIEP), and the Teaching Assistant Preparation in English program (TAPE).

These programs meet the needs of students whose first language is not English. ESL credit classes help students raise their English proficiency so they can complete a degree successfully. IIEP provides intensive instruction for students who must raise their English proficiency to gain admission to a university or college. TAPE helps students improve their oral competence in English so they may assume classroom teaching responsibilities.

Programs

ESL Credit Program

English as a Second Language credit classes bridge the gap between full-time language instruction and full-time academic work, serving students who score a minimum of 80-100 (internet-based) with no subscore below 17 on the Test of English as a Foreign Language (TOEFL). ESL courses are offered to help students increase their proficiency in four skill areas: reading, writing, speaking, and listening. A course in grammar also is available. Each course offers 3 s.h. of credit, which undergraduates may count as elective credit toward graduation. Courses are taught by ESL lecturers and by teaching assistants pursuing advanced degrees in linguistics.

Acceptable TOEFL scores may change. Check with the Office of Admissions for more information.

Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement must be completed with a grade of C or higher. If a student earns a grade of C-minus or lower in an ESL course, the course must be retaken in order for the student to fulfill the ESL course requirement. An ESL course must be taken for a letter grade and may not be taken pass/nonpass or satisfactory/unsatisfactory. Students are not allowed to drop ESL courses once the semester begins. A student held for ESL courses may not enroll in a rhetoric course until the ESL requirement is completed.

Visit the ESL Credit Program website for more information.

Iowa Intensive English Program (IIEP)

The Iowa Intensive English Program (IIEP) serves students who have not yet achieved the language proficiency needed to compete successfully in a degree program. The program welcomes international students preparing to enter universities and colleges in the United States as well as other adults who want to improve their English skills. Conditional admission to the University of Iowa is possible for undergraduate students. For more details regarding

conditional admission, visit International Students on the Office of Admissions website.

IIEP offers intensive English instruction and a cultural, social, and academic orientation to the United States. Instruction emphasizes proficiency in spoken and written English, which is crucial to college and university work. Grammar and the basic language skills of writing, reading, listening comprehension, and speaking are taught each day at all levels, from beginning through advanced. Instruction is by full-time professional ESL instructors.

Each IIEP student receives 20 hours of classroom instruction each week (27 hours per week in summer) plus individual work in the language laboratory. IIEP students have full access to all University facilities. Field trips and cultural and social experiences are integral parts of the program.

International students admitted to the IIEP receive a certificate of eligibility (Form I-20), which enables them to apply for a student visa at the nearest U.S. consulate or embassy. Application materials are available from the ESL Programs Office and on the Iowa Intensive English Program website.

Teaching Assistant Preparation in English (TAPE)

The Teaching Assistant Preparation in English program (TAPE) is designed for graduate students whose first language is not English, who need additional work on English communication, and who will hold teaching assistantships while enrolled at the University of Iowa. Only students who need the program and who have sufficient competence in English to profit from it are eligible. TAPE courses are open to graduate students who have been evaluated for TA certification and to others if space is available. Students are taught by full-time professional ESL instructors.

Courses

- English as a Second Language Courses [p. 392]
- Iowa Intensive English Program Courses [p. 393]
- Teaching Assistant Preparation in English Courses [p. 395]

English as a Second Language Courses

The following courses are for students whose first language is not English. Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement may not be taken pass/nonpass. English as a Second Language (ESL) courses may not be taken as satisfactory/unsatisfactory. In order to enroll in ESL courses, undergraduates must score 80 (internet-based) or higher on the Test of English as a Foreign Language (TOEFL), or the equivalent; graduate students must score 81 (internet-based) or higher on TOEFL, or the equivalent. Consent of ESL director is required for all courses.

ESL:0050 ESL: Transitional Communication Skills 0 s.h.
Foundational speaking skills (pronunciation, grammar, vocabulary); development of foundational listening skills for the U.S. academic setting and society.

ESL:0100 ESL: Transitional Oral Skills 0 s.h.
Speaking skills for the U.S. academic setting and society; pronunciation, grammar, vocabulary; structured opportunity to develop foundational fluency.

ESL:0130 ESL: Transitional Listening 0 s.h.
Development of foundational listening skills; focus on listening skills necessary for success in a U.S. academic setting.

ESL:0160 ESL: Transitional Grammar 0 s.h.
English structure; troublesome grammar patterns.

ESL:0190 ESL: Transitional Writing 0 s.h.
Foundational grammatical constructions; vocabulary use expected of university students; organization styles, coherence, and analytic methods used in academic writing.

ESL:0200 ESL: Transitional Reading 0 s.h.
Increase reading speed and comprehension of academic-style writing and vocabulary; exercises, discussion, and note-taking assignments to develop critical analysis skills.

ESL:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

ESL:1005 ESL Special Topics 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings). Same as CLAS:1005.

ESL:4100 English as a Second Language: Academic Oral Skills 3 s.h.

Speaking skills for the U.S. academic setting and society; pronunciation, grammar, vocabulary; structured opportunity to develop fluency.

ESL:4130 English as a Second Language: Academic Listening Skills 3 s.h.

Development of listening skills for students whose first language is not English; focus on listening skills necessary for success in a U.S. academic setting; academic lectures, note-taking skills, fast-paced classroom discussions. Requirements: undergraduate standing.

ESL:4160 English as a Second Language Grammar 3 s.h.
English structure; troublesome grammar patterns.

ESL:4190 English as a Second Language: Academic Writing 3 s.h.

Complex grammatical constructions, discourse considerations, formal vocabulary use expected of university students; organization styles, types of argumentation, analytic methods used in academic writing. Requirements: undergraduate standing.

ESL:4200 English as a Second Language: Academic Reading Skills 3 s.h.

Increasing reading speed and comprehension of university-level writing and vocabulary; exercises, discussion, and note-taking assignments to develop critical analysis skills.

ESL:6000 English as a Second Language: Writing Skills for Graduate Students 3 s.h.

Discourse considerations; styles of organization, types of argumentation, methods of analysis expected of graduate students. Requirements: TOEFL score of at least 550 (paper-based) or 81 (internet-based).

Iowa Intensive English Program Courses

These courses are for students whose first language is not English. The Iowa Intensive English Program (IIEP) primarily serves students on conditional admission, those who have not yet been admitted to the University, and those who score

below 80 (internet-based) on the Test of English as a Foreign Language (TOEFL).

IIEP:0001 Iowa Intensive English Program Orientation 0 s.h.

Acquaint new intensive English students with Iowa City, the University, and the intensive English program; policies and procedures, classroom expectations, and cultural differences. Requirements: enrollment in intensive English program.

IIEP:0115 Iowa Intensive English Communication Skills: Beginning 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0135 Iowa Intensive English Reading: Beginning 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

IIEP:0145 Iowa Intensive English Grammar: Beginning 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

IIEP:0155 Iowa Intensive English Writing: Beginning 0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

IIEP:0170 Iowa Intensive English: Communication Skills for Professionals 0 s.h.

Listening and speaking skills for international professionals; conversational fluency, language for professional interactions (e.g., discussions and presentations).

IIEP:0215 Iowa Intensive English Communication Skills: Low Intermediate 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0235 Iowa Intensive English Reading: Low Intermediate 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

IIEP:0245 Iowa Intensive English Grammar: Low Intermediate 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

IIEP:0255 Iowa Intensive English Writing: Low Intermediate 0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

IIEP:0315 Iowa Intensive English Communication Skills: Intermediate 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0335 Iowa Intensive English Reading: Intermediate 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

IIEP:0345 Iowa Intensive English Grammar: Intermediate 0 s.h.

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

IIEP:0355 Iowa Intensive English Writing: Intermediate 0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

IIEP:0415 Iowa Intensive English Communication Skills: High Intermediate 0 s.h.

Spoken English and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0435 Iowa Intensive English Reading: High Intermediate 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

IIEP:0455 Iowa Intensive English Writing: High Intermediate 0 s.h.

Personal and formal writing; varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

IIEP:0465 IIE Listening Skills: High Intermediate 0 s.h.

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

IIEP:0515 Iowa Intensive English Communication Skills: Advanced 0 s.h.

Spoken English and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0535 Iowa Intensive English Reading: Advanced 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

IIEP:0555 Iowa Intensive English Writing: Advanced 0 s.h.

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

IIEP:0565 IIE Listening Skills: Advanced 0 s.h.

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

IIEP:0915 Special Program Iowa Intensive English Program Communication Skills 0 s.h.

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

IIEP:0935 Special Program Iowa Intensive English Program Reading 0 s.h.

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0955 Special Program Iowa Intensive English
Program Writing 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0965 Special Program Iowa Intensive English
Program Listening 0 s.h.**

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

Teaching Assistant Preparation in English Courses

The Teaching Assistant Preparation in English (TAPE) program is designed for prospective teaching assistants whose first language is not English and who need additional work on English communication skills. Entry to the program is determined by a test.

TAPE:5100 Pronunciation, Fluency Building, and Culture 0 s.h.

Attain greater fluency for teaching by making short presentations and participating in natural interactions about U.S. culture; intensive work on pronunciation to help future teaching assistants attain maximum intelligibility.

**TAPE:5220 TA Preparation in English:
Pronunciation 0 s.h.**

Intensive work toward maximum intelligibility; emphasis on stress, timing, intonation.

TAPE:5300 TA Preparation in English: Presentation Skills 0 s.h.

Intelligibility of speech and clarity of expression in presenting and responding; practice in videotaped lectures.

TAPE:5330 TA Preparation in English: Orientation 0 s.h.

Student expectations, typical teacher/student relationships, basic classroom management at the University.

Enterprise Leadership

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, Enterprise Leadership

- David K. Hensley (Management and Organizations)

Undergraduate major: enterprise leadership (B.A.)

Website: <https://www.iowajpec.org/students/academics/ba-enterprise-leadership>

The enterprise leadership major provides an option for students who want to focus on entrepreneurial business leadership. The major presents a unique blend of skills, theory, and content, encouraging students to apply their knowledge and skills to entrepreneurial and growing organizations. It is designed to prepare students for career success—whether they desire to be an innovator inside a large organization or aspire to be an entrepreneur and launch their own business. The program offers a combination of business and liberal arts approaches and allows students to hone their skills in innovation, entrepreneurship, communication, critical thinking, problem solving, and leadership.

The major in enterprise leadership is offered jointly by the College of Liberal Arts and Sciences and the John Pappajohn Entrepreneurial Center in the Tippie College of Business. The degree is awarded by the College of Liberal Arts and Sciences.

Enterprise Leadership is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

Programs

Undergraduate Program of Study Major

- Major in Enterprise Leadership (Bachelor of Arts) [p. 397]

Enterprise Leadership, B.A.

Learning Outcomes

Students will:

- develop an entrepreneurial mindset to successfully identify, evaluate, and seize upon opportunities throughout their professional careers;
- understand the role of creativity, innovation, and management practices across the functional areas of businesses and organizations;
- develop a personal leadership approach that promotes effective teamwork, encourages diverse perspectives, and yields ethical solutions that create sustainable social and economic value;
- demonstrate critical thinking and problem-solving skills to strategically address complex issues and develop innovative, holistic, and sustainable solutions;
- demonstrate effective written and oral communication skills to professionally communicate and present information and recommendations in a clear, logical, and persuasive manner;
- understand the value and impact of contributions from diverse populations on businesses, organizations, and communities; and
- develop a global mindset by understanding the key economic, social, and cultural issues that impact local, national, and international entrepreneurship.

Requirements

The Bachelor of Arts with a major in enterprise leadership requires a minimum of 120 s.h., including a minimum of 47 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The B.A. in enterprise leadership may be earned at the Iowa City campus, the Des Moines campus, or online; more online courses are added each year.

Students may use transfer course work to fulfill Entrepreneurship and Business Core requirements in place of ENTR:1350 Foundations in Entrepreneurship and ENTR:2000 Entrepreneurship and Innovation. A minimum of 27 s.h. toward the major must be taken at the University of Iowa.

Students may double count a maximum of 6 s.h. earned for another major, minor, or certificate toward the B.A. in enterprise leadership, with the exception of the business administration minor. Enterprise leadership majors may double count a maximum of three courses toward their major and a business minor.

Students who wish to enroll in an online course should register in an EX section.

Enterprise leadership majors may not earn the Certificate in Entrepreneurial Management.

The B.A. with a major in enterprise leadership requires the following course work.

Code	Title	Hours
Foundation Courses		14-19
Entrepreneurship and Business Core		15-19
Leadership: Personal Leadership and Social Context of Leadership Courses		6
U.S. Cultural Diversity Course		3
Communication Courses		6-7
Capstone Experience		3
Total Hours		47-57

Foundation Courses

Foundation courses introduce students to the basic skills, tools, and concepts they will need for the major.

Code	Title	Hours
Mathematics		
Both of these:		
MATH:1005	College Algebra	4
MATH:1010	Trigonometry	3
Or one of these:		
MATH:1020	Elementary Functions (section EX)	4
MATH:1340	Mathematics for Business (section EX)	4
MATH:1380	Calculus and Matrix Algebra for Business (section EX)	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus (section EX)	4
MATH:1850	Calculus I	4
Economics		
One of these:		
ECON:1100	Principles of Microeconomics (section EX)	4
ECON:1200	Principles of Macroeconomics (section EX)	4
Statistics		
One of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference (section EX)	3
STAT:1030	Statistics for Business (section EX)	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods (section EX)	3
Sociology		
This course:		
SOC:1010	Introduction to Sociology (section EX)	3-4

Entrepreneurship and Business Core

The entrepreneurship and business core supports students' understanding of the essence and operation of entrepreneurial enterprises.

Code	Title	Hours
This course:		
ENTR:1350	Foundations in Entrepreneurship (section EX)	2
Or both of these:		
ACCT:2100	Introduction to Financial Accounting (section EX)	3
MKTG:3000	Introduction to Marketing Strategy (section EX)	3
And all of these:		
ENTR:2000	Entrepreneurship and Innovation (section EX)	3
ENTR:3050	Professional Preparation for Enterprise Leadership and Entrepreneurship (EX section)	1
ENTR:3100	Entrepreneurial Finance (section EX)	3
ENTR:3200	Entrepreneurial Marketing (section EX)	3
ENTR:4400	Managing the Growth Business (section EX)	3

Leadership

Personal Leadership

These courses help students reflect on the importance of leadership while developing their own leadership style and skills.

Code	Title	Hours
At least 3 s.h. from these:		
LS:1020	Introduction to Leadership	3
LS:1024	Alternative Break Service Learning	1-3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice (section EX)	3
LS:3004	Perspectives on Leadership: Principles and Practices (section EX)	3
LS:3010	Global Leadership Initiative (section EX)	1

Social Context of Leadership

Courses introduce students to the impact of social constructs on leadership and organizational effectiveness, such as economic class and cultural and social differences.

Code	Title	Hours
One of these:		
LS:3002	Career Leadership Academy Part 2: Leadership in Action (section EX)	3
SOC:3610	Organizations and Modern Society	3

SOC:3880	The Sociology of Networks	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership (section EX)	3
SOC:4230	Sociology of Self-Improvement	3

U.S. Cultural Diversity

The following courses provide an overview of the complexity of diversity in the United States, and a comprehensive introduction to related issues.

Code	Title	Hours
One of these:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
AMST:2025	Diversity in American Culture	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America (section EX)	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies (section EX)	3
GWSS:1002	Diversity and Power in the U.S.	3
HIST:1040	Diversity in History	3
HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
SOC:2810	Social Inequality (section EX)	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3

Communication

The following courses help students develop an understanding of contemporary communication theory and how it is applied.

Code	Title	Hours
Communication Theory		
At least 3 s.h. from these:		
COMM:1112	Interpersonal Communication (section EX)	3
COMM:1117	Theory and Practice of Argument	4
COMM:1130	The Art of Persuading Others (section EX)	3

COMM:1170	Communication Theory in Everyday Life	3
COMM:1174	Media and Society	3
JMC:1100	Media Uses and Effects	3
JMC:1200	Media History and Culture	3
JMC:1500	Social Media Today (section EX)	3
JMC:3110	Visual Communication	3
Applied Communication		
At least 3 s.h. from these:		
BUS:3800	Business Writing	3
CNW:3640	Writing for Business and Industry	3
CNW:4642	Team Writing for Business	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
INTD:3005/ CW:3005	Professional and Creative Business Communication (section EX)	3
MGMT:4100	Dynamics of Negotiations (section EX)	3
RHET:2055/ GWSS:2055	Persuasion and Advocacy	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2085	Speaking Skills	3
RHET:2800	Social Media: Persuasion, Influence, Connection	3
THTR:2610/ RHET:2610	Acting for Success	3

Capstone Experience

Students engage in an entrepreneurial leadership experience and apply their knowledge and skills through a business consulting/field study project or internship with an external business or nonprofit organization. The capstone experience should be related to a student's career goals and involve the development and application of professional business skills such as project management; market research, analysis and planning; financial management and forecasting; operations management; sales; organizational leadership; or professional business communications. Students also may choose to plan and launch their own business to meet the capstone requirement.

Students also may choose an experiential learning course not listed below from another College of Liberal Arts and Sciences major, with prior approval from the John Pappajohn Entrepreneurial Center.

Code	Title	Hours
One of these:		
ENTR:3000	Practicum in Entrepreneurship	3
ENTR:4100	International Entrepreneurship and Culture	1-3
ENTR:4200	Entrepreneurship: Business Consulting (section EX)	3

ENTR:4300	Entrepreneurship: Advanced Business Planning (section EX)	3
ENTR:4900	Academic Internship	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Students must earn a minimum of 49 s.h. of work for the major. They must maintain a University of Iowa cumulative g.p.a. of 3.50 and a g.p.a. of at least 3.50 in all course work for the major. Students must earn at least 6 s.h. of honors or honors-designated course work for the major. They also must complete an honors thesis in ENTR:4999 Honors Thesis in Entrepreneurial Studies by creating original research in partnership with a full-time faculty member. In addition, students must complete the capstone experience required for the major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the enterprise leadership major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: six courses in the major

Before the seventh semester begins: four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: four more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Enterprise Leadership, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
SOC:1010	Introduction to Sociology ^a	3
GE CLAS Core: Diversity and Inclusion ^b		3

GE CLAS Core: Values and Culture ^b	3
CSI:1600 Success at Iowa	2
Hours	14-15

Spring

ENGL:1200 The Interpretation of Literature or RHET:1030 or Rhetoric	3 - 4
ENTR:1350 Foundations in Entrepreneurship	2
Major: mathematics requirement ^c	3
GE CLAS Core: Natural Sciences with Lab ^b	4
Elective course ^d	3
Hours	15-16

Second Year**Fall**

ENTR:2000 Entrepreneurship and Innovation	3
Major: statistics requirement ^c	3 - 4
GE CLAS Core: Historical Perspectives ^b	3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-18

Spring

ENTR:3100 Entrepreneurial Finance or ENTR:3200 Entrepreneurial Marketing	3
ECON:1200 Principles of Macroeconomics or ECON:1100 or Principles of Microeconomics	4
GE CLAS Core: International and Global Issues ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^d	2
Hours	16-17

Summer

ENTR:4900 Academic Internship ^f	0 - 3
Hours	0-3

Third Year**Fall**

ENTR:3200 Entrepreneurial Marketing or ENTR:3100 Entrepreneurial Finance	3
Major: entrepreneurial elective course ^f	3
GE CLAS Core: Natural Sciences without Lab ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
Hours	16-17

Spring

ENTR:4200 Entrepreneurship: Business Consulting	3
Major: U.S. cultural diversity course	3
Major: personal leadership course ^g	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-17

Summer

ENTR:4900 Academic Internship ^f	0 - 3
Hours	0-3

Fourth Year**Fall**

ENTR:4400 Managing the Growth Business	3
Major: communication theory course ^h	3 - 4
Major: entrepreneurial elective course ^f	3
Major: social context of leadership course	3
Elective course ^d	3
Hours	15-16

Spring

ENTR:4200 Entrepreneurship: Business Consulting	3
ENTR:3050 Professional Preparation for Enterprise Leadership and Entrepreneurship	1
Major: applied communication course	3
Major: entrepreneurship elective course ^f	3
Elective course ^d	3 - 5
Hours	13-15
Total Hours	121-137

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students should choose a mathematics or statistics requirement that will also complete the GE: Quantitative or Formal Reasoning requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f This course or experience is recommended not required.
- g Students must complete at least 3 s.h. in personal leadership courses.
- h Students must complete at least 3 s.h. in communication theory courses.

Career Advancement

Enterprise leadership students develop a solid foundation in entrepreneurial management, and leadership and communication skills that will prepare them for a variety of professional career opportunities or prepare them to start their own business. Students are able to apply their innovative problem solving and critical thinking skills to contemporary issues, to develop strategies to seize upon opportunities, and to build and lead successful teams.

Graduates find rewarding careers in general management, business analysis, marketing and professional communications, management consulting, project management, and as founders or executives in start-up businesses. Students are prepared to work in large corporations, small- to medium-sized businesses, and nonprofit organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Environmental Policy and Planning

Chair, Department of Geographical and Sustainability Sciences

- David A. Bennett

Coordinator, Environmental Policy and Planning

- Richard Tyler Priest (History)

Undergraduate major: environmental policy and planning (B.A., B.S.)

Undergraduate minor: environmental policy and planning

Faculty: <https://clas.uiowa.edu/geography/people/faculty>

Website: <https://clas.uiowa.edu/geography/undergraduate-program/environmental-policy-and-planning-eppl-babs>

The undergraduate programs of study in environmental policy and planning are administered by the Department of Geographical and Sustainability Sciences [p. 496].

Programs

Undergraduate Programs of Study

Majors

- Major in Environmental Policy and Planning (Bachelor of Arts) [p. 402]
- Major in Environmental Policy and Planning (Bachelor of Science) [p. 407]

Minor

- Minor in Environmental Policy and Planning [p. 412]

Environmental Policy and Planning, B.A.

Learning Outcomes

Students who earn a degree in environmental policy and planning will be able to:

- critically analyze complex environmental problems to identify how they result from interactions among the physical environment and human societies, economies, and political systems;
- identify ways in which humans impact and are impacted by the environment;
- identify key stakeholders and sources of information in the natural and social sciences to consider in developing solutions to environmental problems;
- explain the role of policy and planning in addressing environmental issues locally, regionally, and globally;
- work collaboratively in interdisciplinary teams to design approaches to managing environmental problems; and
- identify and implement key tools and methods for environmental planning and policy making.

Requirements

The Bachelor of Arts with a major in environmental policy and planning requires a minimum of 120 s.h., including at least 47-50 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must complete at least 21 s.h. of work for the major in residence at the University of Iowa.

The major in environmental policy and planning concentrates on the social science and policy dimensions of environmental problems, which often are caused by people and may have significant economic effects. Environmental issues are embedded in a complex mesh of economics, politics, culture, history, and behavior. Planners and policy makers must understand the human dimensions of these factors in order to solve environmental problems.

The environmental policy and planning major is interdisciplinary; it draws courses from geographical and sustainability sciences, anthropology, economics, political science, history, and other disciplines. Work for the major includes introductory courses, methods courses, intermediate courses, and one of two tracks: the planning track or the policy track.

Students who earn a second major in anthropology, geography, political science, or history must complete a minimum of 12 s.h. of course work in the second major that they do not also count toward the major in environmental policy and planning. The 12 s.h. of courses must be offered by the second major's administrative home: anthropology (prefix ANTH), geographical and sustainability sciences (prefix GEOG), or political science (prefix POLI). This requirement applies whether students earn the same degree (B.A. or B.S.) with both majors or earn a B.A. with one major and a B.S. with the other. However, honors students in environmental policy

and planning may count their honors thesis credit toward this 12 s.h. requirement.

Students may not use a course to satisfy more than one requirement of the major.

The B.A. with a major in environmental policy and planning requires the following course work.

Code	Title	Hours
Introductory Courses		16-17
Intermediate Courses		9
Methods Courses		7-8
Capstone Course/Research Project		3-4
Track Courses		12
Total Hours		47-50

Introductory Courses

Code	Title	Hours
These courses (10 s.h.):		
ECON:1100	Principles of Microeconomics	4
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2261	Human Impacts on the Environment	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3

Intermediate Courses

Code	Title	Hours
This course:		
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
One of these:		
ANTH:3103	Environment and Culture	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
NAIS:3276/ RELS:3976	American Indian Environmentalism	3
One of these:		
GEOG:3400	Iowa Environmental Policy in Practice	3
POLI:1400	Introduction to Comparative Politics	3
POLI:3111	American Public Policy	3

Methods Courses

Code	Title	Hours
This course:		
GEOG:1050	Foundations of GIS	4
One of these:		
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Capstone Course/Research Project

Students complete a capstone course or research project. Capstone or research project courses are typically taken by students during their senior year. Students who choose GEOG:3992 Undergraduate Research, GEOG:4995 Honors Thesis, POLI:4601 Honors Senior Thesis, or ANTH:4996 Honors Research must make arrangements with a faculty advisor.

Code	Title	Hours
One of these:		
GEOG:3992	Undergraduate Research	3
GEOG:4030	Senior Project Seminar	3
GEOG:4995	Honors Thesis	3
POLI:4601	Honors Senior Thesis	3
Or, students may take both of these:		
ANTH:4995	Honors Research Seminar	2
ANTH:4996	Honors Research	2

Tracks

Students choose either the planning track or the policy track and complete their track's required course work.

Planning Track

The planning track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course or seek permission of the instructor.

Code	Title	Hours
This course:		
GEOG:3800	Environmental Economics and Policy	3
Three of these:		
ECON:3640/ URP:3134	Regional and Urban Economics	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3

GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ GHS:4770	Environmental Justice	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

Policy Track

The policy track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Code	Title	Hours
This course:		
POLI:2417	Comparative Environmental Policy	3
Three of these:		
ANTH:3237/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3122	Public Choice	3
POLI:3123	State Politics in Iowa (section EX)	3

POLI:3126	Environmental Policy	3
POLI:3204/ SOC:3525	Public Opinion	3
POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students in the program must maintain a cumulative UI g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the major's honors program by the first semester of their senior year or earlier.

Honors students pursue study beyond the typical undergraduate level. They work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Students earn credit for the thesis by registering for GEOG:4995 Honors Thesis or POLI:4601 Honors Senior Thesis, or for both ANTH:4995 Honors Research Seminar and ANTH:4996 Honors Research. Students may substitute GEOG:4030 Senior Project Seminar for GEOG:4995 or POLI:4601, or for both ANTH:4995 and ANTH:4996 as long as they continue to work on the thesis under the direction of a faculty member.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental policy and planning major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: one introductory course in the major

Before the fifth semester begins: four courses in the major

Before the seventh semester begins: eight courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 11 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Environmental Policy and Planning, B.A.

- Planning Track [p. 404]
- Policy Track [p. 405]

Planning Track

Course	Title	Hours
First Year		
Fall		
ECON:1100	Principles of Microeconomics ^a	4
ENVS:1085 or EES:1080 or GEOG:1020	Fundamentals of Environmental Science or Introduction to Environmental Science or The Global Environment	3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^b		3
CSI:1600	Success at Iowa	2
Hours		15-17

Spring

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1070	Contemporary Environmental Issues ^a	3
Major: statistics course ^c		3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^b		3
Hours		15-17

Second Year

Fall

ANTH:2261 or ANTH:1046	Human Impacts on the Environment or Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
GEOG:2013	Introduction to Sustainability	3
Elective course ^b		1
Hours		14-15

Spring

GEOG:1050	Foundations of GIS	4
Major: intermediate political science (prefix POLI) or geography (prefix GEOG) course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^b		1 - 3
Hours		15-18

Third Year**Fall**

Major: intermediate anthropology course (prefix ANTH)	3
Major: planning track elective course	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
GE CLAS Core: Quantitative or Formal Reasoning ^{d, f}	3
Elective course ^b	1
Hours	14-15

Spring

GEOG:3800 Environmental Economics and Policy	3
GEOG:3780 U.S. Energy Policy in Global Context	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
GE CLAS Core: Natural Sciences with Lab ^d	4
Hours	14-15

Fourth Year**Fall**

Major: planning track elective course	3
GE CLAS Core: Values and Culture ^d	3
Elective course ^b	3
Elective course ^b	3
Elective course ^b	3
Hours	15

Spring

Major: planning track elective course	3
Major: senior capstone research project	3
Elective course ^b	3
Elective course ^b	3
Elective course ^b	3
Hours	15
Total Hours	117-127

a Fulfills a major requirement and may fulfill a GE requirement.

b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

c Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f If not previously completed through EPPL major statistics requirement.

Policy Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ECON:1100	Principles of Microeconomics ^a	4

ENVS:1085 or EES:1080 or GEOG:1020	Fundamentals of Environmental Science or Introduction to Environmental Science or The Global Environment	3 - 4
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Elective course ^b		3
CSI:1600	Success at Iowa	2

Hours	15-17
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Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GEOG:1070	Contemporary Environmental Issues ^a	3

Major: statistics course ^c	3 - 4
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GE CLAS Core: Diversity and Inclusion ^d	3
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Elective course ^b	3
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Hours	15-17
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Second Year**Fall**

GE CLAS Core: World Languages First Level Proficiency or elective course ^e	4 - 5
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ANTH:1046 or ANTH:2261	Big Ideas: People and the Environment - Technology, Culture, and Social Justice or Human Impacts on the Environment	3
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GEOG:2013	Introduction to Sustainability	3
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GE CLAS Core: Historical Perspectives ^d	3
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Elective course ^b	1
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Hours	14-15
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Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
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Major: intermediate political science (prefix POLI) or geography (prefix GEOG) course	3
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GEOG:1050	Foundations of GIS	4
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GE CLAS Core: Literary, Visual, and Performing Arts ^d	3
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Hours	14-15
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Third Year**Fall**

GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
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Major: intermediate anthropology course (prefix ANTH)	3
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POLI:2417	Comparative Environmental Policy	3
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GE CLAS Core: Quantitative or Formal Reasoning ^{d, f}	3
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Elective course ^b	1
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Hours	14-15
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Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
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GEOG:3780	U.S. Energy Policy in Global Context	3
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Major: policy track elective course	3
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GE CLAS Core: Natural Sciences with Lab ^d	4
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Hours	14-15
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Fourth Year**Fall**

Major: policy track elective course	3
GE CLAS Core: Values and Culture ^d	3
Elective course ^b	3
Elective course ^b	3
Elective course ^b	3
Hours	15

Spring

Major: policy track elective course	3
Major: senior capstone research project	3
Elective course ^b	3
Elective course ^b	3
Elective course ^b	3
Hours	15
Total Hours	116-124

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f If not previously completed through EPPL major statistics requirement.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs..

Environmental Policy and Planning, B.S.

Learning Outcomes

Students who earn a degree in environmental policy and planning will be able to:

- critically analyze complex environmental problems to identify how they result from interactions among the physical environment and human societies, economies, and political systems;
- identify ways in which humans impact and are impacted by the environment;
- identify key stakeholders and sources of information in the natural and social sciences to consider in developing solutions to environmental problems;
- explain the role of policy and planning in addressing environmental issues locally, regionally, and globally;
- work collaboratively in interdisciplinary teams to design approaches to managing environmental problems; and
- identify and implement key tools and methods for environmental planning and policy making.

Requirements

The Bachelor of Science with a major in environmental policy and planning requires a minimum of 120 s.h., including at least 53-56 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must complete at least 21 s.h. of work for the major in residence at the University of Iowa.

The major in environmental policy and planning concentrates on the social science and policy dimensions of environmental problems, which often are caused by people and may have significant economic effects. Environmental issues are embedded in a complex mesh of economics, politics, culture, history, and behavior. Planners and policy makers must understand the human dimensions of these factors in order to solve environmental problems.

The environmental policy and planning major is interdisciplinary; it draws courses from geographical and sustainability sciences, anthropology, economics, political science, history, and other disciplines. Work for the major includes introductory courses, methods courses, intermediate courses, and one of two tracks: the planning track or the policy track.

Students who earn a second major in anthropology, geography, political science, or history must complete a minimum of 12 s.h. of course work in the second major that they do not also count toward the major in environmental policy and planning. The 12 s.h. of courses must be offered by the second major's administrative home: anthropology (prefix ANTH), geographical and sustainability sciences (prefix GEOG), or political science (prefix POLI). This requirement applies whether students earn the same degree (B.A. or B.S.) with both majors or earn a B.A. with one major and a B.S. with the other. However, honors students in environmental policy

and planning may count their honors thesis credit toward this 12 s.h. requirement.

Students may not use a course to satisfy more than one requirement of the major.

The B.S. with a major in environmental policy and planning requires the following course work.

Code	Title	Hours
Introductory Courses		16-17
Intermediate Courses		9
Methods Courses		13-14
Capstone Course/Research Project		3-4
Track Courses		12
Total Hours		53-56

Introductory Courses

Code	Title	Hours
These courses (10 s.h.):		
ECON:1100	Principles of Microeconomics	4
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2261	Human Impacts on the Environment	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3

Intermediate Courses

Code	Title	Hours
This course:		
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
One of these:		
ANTH:3103	Environment and Culture	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
NAIS:3276/ RELS:3976	American Indian Environmentalism	3
One of these:		
GEOG:3400	Iowa Environmental Policy in Practice	3
POLI:1400	Introduction to Comparative Politics	3
POLI:3111	American Public Policy	3

Methods Courses

Code	Title	Hours
These courses:		
GEOG:1050	Foundations of GIS	4
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
STAT:2010	Statistical Methods and Computing	3
One of these:		
STAT:3120/ IGPI:3120	Probability and Statistics	4
POLI:3000	Analyzing Political Data	3
ANTH:5110	Anthropological Data Analysis	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Capstone Course/Research Project

Students complete a capstone course or a research project. Capstone or research project courses are typically taken by students during their senior year. Students who choose GEOG:3992 Undergraduate Research, GEOG:4995 Honors Thesis, POLI:4601 Honors Senior Thesis, or ANTH:4996 Honors Research must make arrangements with a faculty advisor.

Code	Title	Hours
One of these:		
GEOG:3992	Undergraduate Research	3
GEOG:4030	Senior Project Seminar	3
GEOG:4995	Honors Thesis	3
POLI:4601	Honors Senior Thesis	3
Or, students may take both of these:		
ANTH:4995	Honors Research Seminar	2
ANTH:4996	Honors Research	2

Tracks

Students choose either the planning track or the policy track and complete their track's required course work.

Planning Track

The planning track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course or seek permission of the instructor.

Code	Title	Hours
This course:		
GEOG:3800	Environmental Economics and Policy	3
Three of these:		
ECON:3640/ URP:3134	Regional and Urban Economics	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3

GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ GHS:4770	Environmental Justice	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

Policy Track

The policy track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Code	Title	Hours
This course:		
POLI:2417	Comparative Environmental Policy	3
Three of these:		
ANTH:3237/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3122	Public Choice	3
POLI:3123	State Politics in Iowa (section EX)	3
POLI:3126	Environmental Policy	3

POLI:3204/ SOC:3525	Public Opinion	3
POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students in the program must maintain a cumulative UI g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the major's honors program by the first semester of their senior year or earlier.

Honors students pursue study beyond the typical undergraduate level. They work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Students earn credit for the thesis by registering for GEOG:4995 Honors Thesis or POLI:4601 Honors Senior Thesis, or ANTH:4995 Honors Research Seminar and ANTH:4996 Honors Research.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental policy and planning major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: one introductory course in the major

Before the fifth semester begins: five courses in the major

Before the seventh semester begins: eight courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 12 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Environmental Policy and Planning, B.S.

- Planning Track [p. 409]
- Policy Track [p. 410]

Planning Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ECON:1100	Principles of Microeconomics ^a	4
EES:1080 or GEOG:1020 or ENVS:1085	Introduction to Environmental Science or The Global Environment or Fundamentals of Environmental Science	3 - 4
Elective course ^b		3
CSI:1600	Success at Iowa	2
Hours		15-17

Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1070	Contemporary Environmental Issues ^a	3
STAT:2010	Statistical Methods and Computing ^a	3
GE CLAS Core: Diversity and Inclusion ^c		3
Elective course ^b		3
Hours		15-16

Second Year

Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Major: upper-level statistics course		3
ANTH:1046 or ANTH:2261	Big Ideas: People and the Environment - Technology, Culture, and Social Justice or Human Impacts on the Environment	3
GEOG:2013	Introduction to Sustainability	3
Elective course ^b		1 - 3
Hours		14-17

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
GEOG:1050	Foundations of GIS	4
Major: intermediate political science (prefix POLI) or geography (prefix GEOG) course		3
Hours		14-15

Third Year

Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GEOG:3520	GIS for Environmental Studies	3
Major: intermediate anthropology course (prefix ANTH)		3
Major: planning track elective course		3

Elective course ^b	1 - 3
Hours	14-17
Spring	
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d	4 - 5
GEOG:3780 U.S. Energy Policy in Global Context	3
GEOG:3800 Environmental Economics and Policy	3
GE CLAS Core: Natural Sciences with Lab ^c	4
Hours	14-15
Fourth Year	
Fall	
Major: planning track elective course	3
GE CLAS Core: Values and Culture ^c	3
GE CLAS Core: Historical Perspectives ^c	3
Elective course ^b	3
Elective course ^b	3
Hours	15
Spring	
Major: planning track elective course	3
Major: senior capstone research project	3
Elective course ^b	3
Elective course ^b	3
Elective course ^b	3
Hours	15
Total Hours	116-127

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Policy Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
ECON:1100	Principles of Microeconomics ^a	4
GEOG:1020 or ENVS:1085 or EES:1080	The Global Environment or Fundamentals of Environmental Science or Introduction to Environmental Science	3 - 4
Elective course ^b		3
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1070	Contemporary Environmental Issues ^a	3

STAT:2010 ^a	Statistical Methods and Computing	3
GE CLAS Core: Diversity and Inclusion ^c		3
Elective course ^b		3
Hours		15-16

Second Year

Fall

GE CLAS Core: World Languages First Level Proficiency or elective course ^d	4 - 5
Major: upper-level statistics course	3
ANTH:2261 Human Impacts on the Environment or ANTH:1046 or Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
GEOG:2013 Introduction to Sustainability	3
Elective course ^b	1 - 3
Hours	14-17

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d	4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^c	3
GEOG:1050 Foundations of GIS	4
Major: intermediate political science (prefix POLI) or geography (prefix GEOG) course	3
Hours	14-15

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d	4 - 5
GEOG:3520 GIS for Environmental Studies	3
Major: intermediate anthropology course (prefix ANTH)	3
POLI:2417 Comparative Environmental Policy	3
Elective course ^b	3
Hours	16-17

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d	4 - 5
GEOG:3780 U.S. Energy Policy in Global Context	3
Major: policy track elective course	3
GE CLAS Core: Natural Sciences with Lab ^c	4
Hours	14-15

Fourth Year

Fall

Major: policy track elective course	3
GE CLAS Core: Values and Culture ^c	3
GE CLAS Core: Historical Perspectives ^c	3
Elective course ^b	3
Elective course ^b	3
Hours	15

Spring

Major: policy track elective course	3
Major: senior capstone research project	3
Elective course ^b	3
Elective course ^b	3

Elective course ^b	3
Hours	15
Total Hours	118-127

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Environmental Policy and Planning, Minor

The undergraduate minor in environmental policy and planning requires a minimum of 18 s.h., including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

For help in selecting courses, students should contact the department secretary to request an advisor for the minor. Students may apply a maximum of 6 s.h. toward both the minor in environmental policy and planning and any major or minor in the Departments of Anthropology, Geographical and Sustainability Sciences, or Political Science.

The minor in environmental policy and planning requires three core courses plus three courses from the student's choice of track: the planning track or the policy track. Students may not use a course to satisfy more than one requirement of the minor.

Core Courses

All students complete three core courses.

Code	Title	Hours
This course:		
GEOG:1070	Contemporary Environmental Issues	3
One of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
One of these:		
POLI:1400	Introduction to Comparative Politics	3
POLI:3111	American Public Policy	3

Students also complete course work in a single track, choosing three courses from either the planning track list or the policy track list below.

Planning Track

Code	Title	Hours
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ GHS:4770	Environmental Justice	3

NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3134/ ECON:3640	Regional and Urban Economics	3
URP:3135/ ECON:3625	Environmental and Natural Resource Economics	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

Policy Track

Code	Title	Hours
ANTH:3237/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
POLI:2417	Comparative Environmental Policy	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3122	Public Choice	3
POLI:3123	State Politics in Iowa (section EX)	3
POLI:3204/ SOC:3525	Public Opinion	3
POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

Environmental Sciences

Chair, Department of Earth and Environmental Sciences

- Charles "Tom" Foster Jr.

Coordinators, Environmental Sciences

- Emily Finzel, Andrew A. Forbes

Undergraduate major: environmental sciences (B.A., B.S.)

Undergraduate minor: environmental sciences

Faculty: <https://clas.uiowa.edu/envsci/people>

Website: <https://clas.uiowa.edu/envsci/>

The Environmental Sciences Program provides rigorous interdisciplinary training in the scientific study of the environment. It promotes an understanding of the earth as a complex network of interacting organic and inorganic systems. The program's undergraduate curricula reflect the diversity in the broad field of environmental sciences and draw upon the College of Liberal Arts and Sciences' disciplinary strengths, giving students the opportunity to develop particular areas of expertise.

Hands-on field experience is a crucial component of the program. Students are strongly encouraged to engage in research and study abroad.

The Department of Earth and Environmental Sciences [p. 338] is the administrative home for the Environmental Sciences Program.

Programs

Undergraduate Programs of Study

Majors

- Major in Environmental Sciences (Bachelor of Arts) [p. 415]
- Major in Environmental Sciences (Bachelor of Science) [p. 420]

Minor

- Minor in Environmental Sciences [p. 429]

Facilities

Depending on their choice of track and/or course selection, students majoring in environmental sciences may have the opportunity to take courses at Iowa Lakeside Laboratory, a field station located on West Lake Okoboji, in northwestern Iowa. Run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa, the laboratory offers courses at the undergraduate and graduate levels and provides excellent conditions for summer study in several disciplines. See Iowa Lakeside Laboratory [p. 1822] (University College) in the Catalog or visit the Lakeside Laboratory website.

Courses

Environmental Sciences Courses

ENVS:1080 Introduction to Environmental Science

3-4 s.h.

Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as EES:1080.

ENVS:1081 Introduction to Environmental Sciences Laboratory

1 s.h.

Laboratory component of EES:1080. Requirements: completion of 3 s.h. in EES:1080 or ENVS:1080; or 3 s.h. of transfer equivalent. GE: Natural Sciences Lab only. Same as EES:1081.

ENVS:1085 Fundamentals of Environmental Science

4 s.h.

Interdisciplinary study of how Earth's natural systems interact, how these systems affect society, and how they respond to human activity; how environmental problems can be solved and avoided by drawing upon knowledge in disciplines as diverse as ecology, anthropology, economics, chemistry, and political science; blended instructional environment, including traditional lectures, discussions in TILE classrooms, laboratory, online learning, peer-reviewed writing exercises, and service learning. Offered fall semesters. GE: Natural Sciences with Lab. Same as EES:1085.

ENVS:1115 The History and Science of Oil

3 s.h.

Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Historical Perspectives. Same as EES:1115, GEOG:1115, HIST:1115.

ENVS:2001 Second-Year Field Trip for Earth and Environmental Sciences

1 s.h.

Opportunity for students to begin developing an appreciation of earth system and earth history scales; application of classroom learning to field-based inquiry; real-world examples of introductory course material in an outdoor classroom setting. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080. Requirements: geoscience or environmental sciences major. Same as EES:2001.

ENVS:2200 Historical Geology

4 s.h.

Framework of earth history that is essential to understand how the earth system works; investigation of physical, biological, atmospheric, oceanographic, and chemical history of the earth to prepare for further earth and environmental science courses. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:1085 or ENVS:1085. Same as EES:2200.

ENVS:2673 Ecology

3 s.h.

Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: BIOL:1411 and BIOL:1412. Recommendations: a basic statistics or calculus course. Same as BIOL:2673.

ENVS:3000 Environmental Sciences Seminar 1 s.h.

Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: environmental sciences major.

ENVS:3001 Third-Year Field Trip for Earth and Environmental Sciences 1 s.h.

Opportunity for students to apply their major course work to real-world problems; field trip to visit parks, mines, and/or quarries in Missouri and Arkansas that illustrate many of the lessons learned in EES:2410 and EES:3500. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:2410. Requirements: geoscience or environmental sciences major, and junior standing. Same as EES:3001.

ENVS:3020 Earth Surface Processes 3 s.h.

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as EES:3020, GEOG:3020.

ENVS:3030 Conservation Paleobiology 4 s.h.

Exploration of how near- and deep-time geologic record pertains to conservation; restoration targets; best practices for conservation of ecosystems; human impacts. Same as EES:3030.

ENVS:3050 Geology of Iowa 2 s.h.

Exploration of geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; background of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms, utilizing natural landscapes in Iowa. Same as EES:3050.

ENVS:3051 Geology of Iowa Field Trip 1 s.h.

Exploration of the geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; field-based examples of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms utilizing the natural landscapes in Iowa. Recommendations: EES:3050. Same as EES:3051.

ENVS:3095 Field Ecology 4 s.h.

Analysis and interpretation of patterns and underlying physical and biotic basis for regional and local distributions of plants and animals of eastern Iowa; field observation, sampling, and laboratory analysis; conduction of several field research projects requiring collection, statistical analysis, and interpretation of data in short reports; field-oriented course. Recommendations: advanced undergraduate standing or graduate standing in ecology, environmental sciences, or geoscience.

ENVS:3096 Winter Ecology 2 s.h.

How seasons occur, thermoregulation, microhabitats, what animals are active, and winter plant identification; local area fieldwork.

ENVS:3097 Introduction to Bird Study 2 s.h.

Basic identification skills, bird banding, and bird ecology; Hageboeck Hall of Birds at the UI Museum of Natural History; local field study.

ENVS:3100 Introduction to Applied Remote Sensing 4 s.h.

Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Prerequisites: EES:1050 or EES:1080 or EES:1030. Same as EES:3100.

ENVS:3110 Chemical Evolution of the Oceans 3 s.h.

Investigation of various physicochemical states oceans have assumed over the past four billion years of Earth history; use of isotope geochemistry as a proxy for ancient ocean conditions; focus on integrated Earth system science, paleoceanographic and paleoclimate modeling, role of chemical stratigraphy in deciphering past climate states of ocean-atmosphere system; relationship between chemical changes in ocean/atmosphere and biological systems of the Earth. Same as EES:3110.

ENVS:4001 Fourth-Year Field Trip for Earth and Environmental Sciences 2 s.h.

Application of core course learning to real-world examples; students develop a broader understanding of interrelated aspects of earth and environmental sciences as truly integrated scientific endeavors; field trip to Big Bend National Park to highlight a wide range of geoscience and environmental science studies and provide students an opportunity to apply all aspects of their training to the amazing geologic landscape of southwest Texas; capstone field experience for students heading into their senior year. Prerequisites: EES:2831. Requirements: geoscience or environmental sciences major, and senior standing. Same as EES:4001.

ENVS:4700 Evolution of Ecosystems 3 s.h.

Evolutionary history of terrestrial and marine ecosystems; ecological processes from population to ecosystem levels; community assembly, trophic levels, networks, biodiversity dynamics; practical aspects of paleoecological data collection, statistical analysis, modeling. Requirements: two courses in geoscience, biology, environmental sciences, anthropology, or geography. Same as EES:4700.

Environmental Sciences, B.A.

Learning Outcomes

Environmental Sciences Program students will:

- synthesize scientific knowledge and methods across disciplines,
- comprehend and evaluate primary findings in published scientific articles,
- gain experience conducting independent research and/or reviewing scientific areas of interest, and
- effectively communicate scientific findings in written and/or oral form.

Requirements

The Bachelor of Arts with a major in environmental sciences requires a minimum of 120 s.h., including a minimum of 63 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]; some courses required for the major in environmental sciences may be used to satisfy GE CLAS Core requirements.

Students complete requirements in four areas: the science and mathematics foundation, the environmental sciences foundation, environmental sciences field study, and environmental sciences track courses.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on the geomorphic and environmental processes that shape the Earth's surface, the ecological factors that influence the distribution and abundance of organisms, and a choice of one course that deals with remote sensing techniques or with the use of geographic information technologies. The environmental sciences field study gives students hands-on experience with methods of analysis and interpretation of natural systems/organisms.

Each of the program's four tracks focuses on areas of specialization within environmental sciences:

- biosciences (green) track—biological systems and ecological approaches;
- chemical sciences (yellow) track—environmental systems and chemistry;
- geosciences (brown) track—earth materials and surficial geologic processes; and
- hydrosociences (blue) track—hydrogeology and hydrogeologic systems, and water chemistry.

Students select one course from each of the four tracks in order to develop breadth of understanding and skill in these areas.

The B.A. in environmental sciences requires the following course work.

Code	Title	Hours
	Science and Mathematics Foundation Courses	27
	Environmental Sciences Foundation Courses	15-16
	Environmental Sciences Field Study Course	3-4
	Environmental Sciences Policy Courses	6-7
	Environmental Sciences Track Courses	12-15
	Total Hours	63-69

Science and Mathematics Foundation

Students must complete at least 27 s.h. of course work, as follows.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
EES:1050	Introduction to Geology	4
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
One of these:		
CHEM:2021	Fundamentals of Chemical Measurements	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3

Environmental Sciences Foundation

Students must complete at least 15 s.h. of course work, as follows.

Code	Title	Hours
All of these:		
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3000	Environmental Sciences Seminar (taken twice for a total of 2 s.h.)	2
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
One of these:		
ENVS:3100/ EES:3100	Introduction to Applied Remote Sensing	4
GEOG:1050	Foundations of GIS	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3

Environmental Sciences Field Study

Students must complete at least 3 s.h. from the following.

Code	Title	Hours
CEE:4103	Water Quality	3
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3
GEOG:4010	Field Methods in Physical Geography	3
IAL:3103	Aquatic Ecology	4
IAL:3117	Ecology and Systematics of Diatoms	4
IAL:3126	Ornithology	4

Other Lakeside Laboratory courses (prefix IAL) may be approved in consultation with an environmental sciences advisor

Environmental Sciences Policy

Students must complete at least 6 s.h. from the following list.

Code	Title	Hours
ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2910	The Global Economy	3
GEOG:2930	Water Resources	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Environmental Sciences Track Courses

Students must complete one course from each of the following four lists (at least 12 s.h.).

Biosciences (Green) Track

Code	Title	Hours
BIOL:1261	Introduction to Botany	4
BIOL:4373/ IGPI:4373	Molecular Evolution: Genes, Genomes, and Organisms	3

EES:3030/ ENVS:3030	Conservation Paleobiology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	3
EES:4440	Phylogenetics and Biodiversity	3
EES:4700/ ENVS:4700	Evolution of Ecosystems	3
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2950	Environmental Conservation	3
GEOG:3350	Urban Ecology	3
IAL:3117	Ecology and Systematics of Diatoms	4

Chemical Sciences (Yellow) Track

Code	Title	Hours
BIOC:3110	Biochemistry	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CHEM:2210	Organic Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4873	Atmospheric and Environmental Chemistry	3

Geosciences (Brown) Track

Code	Title	Hours
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:2310/ GEOG:2310	Introduction to Climatology	3
EES:2410	Mineralogy	4
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4720	Glacial and Pleistocene Geology	3
EES:4790	Engineering Geology	3
EES:4800	Solid Earth Geophysics	3

Hydrosciences (Blue) Track

Code	Title	Hours
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
CEE:3371	Principles of Hydraulics and Hydrology	3

CEE:4103	Water Quality	3
EES:3300	Sedimentary Geology	4
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	3
EES:4790	Engineering Geology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning (College of Education) section of the Catalog.

Combined Programs

B.A./M.A.T. (Science Education Subprogram)

B.A. students who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "Combined B.A./M.A.T." under Science Education [p. 1277] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors study provides students with opportunities to engage in independent research under the guidance of a faculty sponsor chosen from affiliated faculty of the Environmental Sciences Program. The program draws faculty members from the Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences. Honors students learn how to write the results of their research in the format of a scientific paper, and they

have the experience of formally presenting their research as either a short seminar or a poster.

Students must fulfill the following requirements:

complete a B.A. with a major in environmental sciences with a g.p.a. of at least 3.33 in all work for the major;

submit a research proposal to the honors director within two months of the beginning of the semester in which the research is initiated;

complete a minimum of 6 s.h. of honors research taken over two semesters in BIOL:4999 Honors Research in Biology, CHEM:3994 Undergraduate Research, EES:3190 Directed Study, or GEOG:3992 Undergraduate Research, depending on the departmental affiliation of the faculty sponsor;

prepare a thesis presenting the research in the format of a scientific paper with abstract, introduction, methods, results, discussion, and conclusions; the thesis must include a title page and an abstract formatted according to the specifications of the honors program and must be submitted to the honors director at least one week before the honors program deadline for submission; and

present either a short seminar or a poster about the research at a professional meeting and/or at the University of Iowa.

Beginning in their sophomore or junior year, students should identify potential faculty sponsors by conducting a web-based survey of the research interests of the program's affiliated faculty. The student should contact potential sponsors to determine who would be willing to sponsor an honors student and what research projects the student might undertake. Students who choose a sponsor whose faculty appointment is not in the College of Liberal Arts and Sciences (CLAS) must choose a cosponsor who has a faculty appointment in CLAS.

After the student has identified a sponsor and the two have agreed on a project, the sponsor guides the student in the preparation of a research proposal that identifies the background, goals, methods, and significance of the research project. The proposal serves as the foundation of the honors thesis, which the student prepares under the sponsor's supervision upon completion of the research. Once the thesis is nearing completion or is completed, the student presents a short seminar or a poster detailing the purpose of the research.

For examples of honors projects in environmental sciences, see Honors Projects on the Environmental Sciences Program website.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental sciences major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the environmental sciences major. Students work with their advisors on individual graduation plans.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Environmental Sciences, B.A.

Course	Title	Hours
First Year		
Fall		
ENVS:1085	Fundamentals of Environmental Science ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
EES:1050	Introduction to Geology	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Hours		17-18
Spring		
ENVS:3000	Environmental Sciences Seminar ^c	1
CHEM:1120	Principles of Chemistry II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1850 or MATH:1460	Calculus I or Calculus for the Biological Sciences	4
GE CLAS Core: Diversity and Inclusion ^e		3
Hours		15-16
Second Year		
Fall		
ENVS:3020	Earth Surface Processes	3
BIOL:1411	Foundations of Biology	4
ENVS:3100 or GEOG:1050 or GEOG:3500	Introduction to Applied Remote Sensing or Foundations of GIS or Introduction to Environmental Remote Sensing	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Hours		14-16
Spring		
BIOL:1412	Diversity of Form and Function	4
STAT:4200 or STAT:3510 or CHEM:2021	Statistical Methods and Computing or Biostatistics or Fundamentals of Chemical Measurements	3
Major: environmental sciences policy course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		14-15

Third Year

Fall

ENVS:2673	Ecology	3
Major: environmental sciences policy course		3
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		13-14

Spring

Major: biosciences track course		3 - 4
Major: geosciences track course		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Hours		13-16

Summer

Major: environmental sciences field study course		3 - 4
Hours		3-4

Fourth Year

Fall

Major: chemical sciences track course		3 - 4
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: International and Global Issues ^e		3
Elective course ^g		3
Elective course ^g		1 - 3
Hours		13-16

Spring

ENVS:3000	Environmental Sciences Seminar ^c	1
Major: hydrosociences track course		3 - 4
GE CLAS Core: Social Sciences ^e		3
Elective course ^g		3
Elective course ^g		3
Hours		13-14
Total Hours		115-129

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Students complete ENVS:3000 twice for a total of 2 s.h.
- d Enrollment in math courses requires completion of a placement exam.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

Graduates are prepared for careers in conservation, environmental assessment, hazardous waste management, park inspection and compliance, or pollution control and monitoring.

The undergraduate degree program also prepares students for graduate study in disciplines such as biology, chemistry, ecosystem sciences, environmental engineering, environmental law, environmental science, environmental

sustainability, geoscience, hydrologic sciences, natural resource management, remote sensing and landscape modeling, renewable energy, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Environmental Sciences, B.S.

Learning Outcomes

Environmental Sciences Program students will:

- synthesize scientific knowledge and methods across disciplines,
- comprehend and evaluate primary findings in published scientific articles,
- gain experience conducting independent research and/or reviewing scientific areas of interest, and
- effectively communicate scientific findings in written and/or oral form.

Requirements

The Bachelor of Science with a major in environmental sciences requires a minimum of 120 s.h., including 76-79 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]; some courses required for the major in environmental sciences may be used to satisfy GE CLAS Core requirements.

Bachelor of Science students majoring in environmental sciences must complete requirements in three areas: the science and mathematics foundation, the environmental sciences foundation, and one of four environmental sciences tracks. During their third year of study, students are assigned a faculty advisor who specializes in their track.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on remote sensing techniques, design and use of geographic information technologies, the geomorphic and environmental processes that shape the earth's surface, and ecological factors that influence the distribution and abundance of organisms.

Each of the program's four tracks focuses on areas of specialization within environmental sciences:

biosciences (green) track—biological systems and ecological approaches;

chemical sciences (yellow) track—environmental systems and chemistry;

geosciences (brown) track—earth materials and surficial geologic processes; and

hydrosociences (blue) track—hydrogeology and hydrogeologic systems, and water chemistry.

The tracks aim to prepare scientists who can tackle problems that require particular areas of expertise, and to help students develop the skills needed for future employment or graduate study.

The B.S. with a major in environmental sciences requires the following course work.

Code	Title	Hours
	Science and Mathematics Foundation Courses	27
	Environmental Sciences Foundation Courses	16
	Environmental Sciences Track Courses	33-36
	Total Hours	76-79

Science and Mathematics Foundation

Students must complete at least 27 s.h. of course work, as follows.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
EES:1050	Introduction to Geology	4
MATH:1850	Calculus I	4
One of these:		
CHEM:2021	Fundamentals of Chemical Measurements	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3

Environmental Sciences Foundation

Students must complete 16 s.h. of course work, as follows.

Code	Title	Hours
All of these:		
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3000	Environmental Sciences Seminar (taken twice for a total of 2 s.h.)	2
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
GEOG:1050	Foundations of GIS	4

Environmental Sciences Track Courses

Students majoring in environmental sciences must choose one of the following four tracks. Each track includes required general sciences courses, track foundation courses, field study courses, and elective courses.

Biosciences (Green) Track

The biosciences track provides the essential skills for entry-level positions that require a good knowledge of biotic systems and the ability to inventory biologic resources. The track's aim is to produce scientists who are capable of tackling environmental problems in which links and interactions with life sciences are crucial and in which a substantial knowledge

of biological/ecological sciences is required. The track also provides a strong foundation for graduate or professional training in disciplines such as ecology, wildlife management, and natural resource management.

Students must complete at least 33 s.h., including one field study course, as follows.

Code	Title	Hours
Biosciences Track: Foundation		
These three courses:		
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
GEOG:2374/ BIOL:2374	Biogeography	3
At least 9 s.h. from these:		
BIOL:4373/ IGPI:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
ENVS:3100/ EES:3100	Introduction to Applied Remote Sensing	4
or GEOG:3500	Introduction to Environmental Remote Sensing	
ENVS:4700/ EES:4700	Evolution of Ecosystems	3
EES:3030/ ENVS:3030	Conservation Paleobiology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	3
EES:4440	Phylogenetics and Biodiversity	3
GEOG:2950	Environmental Conservation	3
GEOG:3350	Urban Ecology	3
Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor		
Biosciences Track: Field Study		
At least 3 s.h. from these:		
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
IALL:3034	Topics in Ecology and Sustainability	2
IALL:3103	Aquatic Ecology	4
IALL:3109	Ecology and Systematics of Algae	4
IALL:3117	Ecology and Systematics of Diatoms	4
IALL:3122	Prairie Ecology	4
IALL:3126	Ornithology	2
Other Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor		
Biosciences Track: Electives		
Biosciences track students must complete at least 6 s.h. of elective course work, additional field study and foundation courses may be approved for elective credit:		
BIOL:1261	Introduction to Botany	4
BIOL:3244	Animal Behavior	3
BIOL:3663	Plant Response to the Environment	3

BIOL:3676	Evolution Lab	4
BIOL:3994	Introduction to Research	2-3
BIOL:4999	Honors Research in Biology	arr.
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CHEM:2210	Organic Chemistry I	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:3080	Introduction to Oceanography	2
EES:3110/ ENVS:3110	Chemical Evolution of the Oceans	3
EES:3210	Principles of Paleontology	3
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:3310	Landscape Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4
Biosciences Track: Policy		
Biosciences track students must complete one of the following courses:		
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Chemical Sciences (Yellow) Track

The chemical sciences track provides the essential skills for entry-level positions that require a basic understanding of chemical principles and a working knowledge of basic chemical concepts as applied in the environment. The track's aim is to produce scientists who are capable of tackling environmental problems in which chemical and molecular processes play an important role. The track also provides

a strong foundation for graduate or professional training in environmental chemistry.

Students must complete at least 33 s.h. of course work, as follows.

Code	Title	Hours
Chemical Sciences Track: Foundation		
These three courses:		
CHEM:2210	Organic Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
And 9 s.h. from this list (at least 3 s.h. must be lab hours):		
CEE:5153	Fundamentals of Environmental Sampling and Analysis	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
CHEM:4450	Synthesis and Measurement	3
Chemical Sciences Track: Lab and Field Study		
This course:		
CHEM:3430	Analytical Measurements	3
Chemical Sciences Track: Electives		
Chemical sciences track students must complete at least 9 s.h. of elective courses chosen from the following lists; students may petition the chemistry department's environmental sciences advisor to use appropriate Department of Chemistry courses numbered 3000 and above as electives; additional foundation courses may be approved for elective credit:		
EES:2200/ ENVS:2200	Historical Geology	4
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
BIOC:3110	Biochemistry	3
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
CHEM:3994	Undergraduate Research	1-4
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
EES:3100/ ENVS:3100	Introduction to Applied Remote Sensing	4
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
GEOG:2310/ EES:2310	Introduction to Climatology	3

GEOG:2950	Environmental Conservation	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3

Chemical Sciences Track: Policy

Chemical sciences track students must complete at least one of the following courses:

BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2930	Water Resources	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Geosciences (Brown) Track

The geosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of basic geologic concepts applied in the environmental industry. The track's aim is to produce scientists who are capable of tackling environmental problems in which earth materials and surficial geologic processes are of primary importance. The track also lays a strong foundation for graduate study in environmental geology, engineering geology, and natural hazards assessment.

Students must complete at least 35 s.h. of course work, as follows.

Code	Title	Hours
Geosciences Track: General Sciences		
These two courses:		
MATH:1860	Calculus II	4
PHYS:1400	Basic Physics	4
Students are strongly encouraged to take additional course work in physics		
Geosciences Track: Foundation		
These two courses:		
EES:2410	Mineralogy	4
EES:3300	Sedimentary Geology	4
And 7 s.h. from these:		
EES:2200/ ENVS:2200	Historical Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3

EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4790	Engineering Geology	3

Geosciences Track: Field Study

One of these:

CEE:4103	Water Quality	3
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3
EES:4832	Geologic Field Analysis	3
GEOG:4010	Field Methods in Physical Geography	3

Geosciences Track: Electives

Geosciences track students must complete at least 6 s.h. of elective courses chosen from the following list, additional field study or foundation courses may be approved for elective credit:

ENVS:3100/ EES:3100	Introduction to Applied Remote Sensing	4
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
CEE:4158/ OE:4920	Solid and Hazardous Wastes	3
EES:1290	Energy and the Environment	3
EES:1400	Natural Disasters	3
EES:3030/ ENVS:3030	Conservation Paleobiology	4
EES:3080	Introduction to Oceanography	2
EES:3190	Directed Study	arr.
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3770	Global Stratigraphy	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	3
EES:4720	Glacial and Pleistocene Geology	3
EES:4800	Solid Earth Geophysics	3
EES:4820	Tectonics and Basin Analysis	3
EES:4870/ GEOG:4870	Applied Geostatistics	3
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2950	Environmental Conservation	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

Geosciences Track: Policy

Geosciences track students must complete at least one of the following courses:

ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3

GEOG:1070	Contemporary Environmental Issues	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Hydrosciences (Blue) Track

The hydrosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of hydrogeology and hydrogeochemistry. The track's aim is to produce scientists who are capable of tackling environmental problems that emphasize hydrogeologic systems and for which substantial knowledge of hydrogeology and water chemistry are essential. The track also lays a strong foundation for graduate education in hydrogeology, hydrology, geochemistry, and aqueous chemistry.

Students must complete at least 36 s.h. of course work, as follows.

Code	Title	Hours
Hydrosciences Track: General Sciences		
These three courses:		
MATH:1860	Calculus II	4
PHYS:1511	College Physics I	4
PHYS:1512	College Physics II	4
Hydrosciences Track: Foundation		
These two courses:		
EES:4630	Hydrogeology	3
EES:4790	Engineering Geology	3
And 6 s.h. from these:		
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
Hydrosciences Track: Field Study		
One of these:		
CEE:4103	Water Quality	3
EES:4680	Field Methods in Hydrologic Science	3
Hydrosciences Track: Electives		
Hydrosciences track students must complete at least 6 s.h. of elective courses chosen from the following list, additional field study and foundation courses may be approved for elective credit:		
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:4103	Water Quality	3
CEE:4378	Hydrometeorology	3

CEE:5153	Fundamentals of Environmental Sampling and Analysis	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:3080	Introduction to Oceanography	2
EES:3190	Directed Study	arr.
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:4660/CEE:4104	Groundwater Modeling	3
EES:4800	Solid Earth Geophysics	3
EES:4870/ GEOG:4870	Applied Geostatistics	3
ENVS:3100/ EES:3100	Introduction to Applied Remote Sensing	4
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2950	Environmental Conservation	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

Hydrosciences Track: Policy

Hydrosciences track students must complete at least one of the following courses:

ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2930	Water Resources	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition

to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning (College of Education) section of the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors study provides students with opportunities to engage in independent research under the guidance of a faculty sponsor chosen from affiliated faculty of the Environmental Sciences Program. The program draws faculty members from the Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences. Honors students learn how to write the results of their research in the format of a scientific paper, and they have the experience of formally presenting their research as either a short seminar or a poster.

Students must fulfill the following requirements:

- complete a B.S. with a major in environmental sciences with a g.p.a. of at least 3.33 in all work for the major;

- submit a research proposal to the honors director within two months of the beginning of the semester in which the research is initiated;

- complete a minimum of 6 s.h. of honors research taken over two semesters in BIOL:4999 Honors Research in Biology, CHEM:3994 Undergraduate Research, EES:3190 Directed Study, or GEOG:3992 Undergraduate Research, depending on the departmental affiliation of the faculty sponsor;

- prepare a thesis presenting the research in the format of a scientific paper with abstract, introduction, methods, results, discussion, and conclusions; the thesis must include a title page and an abstract formatted according to the specifications of the honors program and must be submitted to the honors director at least one week before the honors program deadline for submission; and

- present either a short seminar or a poster about the research at a professional meeting and/or at the University of Iowa.

Beginning in their sophomore or junior year, students should identify potential faculty sponsors by conducting a web-based survey of the research interests of the program's affiliated faculty. The student should contact potential sponsors to determine who would be willing to sponsor an honors student and what research projects the student might undertake. Students who choose a sponsor whose faculty appointment is not in the College of Liberal Arts and Sciences (CLAS) must choose a cosponsor who has a faculty appointment in CLAS.

After the student has identified a sponsor and the two have agreed on a project, the sponsor guides the student in the preparation of a research proposal that identifies the

background, goals, methods, and significance of the research project. The proposal serves as the foundation of the honors thesis, which the student prepares under the sponsor's supervision upon completion of the research. Once the thesis is nearing completion or is completed, the student presents a short seminar or a poster detailing the purpose of the research.

For examples of honors projects in environmental sciences, see Honors Projects on the Environmental Sciences Program website.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental sciences major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the environmental sciences major. Students work with their advisors on individual graduation plans.

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Environmental Sciences, B.S.

- Biosciences (Green) Track [p. 425]
- Chemical Sciences (Yellow) Track [p. 426]
- Geosciences (Brown) Track [p. 427]
- Hydrosiences (Blue) Track [p. 427]

Biosciences (Green) Track

Course	Title	Hours
First Year		
Fall		
ENVS:1085	Fundamentals of Environmental Science ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
EES:1050	Introduction to Geology	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
Hours		17-18
Spring		
ENVS:3000	Environmental Sciences Seminar ^c	1
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1850	Calculus I ^{a, d}	4

GE CLAS Core: Values and Culture ^e	3
Hours	15-16

Second Year

Fall

ENVS:3020	Earth Surface Processes	3
BIOL:1411	Foundations of Biology	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^f	4 - 5	
GE CLAS Core: Historical Perspectives ^e	3	
Hours	14-15	

Spring

BIOL:1412	Diversity of Form and Function	4
GEOG:1050	Foundations of GIS	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5	
GE CLAS Core: Social Sciences ^e	3	
Hours	15-16	

Summer

Major: biosciences field study course	4
Hours	4

Third Year

Fall

ENVS:2673	Ecology	3
BIOL:2512	Fundamental Genetics	4
Major: biosciences track policy course ^g	3	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5	
Hours	14-15	

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5	
BIOL:3172	Evolution	4
STAT:4200 or CHEM:2021 or STAT:3510	Statistical Methods and Computing or Fundamentals of Chemical Measurements or Biostatistics	3
GE CLAS Core: Diversity and Inclusion ^e	3	
Hours	14-15	

Fourth Year

Fall

GEOG:2374	Biogeography	3
Major: environmental biosciences foundation elective course ^g	3	
Major: environmental biosciences foundation elective course ^g	3	
Major: environmental biosciences elective course ^g	3	
GE CLAS Core: Literary, Visual, and Performing Arts ^e	3	
Hours	15	

Spring

ENVS:3000	Environmental Sciences Seminar ^c	1
Major: environmental biosciences foundation elective course ^g	3	
Major: environmental biosciences elective course ^g	3	
GE CLAS Core: International and Global Issues ^e	3	
Elective course ^h	3	

Elective course ^h	1 - 3
Hours	14-16
Total Hours	122-130

- a Fulfills a major requirement and may fulfill a GE requirement.
 b Enrollment in chemistry courses requires completion of a placement exam.
 c Students complete ENVS:3000 twice for a total of 2 s.h.
 d Enrollment in math courses requires completion of a placement exam.
 e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
 f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
 g Refer to the General Catalog for course options.
 h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Chemical Sciences (Yellow) Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ENVS:1085	Fundamentals of Environmental Science ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
EES:1050	Introduction to Geology	4
CSL:1600	Success at Iowa	2
Hours		17-18

Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CHEM:1120	Principles of Chemistry II	4
ENVS:3000	Environmental Sciences Seminar ^c	1
MATH:1850	Calculus I ^{a, d}	4
GE CLAS Core: Values and Culture ^e		3
Hours		15-16

Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
BIOL:1411	Foundations of Biology	4
CHEM:2021	Fundamentals of Chemical Measurements ^g	3
CHEM:2210	Organic Chemistry I	3
Hours		14-15

Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
BIOL:1412	Diversity of Form and Function	4
Major: environmental chemical sciences track foundation "select 9 s.h." course ^h		3
GE CLAS Core: International and Global Issues ^e		3
Hours		14-15

Third Year

Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5

ENVS:3020	Earth Surface Processes	3
Major: environmental chemical sciences track foundation "select 9 s.h." course ⁱ		3
Major: environmental chemical sciences elective course ^j		3
Elective course ^k		1 - 3
Hours		14-17

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
Major: environmental chemical sciences policy course ^j		3
Hours		13-14

Fourth Year

Fall		
ENVS:2673	Ecology	3
Major: environmental chemical sciences track foundation "select 9 s.h." course ⁱ		3
Major: environmental chemical sciences elective course ^j		3
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: Social Sciences ^e		3
Hours		15

Spring

ENVS:3000	Environmental Sciences Seminar ^c	1
CHEM:3430	Analytical Measurements	3
GEOG:1050	Foundations of GIS	4
Major: environmental chemical sciences elective course ^j		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: Diversity and Inclusion ^e		3
Hours		17
Total Hours		119-127

- a Fulfills a major requirement and may fulfill a GE requirement.
 b Enrollment in chemistry courses requires completion of a placement exam.
 c Students complete ENVS:3000 twice for a total of 2 s.h.
 d Enrollment in math courses requires completion of a placement exam.
 e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
 f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
 g This course is required for the statistics requirement in the major for all chemical sciences track students.
 h The department recommends taking CHEM:2220.
 i The department recommends taking CHEM:3110.
 j Refer to the General Catalog for course options.
 k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
 l This course must be a lab course. See the General Catalog for options.

Geosciences (Brown) Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
ENVS:1085	Fundamentals of Environmental Science ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
EES:1050	Introduction to Geology	4
CSI:1600	Success at Iowa	2
Hours		17-18
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CHEM:1120	Principles of Chemistry II	4
ENVS:3000	Environmental Sciences Seminar ^c	1
MATH:1850	Calculus I ^{a, d}	4
GE CLAS Core: Values and Culture ^e		3
Hours		15-16
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
BIOL:1411	Foundations of Biology	4
MATH:1860	Calculus II	4
EES:2410	Mineralogy	4
Hours		16-17
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
BIOL:1412	Diversity of Form and Function	4
GEOG:1050	Foundations of GIS	4
GE CLAS Core: Historical Perspectives ^e		3
Hours		15-16
Summer		
Major: geosciences track field study course ^g		3 - 4
Hours		3-4
Third Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
ENVS:3020	Earth Surface Processes	3
PHYS:1400	Basic Physics	4
EES:3300	Sedimentary Geology	4
Hours		15-16
Spring		
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
STAT:4200 or CHEM:2021 or STAT:3510	Statistical Methods and Computing or Fundamentals of Chemical Measurements or Biostatistics	3
Major: environmental geosciences foundation "select 7 s.h." course ^h		3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
Hours		13-15

Fourth Year

Fall		
ENVS:2673	Ecology	3
Major: environmental geosciences foundation "select 7 s.h." course ^h		3 - 4
Major: environmental geosciences elective ⁱ		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Hours		12-13
Spring		
ENVS:3000	Environmental Sciences Seminar ^c	1
Major: geosciences track policy course ⁱ		3
Major: environmental geosciences elective ⁱ		3
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: Social Sciences ^e		3
Hours		13
Total Hours		119-128

- a Fulfills a major requirement and may fulfill a GE requirement.
b Enrollment in chemistry courses requires completion of a placement exam.
c Students complete ENVS:3000 twice for a total of 2 s.h.
d Enrollment in math courses requires completion of a placement exam.
e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
g It is recommended that students take EES:2831 whenever possible.
h Choose from EES:3360, EES:3500, EES:3840, EES:4790.
i Refer to the General Catalog for course options.

Hydrosciences (Blue) Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ENVS:1085	Fundamentals of Environmental Science ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
EES:1050	Introduction to Geology	4
CSI:1600	Success at Iowa	2
Hours		17-18
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ENVS:3000	Environmental Sciences Seminar ^c	1
CHEM:1120	Principles of Chemistry II	4
MATH:1850	Calculus I ^{a, d}	4
GE CLAS Core: Values and Culture ^e		3
Hours		15-16
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
BIOL:1411	Foundations of Biology	4
MATH:1860	Calculus II	4

GE CLAS Core: Historical Perspectives ^e	3
Hours	15-16
Spring	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
BIOL:1412 Diversity of Form and Function	4
PHYS:1511 College Physics I	4
Major: hydrosciences track elective course ^g	3 - 4
Hours	15-17
Summer	
EES:4680 Field Methods in Hydrologic Science	3
Hours	3
Third Year	
Fall	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
PHYS:1512 College Physics II	4
EES:4790 Engineering Geology	3
ENVS:3020 Earth Surface Processes	3
Hours	14-15
Spring	
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5
EES:4630 Hydrogeology	3
CHEM:2021 Fundamentals of Chemical or STAT:4200 Measurements or STAT:3510 or Statistical Methods and Computing or Biostatistics	3
GE CLAS Core: International and Global Issues ^e	3
Elective course ^h	1 - 3
Hours	14-17
Fourth Year	
Fall	
Major: hydrosciences "select 6 s.h." foundation electives course ⁱ	3
Major: hydrosciences track elective course ^g	3 - 4
ENVS:2673 Ecology	3
GEOG:1050 Foundations of GIS	4
GE CLAS Core: Literary, Visual, and Performing Arts ^e	3
Hours	16-17
Spring	
Major: hydrosciences "select 6 s.h." foundation electives course ⁱ	3
Major: hydrosciences track policy course ^g	3
ENVS:3000 Environmental Sciences Seminar ^c	1
GE CLAS Core: Social Sciences ^e	3
GE CLAS Core: Diversity and Inclusion ^e	3
Hours	13
Total Hours	122-132

a Fulfills a major requirement and may fulfill a GE requirement.

b Enrollment in chemistry courses requires completion of a placement exam.

c Students complete ENVS:3000 twice for a total of 2 s.h.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Refer to the General Catalog for course options.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i Choose from EES:3380, EES:3390, EES:4490.

Career Advancement

Graduates are prepared for careers in conservation, environmental assessment, hazardous waste management, park inspection and compliance, or pollution control and monitoring.

The undergraduate degree program also prepares students for graduate study in disciplines such as biology, chemistry, ecosystem sciences, environmental engineering, environmental law, environmental science, environmental sustainability, geoscience, hydrologic sciences, natural resource management, remote sensing and landscape modeling, renewable energy, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Environmental Sciences, Minor

The undergraduate minor in environmental sciences requires a minimum of 15 s.h. in University of Iowa environmental sciences course work. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor in environmental sciences requires the following course work.

Code	Title	Hours
One of these:		
ENVS:1080/ EES:1080	Introduction to Environmental Science	4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
One environmental sciences foundation course, chosen from these:		
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
ENVS:3100/ EES:3100	Introduction to Applied Remote Sensing	4
GEOG:1050	Foundations of GIS	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
And:		
Courses in one of the four environmental sciences tracks below		7-8

Tracks

Track courses must include one 3-4 s.h. track foundation course and 3-4 s.h. in track field study course work. The tracks are biosciences, chemical sciences, geosciences, and hydrosciences.

Biosciences Track

Code	Title	Hours
Foundation Courses		
BIOL:2346	Vertebrate Zoology	4
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
BIOL:4373/ IGPI:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
EES:3030/ ENVS:3030	Conservation Paleobiology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	3
EES:4440	Phylogenetics and Biodiversity	3
EES:4700/ ENVS:4700	Evolution of Ecosystems	3
GEOG:2374/ BIOL:2374	Biogeography	3

GEOG:2950	Environmental Conservation	3
IAL:3117	Ecology and Systematics of Diatoms	4

Other Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

Field Study Courses

4 s.h. from these:

ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
IAL:3103	Aquatic Ecology	4
IAL:3109	Ecology and Systematics of Algae	4
IAL:3117	Ecology and Systematics of Diatoms	4
IAL:3122	Prairie Ecology	4
IAL:3126	Ornithology	4

Chemical Sciences Track

Code	Title	Hours
Foundation Courses		
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:5153	Fundamentals of Environmental Sampling and Analysis	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2230	Organic Chemistry I for Majors	3
CHEM:2240	Organic Chemistry II for Majors	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
Field Study Courses		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3430	Analytical Measurements	3

Geosciences Track

Code	Title	Hours
Foundation Courses		
EES:2200/ ENVS:2200	Historical Geology	4
EES:2410	Mineralogy	4
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4790	Engineering Geology	3
Field Study Courses		
CEE:4103	Water Quality	3
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3

EES:4832	Geologic Field Analysis	3
GEOG:4010	Field Methods in Physical Geography	3

Hydrosciences Track

Code	Title	Hours
Foundation Courses		
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	3
EES:4790	Engineering Geology	3
Field Study Course		
CEE:4103	Water Quality	3
EES:4680	Field Methods in Hydrologic Science	3

Ethics and Public Policy

Chair, Department of Philosophy

- David Cuning

Codirectors, Ethics and Public Policy

- Richard Fumerton (Philosophy), Diane Jeske (Philosophy)

Undergraduate major: ethics and public policy (B.A.)

Faculty: <https://clas.uiowa.edu/ethics/steering-committee>

Website: <https://clas.uiowa.edu/ethics/>

Ethics and public policy is an interdisciplinary major that presents perspectives on intersecting issues that connect the study of philosophy, economics, law, political science, and sociology. All of these disciplines involve a focus on practical questions concerning how individuals ought to behave and how they ought to regulate the behavior of others.

For example, law exists in order to regulate human behavior, enforce human ideals, and resolve human conflict; most people agree that what society should do depends in part on the actual or potential consequences of its actions; and some of the most important consequences of actions and policies are economic. So it is folly to try to reason clearly about how to rectify injustice without thinking long and hard about the economic impact of one's plans. But law and social policy affect more than economics; they have a role in constructing the very fabric of society and the nature of the political state in which we want to live.

Students choose one field of specialization for the major and may find it easy to pursue a second major in another of the major's specialization fields, thus broadening their prospects for choosing graduate schools or beginning professional careers.

The Departments of Economics, Philosophy, Political Science, and Sociology collaborate to present the major in ethics and public policy; the major is administered by the Department of Philosophy [p. 795].

Programs

Undergraduate Program of Study

Major

- Major in Ethics and Public Policy (Bachelor of Arts) [p. 432]

Ethics and Public Policy, B.A.

Learning Outcomes

The general goals of the major in ethics and public policy (EPP) are to:

- give students familiarity with the subject matter and methods of four closely related, but distinct disciplines—philosophy, economics, sociology, and political science—acquaintance with which is particularly important for those entering law, government and public service, and related fields;
- teach students to think critically, understand important distinctions, and present and defend positions;
- allow students to see the connections between problems that arise in the four fields that make up the cross-disciplinary major;
- encourage students to solve problems by drawing insights from different fields; and
- prepare students for postgraduate work in one or more of the fields, law school, or any of the indefinitely many careers where the skills fostered in the major will be invaluable.

Ethics and Public Policy Initiatives

- Increase interactions among majors through events such as clubs and movie nights cosponsored by the Department of Philosophy and EPP.
- Encourage promising students to work individually with faculty on honors projects.
- Continue to improve advising.
- Continue to offer a 1 s.h. course that gives credit to students for participation in some of the programmed lectures, clubs, film screenings, among others.
- Advertise and encourage students to enroll in a 2-3 s.h. course that involves relevant internships.
- Review the department's current survey that can provide more useful and fine-grained advice to improve the ethics and public policy major.

Requirements

The Bachelor of Arts with a major in ethics and public policy requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The curriculum includes foundation courses and the work for one field of specialization.

The B.A. with a major in ethics and public policy requires the following course work.

Code	Title	Hours
	Philosophy Foundation Courses	6
	Economics Foundation Courses	7
	Political Science Foundation Courses	6
	Sociology Foundation Courses	6-7

Fields of Specialization Courses	12
Total Hours	37-38

Foundation Courses

Foundation courses introduce students to each of the disciplines that participate in the major: philosophy, economics, political science, and sociology. These courses provide students with the basic reasoning skills they will need for advanced study. The foundation courses also help students make an informed selection of their specialization field.

All students are required to take PHIL:1636 Principles of Reasoning: Argument and Debate or PHIL:2603 Introduction to Symbolic Logic in order to gain facility with abstract, formal reasoning.

Some courses may be listed in both a foundation area and a specialization field; students may use a course to fulfill only one requirement for the major.

Philosophy Foundation

Code	Title	Hours
Reasoning		
One of these:		
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:2603	Introduction to Symbolic Logic	3
Value Theory		
One of these:		
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:2402	Introduction to Ethics	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3

Economics Foundation

Code	Title	Hours
This course:		
ECON:1100	Principles of Microeconomics	4
One of these:		
ECON:3650	Policy Analysis	3
ECON:3800	Law and Economics	3

Political Science Foundation

Code	Title	Hours
Foundation		
One of these:		
POLI:1100	Introduction to American Politics	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1700	Introduction to Political Analysis	3

Policy

One of these:

POLI:1501	Introduction to American Foreign Policy	3
POLI:3111	American Public Policy	3

Sociology Foundation

Code	Title	Hours
Theory		
One of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1020	Social Problems	3-4
Law and Sociology		
One of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:3425	Women, Crime, and Justice	3
SOC:1219	Big Ideas: Equality, Opportunity, and Public Policy in America	3
SOC:1420	Law and Society	3
SOC:2810	Social Inequality	3
SOC:3510	Medical Sociology	3

Fields of Specialization

Students select one of the following fields of specialization: philosophy, economics, political science, or sociology. Students must complete four courses in their field (12 s.h.), selected from the appropriate list below.

Some courses may be listed in both a foundation area and a specialization field; students may use a course to fulfill only one requirement for the major.

Philosophy

Code	Title	Hours
PHIL:2402	Introduction to Ethics	3
PHIL:2415	Bioethics	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3
PHIL:3342	Multiculturalism and Toleration	3
PHIL:3430	Philosophy of Human Rights	3
PHIL:3510	Neuroethics	3
PHIL:3604	Introduction to Philosophy of Science	3
PHIL:3633	Philosophy of History	3
PHIL:3920	Philosophy in Public	1-3
PHIL:4375	Rawls's Political Philosophy	3
PHIL:4480	Analytic Ethics	3
PHIL:4481	Issues in Philosophy of Law	3
PHIL:4482	History of Ethics	3
PHIL:4485	Political Philosophy	3

PHIL:4696	Philosophy of the Human Sciences	3
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Economics

Code	Title	Hours
ECON:3100	Intermediate Microeconomics	3
ECON:3345	Global Economics and Business	3
ECON:3350	Industry Analysis	3
ECON:3620	Economic Growth and Development	3
ECON:3625	Environmental and Natural Resource Economics	3
ECON:3640	Regional and Urban Economics	3
ECON:3650	Policy Analysis	3
ECON:3760	Health Economics	3
ECON:3790	Antitrust Economics	3
ECON:3800	Law and Economics	3
ECON:4160	Public Sector Economics	3

Political Science

Code	Title	Hours
POLI:2417	Comparative Environmental Policy	3
POLI:3101	American Constitutional Law and Politics	3
POLI:3102	The U.S. Congress	3
POLI:3104	Immigration Politics	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3114	Women and Politics in the United States	3
POLI:3116	The Presidency	3
POLI:3118	Interest Groups	3
POLI:3120	The Criminal Justice System	3
POLI:3121	The Judicial Process	3
POLI:3122	Public Choice	3
POLI:3126	Environmental Policy	3
POLI:3128	Politics of the U.S. National Park System	3
POLI:3204	Public Opinion	3
POLI:3300	Postmodern Political Theory	3
POLI:3302	Current Political Theory	3
POLI:3305	Modern Political Theory	3
POLI:3306	Problems of Democracy	3
POLI:3400	Political Economy	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3503	Politics of Terrorism	3

POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3
POLI:3520	National Security Policy	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3601	Politics of Film	3

Sociology

Code	Title	Hours
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
SOC:3171	Drugs and Society	3
SOC:3525	Public Opinion	3
SOC:3650	Education, Schools, and Society	3
SOC:3850	Economy and Society	3
SOC:4540	Political Sociology and Social Movements	3

Student-Designed Field

In rare circumstances, a student may be given permission to design a specialization field. The student specifies four courses (12 s.h.) numbered 3000 or above, or as considered advanced by the department offering the course. Courses should be interconnected and must suggest a coherent interest. The student-designed field may not duplicate any of the established specialization fields for the major. It also may not include a course that satisfies another requirement for the major.

Students interested in designing their own specialization field should speak with an advisor as early as possible. They must obtain approval from their advisor and from the steering committee of the major in ethics and public policy as soon as possible after they declare the major and before they complete the designated course work.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a g.p.a. of at least 3.50 in work for the major and a cumulative University of Iowa g.p.a. of at least 3.50. In order to graduate with honors in the

major, they must complete all work for the major and write an acceptable honors thesis on a significant topic related to the major. Students who write their honors thesis in philosophy should consider preparing for the thesis by taking PHIL:3950 Readings in Philosophy; students who write in economics should consult the coordinator of the Ethics and Public Policy program for an appropriate course; students who write in political science should take POLI:4000 Honors Seminar on the Study of Politics; and students who write in sociology should consider taking SOC:4997 Honors Seminar. Contact the coordinator of the Ethics and Public Policy program for more information.

University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the ethics and public policy major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major.

Before the third semester begins: at least one course in the major

Before the fifth semester begins: at least three courses in the major

Before the seventh semester begins: at least seven courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least nine courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Ethics and Public Policy, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
SOC:1010 or SOC:1020	Introduction to Sociology or Social Problems	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^c		3

CSI:1600	Success at Iowa	2
Hours		14-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: political science foundation course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^c		2
Hours		15-16
Second Year		
Fall		
POLI:3111 or POLI:1501	American Public Policy or Introduction to American Foreign Policy	3
Major: sociology foundation (law and sociology) course		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
ECON:1100	Principles of Microeconomics ^a	4
Major: philosophy foundation (value theory) course		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		2 - 3
Hours		16-18
Third Year		
Fall		
ECON:3650	Policy Analysis ^{e, f}	3
Major: philosophy foundation (reasoning) course		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Hours		16-17
Spring		
ECON:3800	Law and Economics ^{e, g}	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Hours		16-17
Fourth Year		
Fall		
Major: field of specialization course		3
Major: field of specialization course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

Major: field of specialization course	3
Major: field of specialization course	3
GE CLAS Core: Values and Culture ^b	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-131

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Choose from ECON:3650 or ECON:3800 for the second economics foundation requirement.
- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

Career Advancement

The ethics and public policy major provides an ideal background for law school. It brings an important background to legal studies in fields that will both explicitly and implicitly arise in the context of pursuing a J.D. degree. The study of reasoning, an important component of the major, is useful in preparing for the LSAT, GMAT, and MCAT. The major also prepares students to bring a sophisticated, cross-disciplinary perspective to diverse fields such as government, urban and regional planning, social work, and business.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Event Planning

Director, School of Journalism and Mass Communication

- David Ryfe

Coordinator, Event Planning

- Heather J. Spangler (Journalism and Mass Communication)

Undergraduate certificate: event planning

Website: <https://clas.uiowa.edu/sjmc/undergraduate-programs/certificates/event-planning-certificate>

Nearly every kind of organization has a need to create and manage events, from corporations to recreational centers, from hotels to sports teams. The Certificate in Event Planning is designed to serve the career goals of a growing number of students who want to learn about the profession and wish to enter the field. It combines experiential learning with academic course work, preparing students with the practical and intellectual skills necessary to succeed in the industry. The certificate is both interdisciplinary and intercollegiate.

Students who earn the Certificate in Event Planning will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event planning and careers in the event planning industry.

In addition to these core competencies, students gain proficiency in:

- strategic and professional communication (oral, written, visual/design, interpersonal, group, professional, social media, and marketing);
- project management (goal setting, time management, financial, risk management, site and staff management, event design, and technology); and
- cultural and social awareness (religious, cultural, physical, and social nuances that impact event planning choices; best practices for safe, inclusive events; and legal and ethical issues).

The School of Journalism and Mass Communication [p. 670] and the Departments of Communication Studies [p. 247], Health and Human Physiology [p. 552] (College of Liberal Arts and Sciences), and the Department of Marketing [p. 1122] (Tippie College of Business) collaborate to offer the certificate. The Certificate in Event Planning is administered by the School of Journalism and Mass Communication.

Programs

Undergraduate Program of Study Certificate

- Certificate in Event Planning [p. 437]

Courses

Event Planning Courses

EVNT:2110 Internship in Event Planning 3 s.h.

Internship for event planning certificate. Prerequisites: (EVNT:3154 or JMC:3154 or SRM:3154) and (EVNT:3260 or JMC:3260 or SRM:3147). Same as JMC:2110.

EVNT:3154 Foundations of Event Management 3 s.h.

Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures. Same as JMC:3154.

EVNT:3185 Topics in Event Planning 3 s.h.

Focus on particular area, issue, approach, or body of knowledge in the world of event planning; topics may include political campaign events, social media events, diversity issues, and risk management.

EVNT:3260 Event Planning Workshop 3 s.h.

Hands-on experience in event planning; working with clients, conceptualizing events, lining up small and large details, promoting events via social media and other means, carrying out events, and reflecting on outcomes; meet with event planning professionals; complete individual and group projects. Same as JMC:3260.

EVNT:3270 Event Planning and the Arts 3 s.h.

Development, planning, and implementation of events with relation to the arts. Same as JMC:3270.

Event Planning, Certificate

The undergraduate Certificate in Event Planning requires a minimum of 21 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students can count a maximum of 6 s.h. completed for a major toward the Certificate in Event Planning. The certificate cannot be used to satisfy the journalism and mass communication major's second area of concentration requirement.

Students take EVNT:3154/JMC:3154 Foundations of Event Management or SRM:3154 Foundations of Event Management prior to registering for EVNT:3260/JMC:3260 Event Planning Workshop or SRM:3147 Sport Event Management. Both core courses must be completed before students register for their internship.

Some of the certificate courses have prerequisites not included in the certificate requirements. Students should select courses for which they have met the prerequisites.

The Certificate in Event Planning requires the following course work.

Core Courses

Code	Title	Hours
One of these:		
EVNT:3154/ JMC:3154	Foundations of Event Management	3
SRM:3154	Foundations of Event Management	3
And one of these:		
EVNT:3260/ JMC:3260	Event Planning Workshop	3
SRM:3147	Sport Event Management	3

Internship

The core courses must be completed prior to enrollment in the internship.

Code	Title	Hours
One of these:		
EVNT:2110/ JMC:2110	Internship in Event Planning	3
SRM:4197	Sport and Recreation Field Experience (must enroll in at least 3 s.h.)	arr.

Focused Electives

Code	Title	Hours
A minimum of 12 s.h. chosen from these (6 s.h. of focused elective course work must be numbered 2000 or above, and no more than two courses at the 1000 level):		
EVNT:3185	Topics in Event Planning	3
EVNT:3260/ JMC:3260	Event Planning Workshop (if not used to satisfy core requirement)	3

ARTS:1070	Elements of Graphic Design	3
BUS:3000	Business Communication and Protocol	3
COMM:1809	Social Marketing Campaigns	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
COMM:1830	Solving Public Problems: Dialogue and Deliberation for Democracy	3
COMM:2044	Political Communication	3
ENTR:1350	Foundations in Entrepreneurship	2
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
FPC:3100/JMC:3101	Fundraising Fundamentals	3
FPC:3185/JMC:3100	Nonprofit and Fundraising Communication	3
FPC:3633/JMC:3633	Philanthropy Communication in a Digital World	3-4
JMC:2200	Principles of Strategic Communication	3
JMC:3126	Social Media Marketing	3
JMC:3181/ SPST:3181	The Business of Sport Communication	3
MKTG:3000	Introduction to Marketing Strategy	3
MKTG:4101	Integrated Marketing Communications	3
MKTG:4275	Social Media Marketing	3
POLI:3202	Political Psychology	3
POLI:3602	New Media and Politics	3
SRM:2065	The Experience Economy	3
SRM:3147	Sport Event Management (if not used to satisfy core requirement)	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3175	Sales in Sport	3
SRM:3178	Communications and Public Relations in Sports	3
SRM:4197	Sport and Recreation Field Experience (if not used to satisfy internship requirement)	1-3
THTR:3270	Entertainment Design	3
UICB:4415	Calligraphy I: Foundational Hands	3

French and Italian

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Chair, Department of French and Italian

- Russell Ganim

General Education Language Coordinators

- Cinzia Blum (Italian), Roxanna N. Curto (French), Emilie Destruel-Johnson (French), Blandina K. Giblin (Swahili), Yasmine A. Ramadan (Arabic)

Undergraduate majors: French (B.A.); Italian (B.A.)

Undergraduate minors: Arabic language; French; Italian

Graduate degrees: M.A. in French and Francophone world studies; Ph.D. in French and Francophone world studies

Faculty: <https://clas.uiowa.edu/dwllc/french-italian/people>

Website: <https://clas.uiowa.edu/dwllc/french-italian>

The Department of French and Italian introduces students to the cultures of France, the Francophone world, Italy, and parts of the Middle East and Africa, providing an understanding of those countries' historical and contemporary importance. It also facilitates development of proficiency in the French, Italian, Arabic, and Swahili languages and fosters critical appreciation of French, Francophone, Italian, and Arabic literatures and cultures.

Faculty expertise enables the department to offer courses in the traditionally recognized historical periods of French literature, various literary genres, and critical theories as well as the Francophone literatures of Canada, North and Sub-Saharan Africa, the Caribbean, and the Indian Ocean. The department has particular strengths in interdisciplinary studies, notably in the areas of comparative arts, film studies, history, and second language acquisition.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in Arabic, French, Italian, or Swahili; see "Language for GE CLAS Core" below. The department offers other GE CLAS Core courses, and entering students may take the department's First-Year Seminars.

The Department of French and Italian is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 336].

Language for GE CLAS Core

The Department of French and Italian provides course sequences in four languages—Arabic, French, Italian, and Swahili—that students in all majors may use to fulfill the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. It also offers a variety of language courses that nonmajors may take to satisfy their own educational goals and interests.

Arabic

The department is the administrative home for Arabic language and culture courses. It offers elementary, intermediate, and advanced Arabic as well as conversational Arabic, for which ARAB:1002 Elementary Modern Standard Arabic II is prerequisite. Students without background in Arabic should begin with ARAB:1001 Elementary Modern Standard Arabic I. Students who have a background in

Arabic should contact the general education coordinator to determine the level at which they should begin Arabic language study at the University of Iowa. See Courses [p. 439] in this section of the Catalog for a list of departmental courses.

Students who wish to fulfill the GE CLAS Core World Languages requirement with Arabic should complete the following course sequence.

Code	Title	Hours
ARAB:1001	Elementary Modern Standard Arabic I	5
ARAB:1002	Elementary Modern Standard Arabic II	5
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

French

Students who have a background in French should take the online placement test, which helps determine the level at which a student could begin French language study at the University of Iowa. Students without background in French should begin with FREN:1001 Elementary French I.

Students who wish to fulfill the GE CLAS Core World Languages requirement with French should complete the following sequence.

Code	Title	Hours
FREN:1001	Elementary French I	4-5
FREN:1002	Elementary French II	4-5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

Those with previous knowledge of French may be able to fulfill the World Languages requirement with this sequence.

Code	Title	Hours
FREN:1010	First-Year French Review	4-5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

Italian

Students who have a background in Italian should contact the general education coordinator to determine the level at which they should begin Italian language study at the University of Iowa. Students without background in Italian should begin with ITAL:1101 Elementary Italian I.

Students who wish to fulfill the GE CLAS Core World Languages requirement with Italian should complete the following course sequence.

Code	Title	Hours
ITAL:1101	Elementary Italian I	5
ITAL:1102	Elementary Italian II	5
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

Those with strong language-learning abilities or background in another Romance language may be able to substitute ITAL:3002 Intensive Elementary Italian for ITAL:1101 Elementary Italian I and ITAL:1102 Elementary Italian II and fulfill the World Languages requirement with this sequence.

Code	Title	Hours
ITAL:3002	Intensive Elementary Italian	4,6
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

Swahili

The department is the administrative home for Swahili courses. Students may fulfill the GE CLAS Core World Languages requirement by taking the following four-semester sequence. Students who have a background in Swahili should contact the general education coordinator to determine the level at which they should begin Swahili language study at the University of Iowa.

Code	Title	Hours
SWAH:1001	Elementary Swahili I	4
SWAH:1002	Elementary Swahili II	4
SWAH:2001	Intermediate Swahili I	4
SWAH:2002	Intermediate Swahili II	4

Study Abroad

The department participates in several study abroad programs. Some of them are the University Study Abroad Consortium (USAC) French Studies in Pau and Lyon; University of Minnesota/Paul Valéry University Study Abroad in Montpellier; and the Committee on Institutional Cooperation (CIC) Summer French Program in Quebec at the Université Laval. For information about these and other programs abroad, contact International Programs/Study Abroad and use its programs search; or see Study Abroad [p. 1840] (University College) in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in French (Bachelor of Arts) [p. 445]
- Major in Italian (Bachelor of Arts) [p. 449]

Minors

- Minor in Arabic Language [p. 452]
- Minor in French [p. 453]
- Minor in Italian [p. 454]

Graduate Programs of Study

- Master of Arts in French and Francophone World Studies [p. 455]
- Doctor of Philosophy in French and Francophone World Studies [p. 456]

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development

studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Courses

- French Courses [p. 439]
- Italian Courses [p. 442]
- Arabic Courses [p. 443]
- Swahili Courses [p. 444]

The department offers courses in French, Italian, Arabic, and Swahili. For a detailed description of courses offered each semester, contact the Department of French and Italian. French courses are conducted in French, and Italian courses are conducted in Italian, unless otherwise indicated. Students may not receive credit for a course that is prerequisite to, or whose equivalent is prerequisite to, a higher-level course they have already completed.

French courses numbered 4000-4999 are intended primarily for advanced undergraduates; graduate students should consult with their advisors before registering for these courses.

Undergraduates may count a maximum of one course taught in English toward requirements for the major in French. This restriction does not apply to courses taught in English with an additional semester hour in French. Students should consult with their advisors before registering.

Students who have had significant experience with French through living or studying abroad should consult with the department before enrolling in any French course.

French Courses

FREN:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

FREN:1001 Elementary French I 4-5 s.h.

Introduction to reading, writing, listening, and speaking; for students who have no knowledge of French. GE: World Languages First Level Proficiency.

FREN:1002 Elementary French II 4-5 s.h.

Continuation of FREN:1001; introduction to reading, writing, listening, and speaking. Prerequisites: FREN:1001 or French Placement score of 176 or higher. GE: World Languages Second Level Proficiency.

FREN:1005 Texts and Contexts: French-Speaking World 3 s.h.

Development of skills in reading, understanding, and critically engaging with literary texts, and of research skills for informed inquiry; sense of oneself as a situated reader; range of texts reflecting diversity of French and Francophone writers. Taught in English. GE: Interpretation of Literature.

FREN:1006 Global Sports and National Cultures 3 s.h.

Overview of the relationship between sports and national cultures in countries around the world; focus on how athletic competitions play a role in the formation of collective identities; includes the Olympic Games in ancient Greece, hockey in Canada, cycling in France, traditional wrestling in Senegal, cricket in England and India, and soccer in Europe, Africa, and Latin America. GE: International and Global Issues.

FREN:1007 Nature/Ecology French Philosophy and Fiction 3 s.h.

Representations of the natural world in literary works from 16th to 20th centuries and in film; readings in English translation. Taught in English. GE: Interpretation of Literature.

FREN:1010 First-Year French Review 4-5 s.h.

FREN:1001 and FREN:1002 combined in one intensive course. GE: World Languages Second Level Proficiency.

FREN:1040 French for Travelers 2 s.h.

Basic language skills for tourists wanting to increase their French language skills.

FREN:1510 Cultural Misunderstandings: France and U.S.A. 3 s.h.

Key moments in the history of relations between the United States and France, from similarities underlying democratic principles to recent divergent worldviews. Taught in English. GE: International and Global Issues.

FREN:1600 French and Francophone Cultural Activities 1 s.h.

Credit for attendance and participation at French and Francophone cultural events, including scholarly talks, film screenings, art exhibits, literary readings, conversation hours, French Culture Club meetings, and volunteering as a translator for a medical clinic.

FREN:2001 Intermediate French I 5 s.h.

Prerequisites: FREN:1010 or FREN:1002 or French Placement score of 176 or higher. Requirements: completion of prerequisites or two years of high school French. GE: World Languages Second Level Proficiency.

FREN:2002 Intermediate French II 5 s.h.

Continuation of FREN:2001. Prerequisites: FREN:2001 or French Placement score of 231 or higher. Requirements: completion of prerequisites or three years of high school French. GE: World Languages Fourth Level Proficiency.

FREN:3000 Third-Year French 3 s.h.

Development of reading skills in French; composition and review of basic grammar structures. Prerequisites: FREN:2002 or French Placement score of 311 or higher. Requirements: completion of prerequisites or four years of high school French.

FREN:3007 French Phonetics 3 s.h.

Introduction to French phonetics; sounds of French in isolation and in context to improve pronunciation; audio exercises that emphasize sounds (nasal vowels, [u]-[y] contrast) and prosodic features (intonation, syllabification, liaison). Requirements: FREN:2002.

FREN:3017 Comics in French 3 s.h.

Analysis of comics and graphic novels written in French and translated into English; examination of diverse approaches to gender, sexuality, ethnicity, language, migration, and culture in the Francophone world; sustained reflection on questions of translation and global circulation of the medium; opportunity for students to try their hand at the craft of creating comics; working knowledge of French appreciated, but not required. Taught in English.

FREN:3020 Oral Expression in French I 2 s.h.

First in a two-course sequence. Prerequisites: FREN:2001 or French Placement score of 231 or higher. Requirements: FREN:2001 or three years of high school French.

FREN:3030 Paris and the Art of Urban Life 3 s.h.

City of Paris examined in varied historical, artistic, and cultural contexts; interdisciplinary. Taught in English. Same as ARTH:3020.

FREN:3060 Introduction to Reading and Writing in Literature 3 s.h.

Development of analytical, organizational skills for interpretation of literature; readings in prose, poetry, drama, criticism; emphasis on reading and essay writing. Prerequisites: FREN:2002 or French Placement score of 311 or higher. Requirements: completion of prerequisites or four years of high school French.

FREN:3120 French Civilization 3 s.h.

From Renaissance to Revolution. Prerequisites: FREN:3060. GE: Historical Perspectives.

FREN:3130 French-Speaking Cultures 3 s.h.

Study of cultures in which French is spoken: North Africa, Sub-Saharan Africa, the Indian Ocean, Southeast Asia, the Caribbean, Canada, Louisiana, and Europe; approaches include literature, cinema, music, the arts, and media; introduction to field of Francophone studies and promotion of linguistic and cultural diversity. Prerequisites: FREN:3060.

FREN:3160 Study Abroad: Culture 3 s.h.

Geography, history, architecture, painting, music of France; readings, slides, video and audio cassettes, visits to sites of cultural significance. Prerequisites: FREN:2002.

FREN:3190 Psycholinguistic Aspects of Bilingualism 3-4 s.h.

Interaction of two languages in a bilingual in terms of sound system, words, and grammar; different meanings of bilingualism, how bilingualism and multilingualism can change across lifespan. Taught in English. Requirements: linguistics or language acquisition course. Same as LING:3190, SPAN:3190.

FREN:3225 Studies in Modern France 3 s.h.

Introduction to the study of Modern France (1815-present); history, literature, politics, and culture of the period; emphasis on interdisciplinary investigation of diverse cultural forms. Prerequisites: FREN:3060.

FREN:3250 Topics in French Studies I 3 s.h.

Prerequisites: FREN:3060.

FREN:3300 French Grammar 3 s.h.

Study of word forms, sentence patterns for more accurate use of French. Prerequisites: FREN:2002 or French Placement score of 311 or higher. Requirements: completion of prerequisites or four years of high school French.

FREN:3360 Study Abroad: Language 3 s.h.

Written and spoken French; listening, speaking, reading, writing in cultural contexts. Prerequisites: FREN:2002.

- FREN:3410 Business French** 3 s.h.
Language of economics and business; practice in business correspondence and communication, active use of business vocabulary. Offered fall semesters. Prerequisites: FREN:3300.
- FREN:4007 Topics in French Linguistics** 3 s.h.
Concepts to aid in understanding how the French language works; major areas of linguistics—pronunciation (phonetics and phonology), the structure of words (morphology), the structure of sentences (syntax) and meaning (semantics). Prerequisites: FREN:3300.
- FREN:4015 Francophone Cinema** 3-4 s.h.
Introduction to the cinema of French-speaking countries outside of France; history, production, distribution; issues of colonialism, postcolonial identities, gender, social realism, diasporas, popular culture. Taught in English.
- FREN:4020 Oral Expression in French II** 2 s.h.
Last in a two-course sequence. Prerequisites: FREN:3020 or FREN:2002 or French Placement score of 311 or higher.
- FREN:4026 French Women Writers** 3-4 s.h.
Survey of 20th-century French women writers with emphasis on Simone de Beauvoir; broad range of literary works by writers including de Beauvoir, Colette, Marguerite Yourcenar, Nathalie Sarraute, Marguerite Duras, Sarah Kofman, Annie Ernaux, Christiane Rachefort; French feminist theorists who followed in de Beauvoir's footsteps, including Helene Cixous, Julia Kristeva, Luce Irigaray. Taught in English. Prerequisites: FREN:3060 and FREN:3300. Requirements: for 4 s.h. option—FREN:3060 and FREN:3300. Same as GWSS:4026.
- FREN:4030 Aspects of Poetry** 3-4 s.h.
Introduction to study of French poetry through genres, versification (metrics and rhythms), sounds, themes, styles, poetics, and significant movements; may include additional instruction in English to allow work on translations and practice perceiving forms in French different from English/American verse traditions. Prerequisites: FREN:3060 and FREN:3300.
- FREN:4070 Introduction to the Study of Meaning** 3 s.h.
Introduction to the study of meanings and language use in context; meaning outside the literal semantic interpretation of words used including presuppositions and goals of speaker, expectation of listener, speech acts, conversational implicatures, deixis, discourse functions, and other relevant topics. Taught in English. Prerequisites: LING:3001. Same as LING:4070.
- FREN:4080 Post-Colonial Literature in France** 3 s.h.
Literatures and cultures of Arabo-French (Beur) and Afro-French immigrations. Prerequisites: FREN:3300 and FREN:3060. Same as CL:4368.
- FREN:4090 Quebecois Literature** 3 s.h.
Introduction to Francophone literature and culture of Canada; 19th- and 20th-century novels and other cultural practices (e.g., theater, chansons, films). Prerequisites: FREN:3300 and FREN:3060.
- FREN:4100 French Cinema** 3-4 s.h.
Taught in English. GE: Literary, Visual, and Performing Arts.
- FREN:4110 Francophone Literature of the African Diaspora** 3 s.h.
Cultures, literatures, and visual arts of Francophone Africa, the Caribbean, and the Indian Ocean. Taught in French. Prerequisites: FREN:3060 and FREN:3300.
- FREN:4433 France Under Nazi Occupation, 1940-1944** 3-4 s.h.
Political, economic, social, and cultural conditions that prevailed following the Nazi conquest of France in 1940; examination of this period of upheaval through work of prominent historians of France; representations of occupied France in literary works, documentary, and fictional films produced during the war and in the politically fraught culture of collective memorialization that formed in aftermath of this national trauma. Taught in English. Same as HIST:4433.
- FREN:4466 France and Algeria from Pirates to Terrorism** 3 s.h.
Long, complex history of relationship between France and Algeria since 18th century; early modern conflicts over Barbary piracy, French invasion, and colonization of Algeria in 19th century; brutal Algerian War of Independence, postcolonial migration, and ongoing war of memory over shared Franco-Algerian history of colonization and decolonization. Taught in English. Same as HIST:4466.
- FREN:4520 Versailles Under the Sun King** 3-4 s.h.
Survey of culture and literature related to the court of King Louis XIV at Versailles, France. Taught in English.
- FREN:4540 Gender and Sexuality in French Cinema** 3-4 s.h.
Cultural, historical, semiotic approach to studying construction of gender identity and sexual codes in French cinema from 1920s to present. Taught in English. Same as GWSS:4540.
- FREN:4750 Topics in French Studies II** 3 s.h.
French and/or Francophone literature or culture. Prerequisites: FREN:3060 and FREN:3300.
- FREN:4890 Techniques of Translation** 3 s.h.
Prerequisites: FREN:3300. Same as TRNS:4497.
- FREN:4911 French for Reading/Research** 2 s.h.
- FREN:4912 French for Reading/Research** 2 s.h.
- FREN:4990 Independent Study** arr.
Prerequisites: FREN:3300 and FREN:3060.
- FREN:4995 Honors Research and Thesis** 3 s.h.
Prerequisites: FREN:3300 and FREN:3060.
- FREN:5000 Teaching and Learning Languages** 3 s.h.
Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Same as GRMN:5001, SLA:5000, SPAN:5000, WLLC:5000.
- FREN:5001 Introduction to Graduate Study** 2 s.h.
Expectations, resources, and opportunities of graduate study; introduction to course work, development of preprofessional competencies. Same as SPAN:5001.
- FREN:5020 Comparative Stylistics** 3 s.h.
Translation from English to French, including literary texts. Same as CL:5510.
- FREN:5031 Topics in French Linguistics** 3 s.h.
Basics of French language; main areas of linguistics—phonetics and phonology, morphology, semantics, pragmatics, and syntax; introduction to sociolinguistics and language variation; concepts and basic tools needed for linguistic analysis of language; brief historical overview; standard variety of French and its role in linguistic study of language; exploration of subdisciplines with practical exercises that implement principles presented in class and readings.
- FREN:6020 Studies in the Seventeenth Century** 3 s.h.

FREN:6080 Modern French Novel 3 s.h.**FREN:6130 Francophone Thought 3 s.h.**

Comparative study of intellectual, literary, cultural, social, and historical developments that have taken place in Francophone Sub-Saharan Africa, the Caribbean, and the Indian Ocean; approaches include cultural theory, literary criticism, cinema, visual arts, womens' studies, popular culture, history, and cultural anthropology; examination of key conceptual paradigms and cultivation of skills in critical thinking methodologies; students acquire the appropriate theoretical tools to explore an interdisciplinary scholarly field and learn to establish connections between the main components of the course and their own research interests. Same as GWSS:6130.

FREN:6142 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

FREN:6750 Topics in French Studies 3 s.h.**FREN:6755 French Literature of the 20th/21st Centuries 3 s.h.**

Advanced survey of French Literature 1900-present in areas of novel, theater, poetry, and essay.

FREN:6901 Second Language Acquisition Research and Theory 3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as ASIA:6901, JPNS:6901, SLA:6901, SPAN:6901.

FREN:6920 Multimedia and Second Language Acquisition 3 s.h.

Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Same as GRMN:6920, SLA:6920, SPAN:6920.

FREN:6950 Topics in Second Language Acquisition: Speaking 3 s.h.

Theory, pedagogy, research, and assessment in second language speaking. Same as SLA:6950, SPAN:6950.

FREN:7000 Thesis arr.**FREN:7990 Independent Study arr.**

Italian Courses

ITAL:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

ITAL:1030 Italian for Travelers 2 s.h.

Basic language skills for tourists; for students with no previous Italian.

ITAL:1050 Italy Live 3 s.h.

Introduction to Italian language and culture designed for students whose first contact with the language is in Italy; offered through Consortium of Universities for International Studies study abroad program (CUIS/CIMBA) in Paderno del Grappa, Italy.

ITAL:1101 Elementary Italian I 5 s.h.

Beginning instruction in Italian for students with no prior experience in speaking, reading, or understanding Italian. GE: World Languages First Level Proficiency.

ITAL:1102 Elementary Italian II 5 s.h.

Continuation of ITAL:1101; beginning instruction in speaking, reading, and understanding Italian. Prerequisites: ITAL:1101. GE: World Languages Second Level Proficiency.

ITAL:1540 Topics in Italian 2 s.h.

Topics in Italian language, culture, and literature; may include Italian cinema, studies of specific Italian cities, thematic approaches to Italian studies.

ITAL:2013 Everyday Italian I 2 s.h.

Students learn how to ask and answer questions dealing with topics of daily life; emphasis on oral expression. Prerequisites: ITAL:1102 or ITAL:3002.

ITAL:2014 Everyday Italian II 2 s.h.

Students learn how to ask and answer questions dealing with topics of daily life; emphasis on oral expression. Prerequisites: ITAL:3002 or ITAL:1102.

ITAL:2203 Intermediate Italian I 4 s.h.

Improvement of skills in writing, speaking, and comprehension beyond the level of elementary Italian. Prerequisites: ITAL:1102 or ITAL:3002. GE: World Languages Second Level Proficiency.

ITAL:2204 Intermediate Italian II 4 s.h.

Improvement of skills in writing, speaking, and comprehension beyond the level of elementary Italian. Prerequisites: ITAL:2203. GE: World Languages Fourth Level Proficiency.

ITAL:2550 Images of Modern Italy 3-4 s.h.

Survey of Italy's history since Unification; diverse aspects of modern Italian culture and society through visual and textural materials. Requirements: for students earning 4 s.h.—ITAL:2204. GE: Historical Perspectives; Values and Culture.

ITAL:2660 The Italian American Experience 3 s.h.

Exploration of Italian American presence in the U.S. by investigating historical background, multifaceted reality, heritage, and contribution to national culture; examination of Italian American ethnicity as portrayed in American literature, film, and television through an interdisciplinary approach; analysis of how Italian American writers and filmmakers have represented their community and contributed to shape their own cultural identity. Taught in English. GE: Diversity and Inclusion.

ITAL:2770 The Mafia and the Movies 3 s.h.

Exploration of the myth of the Mafia and mobsters and examination of its function through a selection of Italian films; students investigate the multifaceted nature of Italian organized crime, and consider its historical, geographical, social, and economical dimensions. Taught in English.

ITAL:2990 Independent Study arr.**ITAL:3002 Intensive Elementary Italian 4,6 s.h.**

ITAL:1101 and ITAL:1102 combined in one semester; fundamentals of Italian language and culture including reading, writing, comprehension, and speaking skills. Requirements: two years of another foreign language. GE: World Languages Second Level Proficiency.

ITAL:3305 Advanced Italian 3-4 s.h.

Improvement of skills in writing, speaking, and comprehension beyond the level of intermediate Italian; activities include class discussions, oral presentations, compositions, readings of modern texts, review and expansion of grammar. Prerequisites: ITAL:2204.

ITAL:3306 Advanced Italian II 3-4 s.h.

Improvement of skills in writing, speaking, and comprehension beyond the level of intermediate Italian; activities include class discussions, oral presentations, compositions, readings of modern texts, review and expansion of grammar. Prerequisites: ITAL:2204.

ITAL:4350 Studies in Italian Language 3 s.h.

Prerequisites: ITAL:3306.

ITAL:4550 Topics in Italian Studies 3 s.h.

Varied topics. Requirements: at least one course taught in Italian at the 2000 level or above.

ITAL:4633 Dante's Inferno 3-4 s.h.

A virtual poetic journey through Hell; critical reading of Dante's *Inferno*, the first volume of *The Divine Comedy*, and the many ways this text has been interpreted and reinterpreted; while primary focus is on Dante's work, other texts and media are introduced to enhance the reading. Taught in English; discussion sessions in Italian. Requirements: for Italian majors taking 4 s.h. option—ITAL:2204.

ITAL:4634 The Italian Renaissance 3 s.h.

Introduction to literature and culture of the Italian Renaissance; readings address various aspects of late medieval and renaissance culture including mysticism, humanism, women's position vis-à-vis literary tradition, and the relationship between literature and the arts. Taught in Italian. Prerequisites: ITAL:2204.

ITAL:4667 Modern Italian Fiction 3 s.h.

Prerequisites: ITAL:2204.

ITAL:4668 Modern Italian Poetry and Theater 3 s.h.

Continuation of ITAL:4667, but may be taken as independent unit. Prerequisites: ITAL:2204.

ITAL:4990 Independent Study arr.**ITAL:4998 Honors Research and Thesis 3 s.h.**

Arabic Courses

ARAB:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

ARAB:1001 Elementary Modern Standard Arabic I 5 s.h.

Speaking, listening, reading, and writing skills. GE: World Languages First Level Proficiency.

ARAB:1002 Elementary Modern Standard Arabic II 5 s.h.

Continuation of ARAB:1001. Requirements: ARAB:1001. GE: World Languages Second Level Proficiency.

ARAB:1020 Study Abroad: Language (Elementary) 5 s.h.

Modern Standard Arabic (MSA); speaking, reading, listening and writing skills. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement.

ARAB:1050 Topics in Middle East/Muslim World Studies I 3 s.h.

Contemporary cultural questions and debates in the Muslim and Arabic-speaking world. Taught in English.

ARAB:2001 Intermediate Modern Standard Arabic I 5 s.h.

Communication in speaking and writing; cultural topics. Requirements: ARAB:1002. GE: World Languages Second Level Proficiency.

ARAB:2002 Intermediate Modern Standard Arabic II 5 s.h.

Continuation of ARAB:2001. Requirements: ARAB:2001. GE: World Languages Fourth Level Proficiency.

ARAB:2020 Study Abroad: Language (Intermediate) 6 s.h.

Modern Standard Arabic (MSA); speaking, reading, listening and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: one year of Arabic study.

ARAB:2025 Study Abroad: Culture and Society 1 s.h.

Introduction to Moroccan culture and society through direct observation and interaction; intensive orientation, cultural exchange activities, learning excursions outside Fez, homestay with a Moroccan family.

ARAB:2030 Formal Spoken Arabic 2-3 s.h.

Conversational practice with a native speaker; for students who have completed fourth-semester Arabic. Requirements: ARAB:1002 or ARAB:2002; non-native or non-heritage speaker of Arabic.

ARAB:2050 Topics in Middle East/Muslim World Studies II 3 s.h.

Contemporary cultural questions and debates in the Muslim and Arabic-speaking world. Taught in English.

ARAB:3005 Culture and Resistance: The Modern Middle East 3-4 s.h.

Introduction to literature, cinema, and music of the Modern Middle East; how artists from Arab world, Turkey, and Iran explore their political terrain; how they depict issues of gender and sexuality; impact of the Arab Spring; exploration of art as expression and resistance; intersection between cultural and political; short stories, graphic novels, film, music, and visual arts. Taught in English.

ARAB:3011 Advanced Modern Standard Arabic I 3 s.h.

Advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Requirements: ARAB:2002.

ARAB:3012 Advanced Modern Standard Arabic II 3 s.h.

Continuation of ARAB:3011; advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Requirements: ARAB:3011.

ARAB:3020 Study Abroad: Language (Advanced) 6 s.h.

Modern Standard Arabic (MSA); speaking, reading, listening, and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: two or more years of Arabic language.

ARAB:3050 Arab Culture Through Dialects 3 s.h.

Communication in dialectal Arabic, Arabic dialectology, cultural topics, music and film in dialectal Arabic. Requirements: ARAB:1001; non-native or non-heritage speaker of Arabic.

ARAB:3498 Translate Iowa Project arr.

Internship with the Translate Iowa Project. Requirements: TRNS:2000 or TRNS:3179 or TRNS:3202 or ENGL:3724 or JPNS:3201 or FREN:4890 or SPAN:3030 or SPAN:3050 or SPAN:4980. Same as TRNS:3498.

ARAB:4512 Topics in Global and Transnational Culture 3-4 s.h.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as GRMN:4512, WLLC:4512.

ARAB:4990 Independent Study arr.

Material not covered in regularly offered courses; independent study guided by an instructor.

Swahili Courses

SWAH:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

SWAH:1001 Elementary Swahili I 4 s.h.

Development of basic Swahili conversations; introduction to Kiswahili culture, grammar, and vocabulary necessary for communication; asking and responding to simple and short questions. GE: World Languages First Level Proficiency.

SWAH:1002 Elementary Swahili II 4 s.h.

Builds on fundamentals of Kiswahili learned in SWAH:1002; students increase their proficiency in the language; introduction to Swahili language and culture through reading and listening to Swahili authentic materials. Requirements: SWAH:1001. GE: World Languages Second Level Proficiency.

SWAH:1010 Introduction to Swahili Language and Culture 2 s.h.

Introduction to Swahili language, history, and culture for anyone who would like to learn more about East Africa, Swahili language, and culture; multidisciplinary sources include texts, newspapers, booklets, films, music videos, pictures, handouts, websites, and a taste of Swahili cuisine; provides a bird's eye view of East African culture; previous knowledge of Swahili not required.

SWAH:2001 Intermediate Swahili I 4 s.h.

Development of language skills and intercultural understanding; use simple conversation for everyday life topics, language use for daily basis needs using familiar topics, maintain conversation on simple and relevant topics, and exchange information about subjects of interest; students compare discussions and conversations to their own experiences, read literary texts and biographies, and watch video clips, movies, and documentaries to compare and relate the culture to their own backgrounds. Requirements: SWAH:1002. GE: World Languages Second Level Proficiency.

SWAH:2002 Intermediate Swahili II 4 s.h.

Continuation of SWAH:2001; students increase competence in speaking the language and cultural understanding; general Swahili grammar and cultural studies; using the language to talk about job careers, life styles, basic rules/policies, complicated situations, purchasing and negotiating prices; development of communicative skills and intercultural understanding by reading a wide variety of texts and types. Requirements: SWAH:2001. GE: World Languages Fourth Level Proficiency.

SWAH:3000 Introduction to Swahili Language and Culture for Travelers 2 s.h.

Introduction to Swahili language, history, and culture for anyone who would like to learn more about East Africa, Swahili language, and culture; multidisciplinary sources include texts, newspapers, booklets, films, music videos, pictures, handouts, websites, and a taste of Swahili cuisine; provides a bird's eye view of East African culture; previous knowledge of Swahili not required.

SWAH:3006 Conversational Swahili 3 s.h.

Extensive practice in production and comprehension of spoken Swahili; students read and interpret simple texts, and write sentences and/or paragraphs about various topics; use of online resources to develop topics of discussion; students improve their Swahili grammar and vocabulary skills through conversations and discussions. Requirements: SWAH:2002 with a minimum grade of D.

SWAH:3007 Advanced Swahili 3 s.h.

Advanced speaking, listening, reading, and writing skills. Requirements: grade of D+ or higher in SWAH:2002.

SWAH:4050 Kiswahili in Cyberspace 3 s.h.

First-hand experience in the Kiswahili cyberworld; how to text in Kiswahili; what is in the Kiswahili blogosphere; where to find news, job and business opportunities, and discussions of health and environmental issues in Kiswahili on the internet; why and how do residents of the Kiswahili-speaking nations of East Africa, from farmers and school teachers to health professionals and business entrepreneurs, use cyberspace; taught primarily in Kiswahili. Prerequisites: SWAH:1002.

French, B.A.

Learning Outcomes

At time of graduation, majors will have reached the equivalent of the intermediate high/advanced low level on the American Council on the Teaching of Foreign Languages (ACTFL) scale in the four areas of speaking, listening, reading, and writing with a special emphasis on literature and culture, language, or French and Arabic, depending on their track.

- **Interpersonal Communication.** Ability to interact orally and in writing at a level sufficient for effective communication on a wide range of topics with French-speaking interlocutors from the Francophone world and across cultures.
- **Written Communication.** Ability to analyze, synthesize, engage critically, and effectively present written information and argumentation on what is heard, read, or viewed on the literatures and cultures of the Francophone world—North- and sub-Saharan Africa, the Indian Ocean, the Caribbean, and the French-speaking communities of North America.
- **Cross/Intercultural Communication.** Ability to gain knowledge on the various Francophone cultures of the world, and to reflect upon and deal appropriately with their linguistic, cultural, and artistic history and diversity.

Requirements

The Bachelor of Arts with a major in French requires a minimum of 120 s.h., including 31-36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

Students majoring in French complete a set of four foundation courses plus the requirements for one of four tracks: the French and Arabic track; the language track; the literature and culture track; or the teaching track.

The B.A. with a major in French requires the following course work.

Code	Title	Hours
Foundation Courses		10-11
Track Courses		21-25
Total Hours		31-36

Foundation Courses

Code	Title	Hours
All of these:		
FREN:3060	Introduction to Reading and Writing in Literature	3
FREN:3300	French Grammar	3
FREN:4020	Oral Expression in French II	2
One of these:		
FREN:3007	French Phonetics	3
FREN:3020	Oral Expression in French I	2

Students must maintain portfolios documenting their progress toward attaining the objectives of the French major.

A maximum of one course taught in English may be counted toward the major, except with the French and Arabic track; courses taught in English with an additional semester hour in French are exempt from this rule. Students should consult with their advisors before registering.

Transfer credit may be accepted, and students are encouraged to participate in study abroad, but the last two courses in the major ordinarily must be completed at the University of Iowa. Transfer credit is evaluated on an individual basis by the faculty in charge of study abroad.

Students choose an emphasis in one of the following four tracks when they declare the major (or later, but before their fourth year).

Tracks

French and Arabic Track

The French and Arabic track is designed for students interested in combining study of the French and Arabic languages with history, politics, and religions of Middle Eastern cultures and with a major in another area, such as comparative literature, political science, geography, or history.

Requirements for the French and Arabic track include the following seven or eight courses (25 s.h.) in addition to the foundation course work in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
	Three courses in French language, or literature and culture, taught in French, with at least one numbered above 4000	9
	Two or three courses in Arabic language beyond first year	10
	Two courses on Middle Eastern cultures (prefix FREN), taught in French or English, or approved courses from other departments	6

Language Track

The language track is designed for students with an interest in language and translation, as well as French and Francophone literature and culture. Students work in specific areas such as international business, comparative stylistics, and translation.

Requirements for the language track include the following seven courses (21 s.h.) in addition to the foundation course work in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
FREN:3410	Business French	3
FREN:4890	Techniques of Translation	3
	Five courses in French language, or literature and culture	15

All language track students take FREN:3410 Business French and FREN:4890 Techniques of Translation. Of the remaining five courses, only one may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. Students must complete at least one course numbered above 4000, in addition to the required course FREN:4890.

Courses in French stylistics and textual analysis, another language, economics, political science, and/or business are recommended as adjunct electives.

Literature and Culture Track

The literature and culture track is designed for students who are interested in combining study of French and Francophone literatures and cultures with a major in another area, such as cinema, communication studies, comparative literature, history, international studies, political science, or journalism.

Requirements for the literature and culture track include the following seven courses (21 s.h.) in addition to the foundation course work in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
	Five courses in literature and culture	15
	Two courses in language, or literature and culture	6

Only one of these courses may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 4000.

Teaching Track

The teaching track is designed for students who intend to earn licensure to teach in elementary and/or secondary schools. Students must successfully complete the requirements for the major in French with the teaching track and must complete the College of Education's Teacher Education Program (TEP), which requires several education courses and student teaching (see "Teacher Licensure" below).

Requirements for the French major's teaching track include the following seven courses (21 s.h.) in addition to the foundation course work in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
	Four courses in literature and culture	12
	Three courses from these areas: language, literature and culture	9

Only one of these courses may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 4000.

Literature and Culture, Language Courses

Students can select courses from the following to satisfy track requirements. All courses are taught in French unless otherwise indicated.

Literature and Culture

Code	Title	Hours
FREN:3030	Paris and the Art of Urban Life (taught in English)	3
FREN:3120	French Civilization	3
FREN:3130	French-Speaking Cultures	3
FREN:3160	Study Abroad: Culture	3

FREN:3225	Studies in Modern France	3
FREN:3250	Topics in French Studies I	3
FREN:4015	Francophone Cinema (taught in English)	3-4
FREN:4026	French Women Writers (taught in English)	3-4
FREN:4030	Aspects of Poetry	3
FREN:4080	Post-Colonial Literature in France	3
FREN:4090	Quebecois Literature	3
FREN:4100	French Cinema (taught in English)	3-4
FREN:4110	Francophone Literature of the African Diaspora	3
FREN:4433	France Under Nazi Occupation, 1940-1944 (taught in English)	3-4
FREN:4466	France and Algeria from Pirates to Terrorism (taught in English)	3
FREN:4520	Versailles Under the Sun King (taught in English)	3-4
FREN:4540	Gender and Sexuality in French Cinema (taught in English)	3-4
FREN:4750	Topics in French Studies II	3

Language Courses

Code	Title	Hours
FREN:3000	Third-Year French	3
FREN:3007	French Phonetics	3
FREN:3190	Psycholinguistic Aspects of Bilingualism (taught in English)	3-4
FREN:3360	Study Abroad: Language	3
FREN:3410	Business French	3
FREN:4007	Topics in French Linguistics	3
FREN:4070	Introduction to the Study of Meaning (taught in English)	3
FREN:4890	Techniques of Translation	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements of their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors who want to earn teacher licensure should choose the French teaching track. See "Teaching Track" above.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 for work undertaken in the department.

To graduate with honors in the major, departmental honors students must register for FREN:4995 Honors Research and Thesis or one honors-designated course numbered above 4000. They must complete an honors thesis or the equivalent (e.g., translation, comparative stylistics, cultural studies, or research) in French and must present their work to a faculty committee.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the French major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: competence in first-year French

Before the fifth semester begins: second-year French (FREN:2002 Intermediate French II)

Before the seventh semester begins: three of the four requirements for the major, FREN:3007 French Phonetics or FREN:3020 Oral Expression in French I, FREN:3060 Introduction to Reading and Writing in Literature, FREN:3300 French Grammar, one or two other courses in the major, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: FREN:4020 Oral Expression in French II and three more courses in the major; for the French language track, FREN:3410 Business French and FREN:4890 Techniques of Translation

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

French, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
A maximum of one course taught in English may be counted toward the major, except in the French and Arabic track. ^a		
Hours		0
First Year		
Fall		
FREN:1001	Elementary French I ^{b, c, d}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE CLAS Core: Values and Culture ^e		3
Elective course ^f		1
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

FREN:1002	Elementary French II ^{b, c, d}	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: Historical Perspectives ^e		3
Elective course ^f		1
Hours		15-16

Second Year

Fall

FREN:2001	Intermediate French I ^{b, c, d}	5
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3

GE CLAS Core: Quantitative or Formal Reasoning ^e	3
Elective course ^f	3
Elective course ^f	1
Hours	15

Spring

FREN:2002	Intermediate French II ^{b, c, d}	5
Major: French track course ^g		3 - 4
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: Natural Sciences with Lab ^e		4
Elective course ^f		1
Hours		16-17

Third Year

Fall

FREN:3060	Introduction to Reading and Writing in Literature	3
FREN:3300	French Grammar	3
FREN:3007 or FREN:3020	French Phonetics or Oral Expression in French I	2 - 3
GE CLAS Core: Natural Sciences without Lab ^e		3
Elective course ^f		3
Hours		14-15

Spring

FREN:4020	Oral Expression in French II	2
Major: French track course ^g		3 - 4
Major: French track course ^g		3 - 4
Elective course ^f		3
Elective course ^f		3
Elective course ^f		1
Hours		15-17

Fourth Year

Fall

Major: French track course ^g	3 - 4
Major: French track course ^g	3 - 4
Major: French track course (if needed) ^g	3 - 4
Elective course ^f	3
Elective course ^f	3
Hours	15-18

Spring

Major: French track course ^g	3 - 4
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Major: French track course ^g	3 - 4
Major: French track course (if needed) ^g	3 - 4
GE: Social Sciences ^e	3
Elective course ^f	3
Hours	15-18
Total Hours	119-131

- a Courses taught in English with an additional semester hour in French are exempt from this rule. Students should consult with their advisors before registering.
- b FREN:1001, FREN:1002, FREN:2001, and FREN:2002 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students complete 21-25 s.h. in track courses. Required coursework varies by track.

Career Advancement

Students majoring in French may combine their studies with courses in education to prepare for jobs in high school teaching. They may go on to graduate study in areas such as French, comparative literature, and other interdisciplinary areas as preparation for college-level teaching. Or they may combine other skills and studies with their major in French to prepare for challenging career opportunities in international government, business, finance, travel, communications, and other fields where the knowledge of more than one language is essential.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Italian, B.A.

Learning Outcomes

The goal is for students who graduate with a major in Italian to be able to:

- understand any kind of spoken language even when delivered at fast native speed;
- communicate effectively, in both oral and written discourse, taking into account varying registers and cultural contexts;
- read with ease virtually all forms of the written language, including complex texts such as specialized articles and literary works;
- reflect with critical insight on a range of topics in Italian literature, history, and contemporary culture;
- explain the significance of a representative selection of figures, texts, and tendencies in the literature and other forms of cultural production from the target language-speaking world;
- recognize and reflect in an informed way on cultural differences as well as shared values between Italian culture and their native cultures; and
- develop an intellectual engagement and reflective sensibility that will contribute to their life-long learning.

Why Study Italian?

Italian is the gateway to one of the world's richest cultures. Italy has the most United Nations Educational, Scientific and Cultural Organization (UNESCO) world heritage sites—artistic treasures considered to be of universal value—of any country in the world, due to its history as the birthplace of the Roman Empire and the Renaissance. In addition to an internationally recognized cultural patrimony, the country also possesses one of the world's largest economies. Italy is a world leader in design, fashion, art restoration, the culinary arts, robotics, shipbuilding, electromechanical machinery, machine tool manufacturing, construction machinery, space engineering, pharmaceuticals, and genetic mapping. Music, cinema, and sports also speak Italian. The video, *Italy the Extraordinary Commonplace*, highlights Italy's important contributions.

Students pursue Italian studies for cultural reasons, for travel and study plans in Italy, and because it enhances their competitiveness in today's marketplace. Since an estimated 950 Italian companies have offices in the U.S., and the U.S. is the third-ranked country of destinations for Italian export, many employers are seeking people who speak both Italian and English. A major in Italian opens doors to careers in a variety of fields; see Career Advancement [p. 451] in this section of the Catalog.

Italian: Languages, Culture, and Creativity

The major in Italian provides ample opportunities for growth in the language and for increased cultural fluency through dynamic, in-class learning experiences and extracurricular activities such as the Italian Table (weekly conversation hours) and the film series, Italian Movie Nights.

Requirements

The Bachelor of Arts with a major in Italian requires a minimum of 120 s.h., including 32-33 s.h. of work for the

major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students may count a maximum of 9 s.h. (three courses) of approved upper-level transfer or study abroad credit toward the major in Italian, but they must take either ITAL:3305 Advanced Italian or ITAL:3306 Advanced Italian II at the University of Iowa. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

The B.A. with a major in Italian requires the following course work.

Code	Title	Hours
All of these:		
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4
ITAL:3305	Advanced Italian	4
ITAL:3306	Advanced Italian II	4
ITAL:4633	Dante's Inferno	4
ITAL:4634	The Italian Renaissance	3
ITAL:4667	Modern Italian Fiction	3
ITAL:4668	Modern Italian Poetry and Theater	3
One of these:		
ITAL:2550	Images of Modern Italy	4
An additional course taught in Italian numbered above ITAL:3002		3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements of their major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Majors who want to earn teacher licensure should include an additional 2 s.h. in their work for the major, in either ITAL:2013 Everyday Italian I or ITAL:2014 Everyday Italian II.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 for work undertaken in the department.

To graduate with honors in the major, students must register for ITAL:4998 Honors Research and Thesis and one honors-designated course numbered above ITAL:3002. They must complete an honors thesis or the equivalent (e.g., translation, comparative stylistics, cultural studies, or research) in Italian and must present their work to a faculty committee.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Italian major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: competence in first-year Italian

Before the fifth semester begins: competence in second-year Italian (ITAL:2204 Intermediate Italian II)

Before the seventh semester begins: four courses in the major numbered above ITAL:3002 Intensive Elementary Italian and at least 90 s.h. earned toward the degree

Before the eighth semester begins: a total of at least five courses in the major numbered above ITAL:3002

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Italian, B.A.

Course	Title	Hours
First Year		
Fall		
ITAL:1101	Elementary Italian I ^{a, b, c}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture ^d		3
Elective course ^e		2
CSL:1600	Success at Iowa	2
Hours		15-16
Spring		
ITAL:1102	Elementary Italian II ^{a, b, c}	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^e		1
Hours		16-17
Second Year		
Fall		
ITAL:2203	Intermediate Italian I ^{a, b, c}	4
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: Social Sciences ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		16

Spring

ITAL:2204	Intermediate Italian II ^{a, b, c}	4
Major: course taught in Italian (prefix ITAL)		3 - 4
numbered above 3002 or ITAL:2550 Images of Modern Italy		
GE CLAS Core: International and Global Issues ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		16-17

Third Year

Fall

ITAL:3305	Advanced Italian ^f	4
ITAL:4667	Modern Italian Fiction	3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^e		3
Hours		16

Spring

ITAL:3306	Advanced Italian II ^f	4
ITAL:4668	Modern Italian Poetry and Theater	3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		16

Fourth Year

Fall

ITAL:4633	Dante's Inferno ^f	4
GE CLAS Core: Literary, Visual, and Performing Arts		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		16

Spring

ITAL:4634	The Italian Renaissance	3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		126-129

- a ITAL:1101, ITAL:1102, ITAL:2203, and ITAL:2204 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students pursuing the Italian major must take this course for 4 s.h.

Career Advancement

A background in Italian is advantageous for students planning careers in international business, tourism, and teaching, as well as for opera singers, musicians, art and art history majors, and for those who study architecture, fashion, and design. With more than a thousand Italian companies doing business in the United States, the major in Italian combines well with career options in a wide variety of fields.

Students majoring in Italian may combine their studies with courses in education to prepare for jobs in high school teaching. They may go on to graduate study in areas such as Italian, comparative literature, and other interdisciplinary areas as preparation for college-level teaching. A number of Italian majors go on to law school. Or they may combine other skills and studies with their major in Italian to prepare for challenging career opportunities in international government, business, finance, public relations, journalism, education, archaeology, arts administration, nongovernmental organizations, publishing, library science, politics, travel and tourism, hospitality management, communications, the culinary arts, and in other fields where the knowledge of more than one language is essential.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Arabic Language, Minor

The undergraduate minor in Arabic language requires a minimum of 15 s.h. earned in Arabic courses (prefix ARAB) considered intermediate (2000 level) or advanced (3000 level) for the minor, including 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. All courses for the minor must be taught in Arabic.

French, Minor

The undergraduate minor in French requires a minimum of 15 s.h., including 12 s.h. earned in courses considered advanced for the minor; 9 s.h. of the 12 s.h. in advanced courses must be taken at the University of Iowa in courses numbered 3000 or above (prefix FREN). Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. All courses for the minor must be taught in French. Furthering Language Incentive Program (FLIP) credit may not be counted toward the minor.

Credit from the University Studies Abroad Consortium (USAC) programs in Pau and Lyon, France, and the Study in Montpellier program in France counts as University of Iowa credit for the minor; 6 s.h. earned in other study abroad programs may be counted toward the minor.

Those who plan to use their work toward a minor in French as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Italian, Minor

The undergraduate minor in Italian requires a minimum of 15 s.h., including 12 s.h. earned in advanced Italian courses (prefix ITAL) numbered above ITAL:3002 taken at the University of Iowa. All courses for the minor must be taught in Italian. Images of Modern Italy (ITAL:2550) and Dante's Inferno (ITAL:4633), if taken for 4 s.h. (includes discussion section in Italian), will count toward the 12 s.h. of advanced courses required for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Furthering Language Incentive Program (FLIP) credit may not be counted toward the minor.

Those who plan to use their work toward a minor in Italian as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

French and Francophone World Studies, M.A.

The Master of Arts in French and Francophone world studies is offered with an optional French education emphasis.

For more detailed information on graduate degrees in French and Francophone world studies, contact the Department of French and Italian or visit its website. The department also publishes the Guide for Graduate Students and Assistants.

Requirements

The Master of Arts program in French and Francophone world studies requires a minimum of 30 s.h. of graduate credit and is offered with or without thesis.

Thesis students may apply up to 6 s.h. of thesis credit toward the 30 s.h. required for the degree. They must take a written and oral examination on their areas of study and must defend their thesis at the time of the comprehensive examination. The thesis prospectus must be accepted one year before a student defends the thesis.

Nonthesis students must pass a written and oral examination. With permission of the director of graduate studies and the department chair, nonthesis students may earn up to 6 s.h. of the required 30 s.h. outside the department or transfer up to 6 s.h. of course work completed at another institution.

All M.A. students must complete the following course work.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:5020	Comparative Stylistics	3
At least four graduate-level literature or culture courses numbered 5000 or above		

French Education Emphasis

The Master of Arts program with French education emphasis requires a minimum of 38 s.h. of graduate credit in French. The program is intended primarily for prospective secondary school and community college teachers. Candidates must pass a final written and oral examination.

All French education emphasis students must complete the following course work.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:5020	Comparative Stylistics	3
Courses in French literature numbered 5000 or above (minimum requirement)		9

Admission

Applicants must have completed the equivalent of the University of Iowa undergraduate major in French. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants for fall semester whose application materials are received in the department by January 15 have the best chance to be admitted and receive financial aid. They must

submit academic transcripts, letters of recommendation from three persons familiar with their past academic work, Graduate Record Examination (GRE) General Test results, a statement of purpose in taking graduate work, and one or more samples of original writing, one of which should be in French, that show their ability to pursue graduate work in French (an honors thesis, term paper, seminar paper, or other course papers).

Financial Support

Teaching assistantships are offered through the department, and University fellowships and scholarships are available through the Graduate College. Contact the Department of French and Italian for details.

Exchange assistantship agreements with the University of Pau and the University of Poitiers provide one year of residence at these universities in France for graduate students.

French and Francophone World Studies, Ph.D.

For more detailed information on graduate degrees in French and Francophone world studies, contact the Department of French and Italian or visit its website. The department also publishes the Guide for Graduate Students and Assistants.

Requirements

The Doctor of Philosophy program in French and Francophone world studies requires a minimum of 72 s.h. of graduate credit, including credit earned for the M.A.

The Ph.D. takes at least three years of graduate study, including at least one year spent in residence at the University of Iowa. Students must pass a comprehensive examination and make a successful oral defense of their dissertation.

Requirements for the Ph.D. with a major in French and Francophone world studies include the following.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:7000	Thesis (6 s.h. minimum)	6
	Three graduate courses in a related field, such as another in literature, history, or philosophy (8 s.h. minimum)	8
	A 5000-level course in critical theory approved by the director of graduate studies or faculty advisor	3

Students must possess fifth-semester or equivalent proficiency in a foreign language other than French. They are required to spend at least one year teaching as graduate assistants in the department.

Admission

An M.A. in French is prerequisite to admission to the Ph.D. program in French and Francophone world studies. However, successful completion of an M.A. in French does not necessarily qualify a student for doctoral study.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants for fall semester whose application materials are received in the department by January 15 have the best chance to be admitted and receive financial aid. They must submit academic transcripts, letters of recommendation from three persons familiar with their past academic work, Graduate Record Examination (GRE) General Test results, a statement of purpose in taking graduate work, and one or more samples of original writing, one of which should be in French, that show their ability to pursue graduate work in French (an honors thesis, term paper, seminar paper, or other course papers).

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through the Graduate College. Contact the Department of French and Italian for details.

Exchange assistantship agreements with the University of Pau and the University of Poitiers provide one year of residence at these universities in France for graduate students.

Career Advancement

The Ph.D. program is designed to prepare students for research, teaching, and professional service normally required of college and university faculty members.

Fundraising and Philanthropy Communication

Director, School of Journalism and Mass Communication

- David Ryfe

Coordinator, Fundraising and Philanthropy Communication

- Jenifer A. Vick (Journalism and Mass Communication)

Undergraduate certificate: fundraising and philanthropy communication

Website: <https://clas.uiowa.edu/sjmc/philanthropy-certificate>

The Certificate in Fundraising and Philanthropy Communication (FPC) is designed to provide an understanding of the profession of fundraising, philanthropy, fundraising communication, and nonprofit marketing. It concentrates on best practices in the field of fundraising and nonprofit communication. In addition to learning the fundamentals of fundraising, the certificate's core courses offer hands-on opportunities for students to work directly with local nonprofits creating fundraising plans and materials, and social media calendars and content.

Students who plan to earn the certificate come from a wide range of majors, including art and art history, communication studies, finance, health and human physiology, history, international studies, journalism, leisure studies, management, marketing, political science, sport and recreation management, among others.

In addition to preparing students for the career of professional fundraiser, the FPC certificate readies students for meaningful careers in the nonprofit sector, including volunteer management, donor database management, grant writing, event planning, graphic design, and nonprofit communications, public relations, and marketing.

The certificate program also can be beneficial to students who envision themselves in a for-profit or corporate career. Since employers value community involvement, this program prepares students to make an impact in their community through volunteer activities such as assisting with fundraising campaigns and serving on nonprofit organization boards and committees.

The Certificate in Fundraising and Philanthropy Communication is administered by the School of Journalism and Mass Communication [p. 670].

Programs

Undergraduate Program of Study Certificate

- Certificate in Fundraising and Philanthropy Communication [p. 458]

Courses

Fundraising and Philanthropy Communication Courses

FPC:2100 Internship in Fundraising and Philanthropy Communication 1-3 s.h.

Faculty-supervised professional work experience in fundraising and philanthropy communication.

FPC:2200 Communication and Public Relations 3 s.h.

Theory and practice of public relations; cultural, social, and organizational roles of public relations, opportunities, problems, and solutions.

FPC:3100 Fundraising Fundamentals 3 s.h.

Nonprofit organization reliance on raised funds to survive and thrive; basic concepts of fundraising for successful nonprofit organization; work with a nonprofit organization to explore basic fundraising techniques that nonprofits typically use including donor research, annual fund campaigns (phone, mail, email), capital campaigns, events, cause-related marketing, grants, planned giving, and donor stewardship; when and how to use different fundraising strategies to meet an organization's goals. Same as JMC:3101.

FPC:3185 Nonprofit and Fundraising Communication 3 s.h.

Practical experience planning and writing fundraising materials; how yearly fundraising helps approximately 1.5 million nonprofit organizations receive more than \$3 billion from individuals, foundations, and corporations to help people in need, advocate for causes, support research/arts/culture, and enhance opportunities for public and/or their members. Prerequisites: FPC:3100 or MGMT:3500. Same as JMC:3100.

FPC:3633 Philanthropy Communication in a Digital World 3-4 s.h.

World of philanthropy and nonprofit work that changes rapidly with and in response to developments in digital communications; campaigns and fundraisers driven by free agents on social networking sites as an example of how philanthropists and nonprofit workers operate in digital environment; overview of trends in areas of philanthropy and nonprofit work; practical skills to help communicate, create, and disseminate messages using multiple digital tools and social media; analysis of communication/media strategies; media production. Prerequisites: (JMC:2010 and JMC:2020) or FPC:3100 or MGMT:3500. Same as JMC:3633.

Fundraising and Philanthropy Communication, Certificate

The undergraduate Certificate in Fundraising and Philanthropy Communication (FPC) requires a minimum of 18 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

The certificate is designed to provide an understanding of the profession of fundraising, philanthropy, fundraising communication, and nonprofit marketing.

There are many reasons why students might consider earning the FPC certificate—they might be interested in a career in the nonprofit sector after they graduate; they might plan a career in a related field and believe that the FPC certificate would enhance their major; or they might feel passionately about community engagement and making a greater impact in the world, so they want to learn more in the area of philanthropy.

Students majoring in journalism and mass communication may count toward the certificate a maximum of 7 s.h. of journalism credit (prefix JMC) that they earn for the major. The certificate cannot be used to satisfy the journalism and mass communication major's second area of concentration requirement. Students minoring in mass communication may count toward the certificate a maximum of 7 s.h. of journalism credit (prefix JMC) that they earn for the minor. Students in other majors should consult with their advisors to learn whether they may count certificate course work toward their majors.

When certificate students register for fundraising and philanthropy communication courses (prefix FPC) that are cross-listed with journalism and mass communication (prefix JMC), they should register for the FPC course number.

The Certificate in Fundraising and Philanthropy Communication requires the following course work.

Core Courses

The following core courses are required.

Code	Title	Hours
FPC:3100	Fundraising Fundamentals	3
FPC:3185	Nonprofit and Fundraising Communication	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3

Electives and Optional Internship

Students complete the remaining 9 s.h. with elective course work or an optional internship as listed below. Certain special topics courses may fulfill the elective requirement; consult the certificate program coordinator.

Some of these courses have prerequisites, which students must complete before they register for the course. Some require special permission.

Code	Title	Hours
Electives		
FPC:3633	Philanthropy Communication in a Digital World	3-4
ARTH:1080	Writing About the Visual Arts	3
ARTS:3400	Grant Writing in the Arts	3
COMM:1130	The Art of Persuading Others	3
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
ENTR:3500	Social Entrepreneurship	3
EVNT:3154/ JMC:3154	Foundations of Event Management	3
EVNT:3260/ JMC:3260	Event Planning Workshop	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
HHP:3850/ GHS:3850	Promoting Health Globally	3
JMC:2200	Principles of Strategic Communication	3
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
POLI:1600	Introduction to Political Communication	3
SSW:2222	Introduction to Social Work	4
Internship		
FPC:2100	Internship in Fundraising and Philanthropy Communication	1-3

GE CLAS Core

Website: <https://clas.uiowa.edu/clas-core/requirements>

The College of Liberal Arts and Sciences GE CLAS Core requirements provide students with a broad foundation of knowledge and a focused practice of transferable skills necessary for a lifetime of learning.

GE CLAS Core courses are particularly valuable for students making the transition into the University of Iowa. They help students understand the academic expectations of the College of Liberal Arts and Sciences while providing the knowledge and skills needed for more advanced work in the major.

All students in the College of Liberal Arts and Sciences who wish to earn an undergraduate degree—Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.)—must complete the requirements of the GE CLAS Core.

GE CLAS Core Areas and Requirements

The GE CLAS Core has 11 required areas, grouped into three categories. Students must fulfill the requirements in each GE CLAS Core area. The requirements below are for students who entered the University of Iowa during Summer 2017 or after. Students who entered during a previous semester are held to different requirements as indicated on a student's degree audit.

Communication and Literacy:

- Rhetoric [p. 459]: a minimum of 4 s.h.
- World Languages [p. 460]: required credit varies by language (see "World Languages" below)
- Interpretation of Literature [p. 459]: a minimum of 3 s.h.

Natural, Quantitative, and Social Sciences:

- Natural Sciences [p. 463]: a minimum of 7 s.h.; must include one lab
- Quantitative or Formal Reasoning [p. 464]: a minimum of 3 s.h.
- Social Sciences [p. 464]: a minimum of 3 s.h.

Culture, Society, and the Arts:

- Diversity and Inclusion [p. 465]: a minimum of 3 s.h.
- Historical Perspectives [p. 466]: a minimum of 3 s.h.
- International and Global Issues [p. 467]: a minimum of 3 s.h.
- Literary, Visual, and Performing Arts [p. 467]: a minimum of 3 s.h.
- Values and Culture [p. 468]: a minimum of 3 s.h.

Students may count transfer credit and/or credit by exam toward some GE CLAS Core requirements. See CLAS Core Policies for details regarding use of transfer credit, credit by exam, and other policies for how GE CLAS Core requirements may be fulfilled.

Communication and Literacy Rhetoric

Rhetoric courses develop speaking, writing, listening, and critical reading skills and build competence in research, analysis, and argumentation.

All entering first-year students are required to complete RHET:1030 Rhetoric (4-5 s.h.). Because rhetorical skills lay the foundation for further study at the University, most students register for RHET:1030 during their first year at Iowa. Students in some majors, such as English or journalism and mass communication, enroll in RHET:1030 during their first semester.

Students who must enroll in English as a Second Language (ESL) courses as determined by their English proficiency evaluation must complete all ESL courses before they may register for RHET:1030 Rhetoric.

Students who have transfer credit in composition, speech, and argumentation but have not been granted an A.A. degree must complete the equivalent of RHET:1030 Rhetoric and often must take RHET:1040 Writing and Reading or RHET:1060 Speaking and Reading in addition to their transfer courses in composition and/or speech.

Each entering student's degree audit shows the course(s) that must be completed in order to fulfill the Rhetoric requirement.

The following courses are approved for the Rhetoric area.

Code	Title	Hours
RHET:1030	Rhetoric	4-5
RHET:1040	Writing and Reading	3
RHET:1060	Speaking and Reading	3

Transfer of Credit for Rhetoric

Transfer students who have been granted an Associate of Arts (A.A.) degree from an Iowa community college, Waldorf College in Iowa, or Black Hawk College in Illinois have satisfied the Rhetoric requirement.

Transfer credit for students without an A.A. degree is evaluated as follows:

- transfer students who have completed composition I, composition II, and speech at another institution have satisfied the GE CLAS Core Rhetoric requirement of RHET:1030 Rhetoric;
- transfer students who have completed only composition I must complete RHET:1030 Rhetoric at the University of Iowa;
- transfer students who have completed composition I and speech must complete RHET:1040 Writing and Reading at the University of Iowa;
- transfer students who have completed only speech must complete RHET:1040 Writing and Reading at the University of Iowa;
- transfer students who have completed composition I and II or only composition II must complete RHET:1060 Speaking and Reading at the University of Iowa;
- for transfer students who have completed any other course at another institution that may be equivalent to RHET:1030 Rhetoric, the University of Iowa Office of Admissions examines the content of the course and decides on equivalency based on the content of that course, conferring with the Department of Rhetoric on the correct equivalency, if necessary.

Interpretation of Literature

Courses in the Interpretation of Literature area focus on the major genres of literature (short and long fiction, nonfiction, poetry, and drama), improving students' abilities to read and analyze a variety of texts. Small group discussions in

these courses challenge students to think critically, to share insights, and to listen thoughtfully to the arguments of others.

All students must complete at least 3 s.h. of course work in the Interpretation of Literature area. The following courses are approved for the area.

Code	Title	Hours
CL:1510/ASIA:1510	Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature	3
ENGL:1200	The Interpretation of Literature	3
FREN:1005	Texts and Contexts: French-Speaking World	3
FREN:1007	Nature/Ecology French Philosophy and Fiction	3
HONR:1885	Reading the Ancient City	3

World Languages

GE CLAS Core courses in World Languages provide speaking, listening, reading, and writing skills in a second language as well as knowledge of the cultures in which the language is spoken. To fulfill the GE CLAS Core requirement in World Languages, students may choose one of the following options:

complete four years of a single world language in high school; or

achieve the fourth level of proficiency in a world language by completing the appropriate sequence of courses offered at the University of Iowa; or

achieve the fourth level of proficiency by completing courses at another college or university or through study abroad; or

achieve an equivalent score on a related Advanced Placement, International Baccalaureate, or other approved college-level examination accepted by the University of Iowa and the College of Liberal Arts and Sciences (see Credit By Exam Options on the Office of Admissions website); or

earn an equivalent score on both a UI written placement test and on a UI oral proficiency exam in a language taught at the University of Iowa (see World Languages Placement Test (WLPT) on the New Student Services website); or

earn an equivalent score on a proficiency exam in a language that is not taught at the University of Iowa (see Proficiency Examinations for Languages Not Taught at UI on the College of Liberal Arts and Sciences website).

A fourth level of proficiency is equivalent to the successful completion of an intermediate II language course (or of a second-year second semester course, for example) as taught at the University of Iowa. Depending on a student's placement test results and the language taken, a student may need to take four semesters of a language, starting with a beginning course and ending with a second semester intermediate course. Other students may be able to start elsewhere in the language sequence and complete the GE World Language requirement by taking two or three courses. See "World Languages Placement Tests" under Placement Tests on the College of Liberal Arts and Sciences website.

Semester hours earned for these courses vary by language. Students should be sure to take the placement test for the language of interest and should be aware of the course

sequence required to fulfill the GE requirement in World Languages for that particular language.

Once the World Languages requirement is completed, a student may earn up to an additional 8 s.h. of college credit while studying a world language. See Furthering Language Incentive Program (FLIP) on the College of Liberal Arts and Sciences website.

Students may use the following language course sequences to fulfill the World Languages requirement. To avoid duplication or regression, consult the appropriate language department before registering for courses.

American Sign Language

Courses in American Sign Language (ASL) are offered by the American Sign Language [p. 37] Program. The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
ASL:1001	American Sign Language I	4
ASL:1002	American Sign Language II	4
ASL:2001	American Sign Language III	4
ASL:2002	American Sign Language IV	4

Students with previous knowledge of American Sign Language should consult the ASL program for placement.

Arabic

Courses in Arabic are offered by the Department of French and Italian [p. 438]. The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
ARAB:1001	Elementary Modern Standard Arabic I	5
ARAB:1002	Elementary Modern Standard Arabic II	5
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

Students with previous knowledge of Arabic should consult the department for appropriate placement.

Chinese

Courses in Chinese are offered by the Department of Asian and Slavic Languages and Literatures [p. 119]. For students without previous knowledge of Chinese, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2101	Second-Year Chinese: First Semester	5
CHIN:2102	Second-Year Chinese: Second Semester	5

Students may use varied combinations of Chinese language courses approved to fulfill the GE CLAS Core World Languages requirement. Heritage learners and students who have studied Chinese abroad may be able to fulfill the requirement by substituting CHIN:2103 Accelerated Second-Year Chinese:

First Semester and CHIN:2104 Accelerated Second-Year Chinese: Second Semester for CHIN:2101 and CHIN:2102. Consult the department for more information.

French

Courses in French are offered by the Department of French and Italian [p. 438]. For students without previous knowledge of French, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
FREN:1001	Elementary French I	4-5
FREN:1002	Elementary French II	4-5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

Students may use varied combinations of French language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of French may be able to fulfill the requirement by substituting FREN:1010 First-Year French Review for FREN:1001 and FREN:1002 in the sequence above. Some students may be evaluated as ready for FREN:2001 or FREN:2002. Consult the department for appropriate placement.

German

Courses in German are offered by the Department of German [p. 523]. For students without previous knowledge of German, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

Students may use varied combinations of German language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of German may be able to fulfill the requirement by substituting GRMN:1010 First-Year German Review for GRMN:1001 and GRMN:1002 in the sequence above. Some students may be evaluated as ready for GRMN:2001 or GRMN:2002. Consult the department for appropriate placement.

The department also offers accelerated intensive courses, GRMN:1020 Intensive Elementary German and GRMN:2020 Intensive Intermediate German, which may be appropriate for students with strong language learning abilities or experience. The intensive courses may be combined with nonintensive courses to create other sequences that may be used to fulfill the GE CLAS Core World Languages requirement. Consult the department to identify an appropriate course sequence.

Greek

Courses in Greek are offered by the Department of Classics [p. 203]. Students without previous knowledge of Greek should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
CLSG:1001	Classical and New Testament Greek I	3-5
CLSG:1002	Classical and New Testament Greek II	3-5

CLSG:2001	Second-Year Greek I	3
CLSG:2002	Second-Year Greek II	3

Students with previous knowledge of Greek should consult the department for appropriate placement.

Italian

Courses in Italian are offered by the Department of French and Italian [p. 438]. Students without previous knowledge of Italian should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
ITAL:1101	Elementary Italian I	5
ITAL:1102	Elementary Italian II	5
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

Students with strong language learning abilities or a background in another Romance language may be able to complete the requirement by substituting ITAL:3002 Intensive Elementary Italian for ITAL:1101 and ITAL:1102 in the sequence above. Consult the department for appropriate placement.

Japanese

Courses in Japanese are offered by the Department of Asian and Slavic Languages and Literatures [p. 119]. For students without previous knowledge of Japanese, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

Students may use varied combinations of Japanese language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of Japanese should consult the department for appropriate placement.

Korean

Courses in Korean are offered by the Department of Asian and Slavic Languages and Literatures [p. 119]. For students without previous knowledge of Korean, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
KORE:1101	First-Year Korean: First Semester	4
KORE:1102	First-Year Korean: Second Semester	4
KORE:2101	Second-Year Korean: First Semester	4
KORE:2102	Second-Year Korean: Second Semester	4

Students with previous knowledge of Korean should consult the department for appropriate placement.

Latin

Courses in Latin are offered by the Department of Classics [p. 203]. Students without previous knowledge of Latin should fulfill the GE CLAS Core World Languages requirement with the following sequence. Students must take both CLSL:2001 and CLSL:2002 in order to fulfill the World Languages requirement. These courses require a similar knowledge of Latin, but one focuses on poetry and the other on prose. Other world languages permit a student to complete the last courses in the sequence to meet the GE CLAS Core requirement since the final course is more difficult than the previous ones. This is not true with the Latin sequence, and thus, both courses must be successfully completed.

Code	Title	Hours
CLSL:1001	Elementary Latin I	3-5
CLSL:1002	Elementary Latin II	3-5
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

Students with previous knowledge of Latin should consult the department for appropriate placement.

Portuguese

Courses in Portuguese are offered by the Department of Spanish and Portuguese [p. 966]. Two sequences in Portuguese are approved to fulfill the GE CLAS Core World Languages requirement. All courses are open to entering first-year students.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2500	Accelerated Intermediate Portuguese	5

Students may also substitute PORT:2010 Elementary Portuguese I and PORT:2015 Elementary Portuguese II for PORT:2000 in the sequence above.

Students with previous knowledge of Portuguese should consult the department for appropriate placement.

Russian

Courses in Russian are offered by the Department of Asian and Slavic Languages and Literatures [p. 119]. Students without previous knowledge of Russian should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
RUSS:1111	First-Year Russian I	5
RUSS:1112	First-Year Russian II	5
RUSS:2111	Second-Year Russian I	4
RUSS:2112	Second-Year Russian II	4

Students with previous knowledge of Russian should consult the department for appropriate placement.

Sanskrit

Courses in Sanskrit are offered by the Department of Asian and Slavic Languages and Literatures [p. 119]. Students without previous knowledge of Sanskrit should fulfill the GE CLAS Core World Languages requirement with the following sequence. Each of these courses is open to entering first-year students.

Code	Title	Hours
SOAS:2901/ CLSA:2901	First-Year Sanskrit: First Semester	4
SOAS:2902/ CLSA:2902	First-Year Sanskrit: Second Semester	4
SOAS:3901/ CLSA:3901	Second-Year Sanskrit: First Semester	3
SOAS:3902/ CLSA:3902	Second-Year Sanskrit: Second Semester	3

Students with previous knowledge of Sanskrit should consult the department for appropriate placement.

Spanish

Courses in Spanish are offered by the Department of Spanish and Portuguese [p. 966]. For students without previous knowledge of Spanish, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
SPAN:1001	Elementary Spanish I	5
SPAN:1002	Elementary Spanish II	5
SPAN:1501	Intermediate Spanish I	5
SPAN:1502	Intermediate Spanish II	5

Students may use varied combinations of Spanish language courses to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of Spanish may be able to fulfill the requirement by substituting SPAN:1003 Elementary Spanish Review for SPAN:1001 and SPAN:1002 in the sequence above.

The accelerated course SPAN:1503 Accelerated Intermediate Spanish, which combines SPAN:1501 and SPAN:1502, may be appropriate for some students.

Iowa Center for Higher Education students may use the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
CLAS:1002	Elementary Spanish I	4
CLAS:1003	Elementary Spanish II	4
CLAS:1501	Intermediate Spanish I	3
CLAS:1502	Intermediate Spanish II	3

Students with previous knowledge of Spanish should take the language placement test in Spanish to help determine proper placement.

Swahili

Courses in Swahili are offered by the Department of French and Italian [p. 438]. The following sequence fulfills the GE CLAS Core World Languages requirement. Each of these courses is open to entering first-year students.

Code	Title	Hours
SWAH:1001	Elementary Swahili I	4
SWAH:1002	Elementary Swahili II	4
SWAH:2001	Intermediate Swahili I	4
SWAH:2002	Intermediate Swahili II	4

Students with previous knowledge of Swahili should consult the department for appropriate placement.

Other Course Sequences

A student who successfully completes a four-semester world language sequence that has not been approved for the GE CLAS Core may have the sequence substituted for a proficiency test to fulfill the GE CLAS Core requirement.

Students who complete a world language sequence this way should notify the department that offers the sequence; the department will contact Graduation Analysis in the Office of the Registrar, which will update a student's degree audit to show fulfillment of the World Languages requirement.

Natural, Quantitative, and Social Sciences

Natural Sciences

Courses in the Natural Sciences area explore the scope and major concepts of a scientific discipline. Students learn the attitudes and practices of scientific investigators: logic, precision, experimentation, tentativeness, and objectivity. In courses with a laboratory component, students gain experience in the methods of scientific inquiry.

All students must complete at least 7 s.h. of course work in the Natural Sciences area, including at least one natural science lab component. The following courses are approved for the area; courses with a lab component are noted "(lab)."

Code	Title	Hours
ANTH:1301	Human Origins	3
ASTR:1060/ BIOL:1060/ EES:1060	Big Ideas: Origins of the Universe, Earth, and Life	3
ASTR:1070	Stars, Galaxies, and the Universe (with lab 4 s.h.; without lab 3 s.h.)	3-4
ASTR:1079	Introductory Astronomy Laboratory (lab)	1
ASTR:1080	Exploration of the Solar System (with lab 4 s.h.; without lab 3 s.h.)	3-4
ASTR:1091	Life in the Universe	3
ASTR:1771	General Astronomy I (lab)	4
ASTR:1772	General Astronomy II (lab)	4
BIOL:1061/ ANTH:1061/ ASTR:1061/ EES:1061	Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe (lab)	4
BIOL:1140	Human Biology (lab)	4
BIOL:1141	Introductory Animal Biology (lab)	4
BIOL:1251	How the Brain Works (and Why it Doesn't)	3
BIOL:1260	Plants and Human Affairs	2-3
BIOL:1261	Introduction to Botany (lab)	4
BIOL:1311/ ANTH:1310	Human Genetics in the Twenty-First Century	3
BIOL:1370	Understanding Evolution (formerly Ecology and Evolution)	3
BIOL:1411	Foundations of Biology (lab)	4
BIOL:1412	Diversity of Form and Function (lab)	4
CHEM:1050	Technology and Society	3

CHEM:1060	Technology and Society Laboratory (lab)	1
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
CHEM:1100	Chemistry in Industry and the Economy	3
CHEM:1110	Principles of Chemistry I (lab)	4
CHEM:1120	Principles of Chemistry II (lab)	4
CHEM:1160	Principles of Chemistry Lab (lab)	2
CHEM:1180	Chemical Science I	3
CHEM:1190	Chemical Science II	3
CHEM:1200	Chemical Science Laboratory (lab)	2
EES:1030/CEE:1030	Introduction to Earth Science (with lab 4 s.h.; without lab 3 s.h.)	3-4
EES:1031/CEE:1031	Introduction to Earth Science Laboratory (lab; students must have previously completed EES:1030/CEE:1030 without the lab)	1
EES:1040	Evolution and the History of Life (with lab 4 s.h.; without lab 3 s.h.)	3-4
EES:1050	Introduction to Geology (lab)	4
EES:1070	Age of Dinosaurs (lab)	4
EES:1080/ ENVS:1080	Introduction to Environmental Science (with lab 4 s.h.; without lab 3 s.h.; not for students who have taken EES:1085 or ENVS:1085)	3-4
EES:1085/ ENVS:1085	Fundamentals of Environmental Science (lab; not for students who have taken EES:1080 or ENVS:1080)	4
EES:1081/ ENVS:1081	Introduction to Environmental Sciences Laboratory (lab)	1
EES:1290	Energy and the Environment	3
EES:1400	Natural Disasters	3
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab (lab)	1
HHP:1100	Human Anatomy	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2310	Nutrition and Health	3
HONR:1640	Honors Seminar in Natural Sciences	3
MICR:1006	Small Wonders: Microbes in Our Lives (GE status effective spring 2019)	3
PHYS:1100	From Quarks to Quasars (with lab 4 s.h.; without lab 3 s.h.)	3-4

PHYS:1200	Physics of Everyday Experience	3
PHYS:1300	Nanoscience	3
PHYS:1400	Basic Physics (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1409	Basic Physics Lab (lab)	1
PHYS:1410	Physics of Sound (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1511	College Physics I (lab)	4
PHYS:1512	College Physics II (lab)	4
PHYS:1611	Introductory Physics I (lab)	4
PHYS:1612	Introductory Physics II (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1619	Introductory Physics II Lab (lab)	1
PHYS:1701	Physics I (lab)	4
PHYS:1702	Physics II (lab)	4

Quantitative or Formal Reasoning

Courses in the Quantitative or Formal Reasoning area help develop analytical skills through the practice of quantitative or formal symbolic reasoning. Courses focus on presentation and evaluation of evidence and argument; understanding the use and misuse of data; and organization of information in quantitative or other formal symbolic systems, including those used in computer science, linguistics, mathematics, philosophy, and statistics.

All students must complete at least 3 s.h. of course work in the Quantitative or Formal Reasoning area. Students also may fulfill this GE CLAS Core requirement by completing a course that lists an approved GE CLAS Core course as a prerequisite. The following courses are approved for the area.

Code	Title	Hours
COMM:1117	Theory and Practice of Argument	4
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
HHP:1030	Introduction to Critical Thinking	3
LING:1050	Language and Formal Reasoning	3
MATH:1020	Elementary Functions	4
MATH:1120	Logic of Arithmetic	4
MATH:1130	Theory of Arithmetic	3
MATH:1340	Mathematics for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
PHIL:1636	Principles of Reasoning: Argument and Debate	3

POLI:1050/ RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3
POLI:1700	Introduction to Political Analysis	3
PSY:2811	Research Methods and Data Analysis in Psychology I (GE status effective fall 2018)	3
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3

Social Sciences

Courses in the Social Sciences area focus on human behavior and the institutions and social systems that shape and are shaped by that behavior. Courses provide an overview of one or more social science disciplines, their theories, and their methods.

All students must complete at least 3 s.h. of course work in the Social Sciences area. The following courses are approved for the area.

Code	Title	Hours
AFAM:1030	Introduction to African American Society	3
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:1401	Language, Culture, and Communication	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2261	Human Impacts on the Environment	3
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
COMM:1170	Communication Theory in Everyday Life	3
COMM:1174	Media and Society	3
CPH:1400	Fundamentals of Public Health	3
CRIM:1410	Introduction to Criminology	3
CSD:3117/ LING:3117	Psychology of Language	3
CSD:3118/ LING:3118	Language Acquisition	1-3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2910	The Global Economy	3

HIST:1219/ SOC:1219	Big Ideas: Equality, Opportunity, and Public Policy in America	3
HONR:1660	Honors Seminar in Social Sciences	3
JMC:1100	Media Uses and Effects	3
LING:1010	Language and Society	3
LING:1060	Languages of the World	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
POLI:1100	Introduction to American Politics	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1600	Introduction to Political Communication	3
POLI:2415/ LAS:2415	Latin American Politics	3
PSQF:2115	Introduction to Counseling Psychology (GE status effective spring 2019)	3
PSY:1001	Elementary Psychology	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2601	Introduction to Cognitive Psychology	3
SOC:1010	Introduction to Sociology	3-4
SOC:1020	Social Problems	3-4
SOC:1220	Principles of Social Psychology	3-4
TR:1070	Perspectives on Leisure and Play	3

Culture, Society, and the Arts

Diversity and Inclusion

Courses in the Diversity and Inclusion area help to develop students' recognition of their positions in an increasingly pluralistic world while fostering an understanding of social and cultural differences. Students reflect critically on their own social and cultural perspectives while increasing their ability to engage with people who have backgrounds or

ideas different from their own. Students also explore the historical and structural bases of inequality and the benefits and challenges of diversity.

Transfer credit is not accepted for the Diversity and Inclusion requirement; students must complete this requirement with course work taken at the University of Iowa.

All students must complete at least 3 s.h. of course work in the Diversity and Inclusion area. The following courses are approved for the area.

Code	Title	Hours
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AMST:2025	Diversity in American Culture	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World (GE status effective fall 2018)	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
ARTS:2100	Printmaking and Politics of Protest	3
CCCC:2220	Foundations of Critical Cultural Competence	3
CSD:1200	Intellectual and Developmental Disabilities	3
CINE:1195	Video Games and Identity	3
CINE:1625	Race, Gender, and Sexuality on Screen	3
CL:2222/ASIA:2222/ GWSS:2222	Women in Premodern East Asian Literature	3
CL:2700/RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
COMM:1898/ LAS:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
DANC:2065	Performing Crisis: Dances of Identity, Witness, and Resistance	3
DST:1101	Introduction to Disability Studies	3
GRMN:2620	Anne Frank and Her Story	3-4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
GWSS:1002	Diversity and Power in the U.S. (GE status effective fall 2018)	3
HIST:1040	Diversity in History	3
HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
IS:2020	World Events Today!	3
ITAL:2660	The Italian American Experience (GE status effective fall 2018)	3
JMC:2500	Community Media (GE status effective fall 2018)	3
JMC:2600	Freedom of Expression	3

LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (GE status effective fall 2018)	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:1900	Introduction to the Politics of Race	3
POLI:1950	Introduction to the Politics of Religion (GE status effective spring 2019)	3
RELS:2620	Politics, Sex, and the Bible (GE status effective spring 2019)	3
SRM:1045	Diversity and Inclusion in Healthy Living (GE status effective fall 2018)	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
THTR:2320	Playwriting in a Global World	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
WLLC:1200/ DST:1200/ GHS:1200/ GRMN:1200	Disability and Inclusion in Film and Writing Around the World	3
WRIT:2100	Writing and Community Outreach	3

Historical Perspectives

Courses in the Historical Perspectives area help students comprehend the historical processes of change and continuity; develop the ability to generalize, explain, and interpret historical change; and understand the past in its own terms.

All students must complete at least 3 s.h. of course work in the Historical Perspectives area. The following courses are approved for the area.

Code	Title	Hours
ANTH:1201	World Archaeology	3
ARTH:1010	Art and Visual Culture	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070/ CHIN:1070	Asian Art and Culture	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:2920	Introduction to American Art	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:1830	Greek Civilization	3

CLSA:1840	Roman Civilization	3
CLSA:2127/ JPNS:2127	Global Manuscript Cultures (GE status effective spring 2019)	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
FREN:3120	French Civilization	3
HIST:1002	Issues in Medieval Society	3
HIST:1004	Issues in Human History: Communities and Society in History	3
HIST:1008	Issues in European Politics and Society	3
HIST:1010	History Matters	3
HIST:1014	Issues: Twentieth-Century Crisis	3
HIST:1016	The History That Made Our World	3
HIST:1261	American History to 1877	3
HIST:1262	American History 1877-Present	3
HIST:1401	The West and the World: Ancient	3-4
HIST:1402	The West and the World: Medieval	3-4
HIST:1403	The West and the World: Modern	3-4
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4
HIST:1607	Civilizations of Asia: Korea	3-4
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HONR:1610	Honors Seminar in Historical Perspectives	3
ITAL:2550	Images of Modern Italy	3
JMC:1200	Media History and Culture	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1225/ HIST:1025	Medieval Religion and Culture	3
RELS:1250/ HIST:1050	Modern Religion and Culture	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Religion and Culture of Slavs	3
THTR:1400	Theatre and Society: Ancients and Moderns	3

THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

International and Global Issues

Courses in the International and Global Issues area focus predominantly on countries or issues outside the United States, encouraging students to understand contemporary issues from an international perspective. Students develop knowledge of one or more contemporary global or international issues, gain a greater awareness of varied international perspectives, and improve their skills of analysis and critical inquiry.

All students must complete at least 3 s.h. of course work in the International and Global Issues area. The following courses are approved for the area.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2261	Human Impacts on the Environment	3
ARTH:1040	Arts of Africa	3
FREN:1006	Global Sports and National Cultures	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2910	The Global Economy	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies (GE status effective spring 2019)	3
GRMN:2720/ HIST:2420	Germany in the World	3
GRMN:4315	Contemporary German Civilization	3
HIST:1016	The History That Made Our World	3
HIST:1403	The West and the World: Modern	3-4
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4
HIST:1607	Civilizations of Asia: Korea	3-4
HONR:1620	Honors Seminar in International and Global Issues	3

IS:2000	Introduction to International Studies	3
ITAL:2770	The Mafia and the Movies (GE status effective spring 2019)	3
LING:1040/ ANTH:1040	Language Rights	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:2415/ LAS:2415	Latin American Politics	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:3855/IS:3855	Human Rights and Islam	3
RUSS:1132	Russia Today	3
SPST:2170	Sport and Globalization	3

Literary, Visual, and Performing Arts

Courses in the Literary, Visual, and Performing Arts area provide students with opportunities to appreciate the arts and to analyze them within their historical and theoretical contexts. They also help students develop the analytic, expressive, and imaginative abilities necessary for understanding, appreciating, and creating art.

All students must complete at least 3 s.h. of course work in the Literary, Visual, and Performing Arts area. The following courses are approved for the area.

Code	Title	Hours
ARTH:1010	Art and Visual Culture	3
ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070/ CHIN:1070	Asian Art and Culture	3
ARTH:1095	American Indian Art	3
ARTH:2920	Introduction to American Art	3
ARTS:1010	Elements of Art	3
ARTS:1030	Elements of Jewelry and Metal Arts	3
ARTS:1050	Elements of Printmaking	3

ARTS:1080	Elements of Sculpture	3
CERM:2010	Exploring Forms in Clay I	3
CHIN:1702	Chinese Popular Culture	3
CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1602	Introduction to Film Studies	3
CINE:1610	Contemporary Cinema	3
CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3
CL:1241	Major Texts of World Literature, 1700 to the Present	3
CLSA:1010	Hero, God, Mortal: Literature of Greece	3
CLSA:1020	Love and Glory: The Literature of Rome	3
CLSA:1740/ WRIT:1740	Writing Strategies: Word Origins and Word Choice	3
CLSA:2016	Classical Mythology	3
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3
DANC:1010	Beginning Tap	2
DANC:1020	Beginning Jazz	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1110	Continuing Tap	1-2
DANC:1120	Continuing Jazz	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2030	Intermediate Ballet	1-2
DANC:2040	Intermediate Modern	2
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
ENGL:1320	Heroes and Villains	3
ENGL:1330	The Art of Storytelling	3
ENGL:1345	American Lives	3
ENGL:1350	Literature and Sexualities	3
FREN:4100	French Cinema	3-4
GRMN:2630	German Cinema: Greatest Hits	3-4
GRMN:2666/ CL:2666	Pact with the Devil	3
GRMN:2775	Scandinavian Crime Fiction	3
GRMN:2785	Cyborgs, Monsters, and the Uncanny	3
HONR:1630	Honors Seminar in Literary, Visual, and Performing Arts	3
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1012	Creativity in Music	3
MUS:1020	Performance Instruction for Nonmajors	1

MUS:1066	Introduction to Film Music	3
MUS:1301	Concepts and Contexts of Western Music	3
MUS:1302	Great Musicians	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
PORT:2850/ SPAN:2850	Brazilian Narrative in Translation	3
SCLP:2810	Undergraduate Sculpture I	3
SPAN:1700/ LATS:1700	Latino/a Literature in the U.S.	3
SPAN:1800	Contemporary Spanish American Narrative	3
THTR:1140	Basic Acting	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1412/ DANC:1412/ DPA:1412	The Arts in Performance	3
THTR:2301	Playwriting I	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

Values and Culture

Courses in the Values and Culture area focus on how culture shapes the human experience and the role of values in society, with students asking fundamental questions regarding the human experience while exploring their own values and beliefs.

All students must complete at least 3 s.h. of course work in the Values and Culture area. The following courses are approved for the area.

Code	Title	Hours
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3
AMST:1010	Understanding American Cultures	3
AMST:1154	Food in America	3
AMST:2000	Introduction to American Studies	3
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2175/ JPNS:2175	Japanese Society and Culture	3
ARTH:1030	Themes in Global Art	3
ARTH:1045	Race and Art in America	3
ARTH:1095	American Indian Art	3

ARTS:2000/ ASP:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3	RELS:1080	Introduction to the New Testament	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3	RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
CHIN:1504	Asian Humanities: China	3	RELS:1350/ AFAM:1250	Introduction to African American Religions	3
CLSA:1340	Magic in the Ancient World	3	RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
CLSA:1875	Ancient Sports and Leisure	3	RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
CLSA:1883/ HONR:1883	War	3	RELS:1702	Religion in America Today	3
CLSA:2016	Classical Mythology	3	RELS:1810	Happiness in a Difficult World	3
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3	RELS:1903	Quest for Human Destiny	3
CLSA:2651/ GWSS:2651	Gender and Sexuality in the Ancient World	3	RELS:2700/ NAIS:2700	Sacred World of Native Americans	3
COMM:1174	Media and Society	3	RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3	RELS:2986	Religion and Women	3
ENGL:1420	Technologies and Literatures of the Future	3	RUSS:1082	Youth Subcultures After Socialism	3
EPLS:4180	Human Relations for the Classroom Teacher	3	RUSS:1131	Introduction to Russian Culture	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4	RUSS:1132	Russia Today	3
GRMN:2618/ CL:2618	The Third Reich and Literature	3	RUSS:1531	Slavic Folklore	3
GRMN:2650	German Nationalism After WWII	3-4	RUSS:1532	Religion and Culture of Slavs	3
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4	RUSS:2100	Secrets of Russian Mentality	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3	SOAS:1502/ RELS:1502	Asian Humanities: India	3
GWSS:1060/ AMST:1060/ ENGL:1410	Sex and Popular Culture in America	3	SOC:1310/ GWSS:1310	Gender and Society	3-4
HHP:2200	Physical Activity and Health	3	SOC:2710	The American Family	3
HIST:1609	India Now! A Survey from Bollywood Films to Global Terror	3-4	SOC:2810	Social Inequality	3
HIST:1708	Civilizations of Africa	3	SPAN:1700/ LATS:1700	Latino/a Literature in the U.S.	3
ITAL:2550	Images of Modern Italy	3	SPAN:1900	Diversity and Cultures in Spain	3
JMC:1500	Social Media Today	3	SRM:1072	Leisure and the Liberal Arts	3
JPNS:1506	Asian Humanities: Japan	3	SSW:1022/ SOC:1022	Social Justice and Social Welfare in the United States	3
LING:2900	Language, Gender, and Sexuality	3	THTR:1411	Comedy and Society	3
MUS:1009	Jazz Cultures in America and Abroad	3	THTR:1412/ DANC:1412/ DPA:1412	The Arts in Performance	3
MUS:1720	History of Jazz	3			
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3			
NAIS:1049	Introduction to American Indian and Native Studies	3			
PHIL:1401	Matters of Life and Death	3			
PHIL:1861	Introduction to Philosophy	3			
PHIL:2402	Introduction to Ethics	3			
POLI:1300	Introduction to Political Thought and Action	3			
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3			

Gender, Women's, and Sexuality Studies

Chair

- Leslie A. Schwalm

Director, Graduate Studies

- Miriam Thaggert

Director, Undergraduate Studies

- Mary Ann Rasmussen

Undergraduate majors: gender, women's, and sexuality studies (B.A.); social justice (B.A.)

Undergraduate minors: gender, health, and healthcare equity; gender, women's, and sexuality studies; social justice

Graduate certificate: gender, women's, and sexuality studies

Faculty: <https://clas.uiowa.edu/gwss/people>

Website: <https://clas.uiowa.edu/gwss/>

Gender, women's, and sexuality studies (GWSS) is an interdisciplinary field that promotes social justice and full citizenship by asking when and how gender intersects with sexuality, class, race, ethnicity, nationality, globalization, and physical ability in ways that can exclude and oppress but that also can enrich cultures and expand opportunities. GWSS trains students to investigate how gender and sexuality shape challenges people face in areas such as the environment, culture and the media, education, health, violence, and the economy. Critical thinking and analysis and development of expertise in writing, research, and presentation provide the program's graduates with the professional skills they will need to pursue careers or graduate study in a wide variety of fields or academic disciplines.

Programs

Undergraduate Programs of Study

Majors

- Major in Gender, Women's, and Sexuality Studies (Bachelor of Arts) [p. 480]
- Major in Social Justice (Bachelor of Arts) [p. 485]

Minors

- Minor in Gender, Health, and Healthcare Equity [p. 491]
- Minor in Gender, Women's, and Sexuality Studies [p. 492]
- Minor in Social Justice [p. 493]

Graduate Program of Study

Certificate

- Certificate in Gender, Women's, and Sexuality Studies [p. 495]

Courses

- Gender, Women's, and Sexuality Studies Courses [p. 470]
- Social Justice Courses [p. 478]

Gender, Women's, and Sexuality Studies Courses

GWSS:1000 First-Year Seminar

1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies

3 s.h.

Introduction to feminist interdisciplinary study of women's lives, with emphasis on race, class, sexual orientation; work, family, culture, political and social change. GE: Values and Culture.

GWSS:1002 Diversity and Power in the U.S.

3 s.h.

How the intersection of gender, race, class affects individual experience, national ideology, social institutions; interdisciplinary perspective. GE: Diversity and Inclusion.

GWSS:1003 Introduction to Social Justice

3 s.h.

Introduction to principles and theories of social justice; students examine the history of influential social movements in the United States and the world in the last century; how intersectionality can create tensions between and among members of social movements; how race, class, gender, age, geography, and our bodies play a role in the application of theories of social justice. Same as SJUS:1001.

GWSS:1005 Topics in Gender, Women's, and Sexuality Studies

3 s.h.

GWSS:1046 Big Ideas: People and the Environment - Technology, Culture, and Social Justice

3 s.h.

How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as ANTH:1046, GEOG:1046.

GWSS:1060 Sex and Popular Culture in America

3 s.h.

Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as AMST:1060, ENGL:1410.

GWSS:1070 Asian American Women Writers

3 s.h.

Introduction to major Asian American women writers of 20th and 21st centuries; construction of gender within Asian American communities and diverse experiences of Asians in America; novels, short stories, memoirs, films, and historical and critical texts.

GWSS:1074 Inequality in American Sport

3 s.h.

Cultural meanings of sport in contemporary U.S. culture; American dream as promoted, challenged in sport; sport experiences, inclusion, and exclusion as affected by gender and sexuality, race and ethnicity, social class, age, physical ability/disability, and nationalism. GE: Diversity and Inclusion. Same as AMST:1074, SPST:1074.

GWSS:1100 Contraception Across Time and Cultures

3 s.h.

Methods and history of contraception and abortion; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Same as CLSA:1100, GHS:1100, GRMN:1100, WLLC:1100.

GWSS:1310 Gender and Society 3-4 s.h.

Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Values and Culture. Same as SOC:1310.

GWSS:1600 Wonder Woman Unleashed: A Hero for Our Times 3 s.h.

Development of the woman warrior archetype in mythology (Athena/Minerva and Artemis/Diana), literature (Camilla from *The Aeneid* by Virgil), and history (Artemisia and Joan of Arc); focus on the development of Amazon narratives in *Metamorphoses* by Ovid, *The Book of the City of Ladies* by Christine de Pizan, and *On Famous Women* by Boccaccio; students read *Wonder Woman Chronicles* and one or two critical studies on the subject, which may include *The Secret History of Wonder Woman* by Jill Lepore. Same as CL:1600.

GWSS:1725 Gender and Religion in Korean Visual Culture 3 s.h.

Students draw creatively on visual materials to illuminate complex experience of Korean women in various religious traditions of Korea. Same as ASIA:1725, KORE:1725, RELS:1725.

GWSS:2000 Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect 3 s.h.

Exploration of desire, sex, consent, and sexual violence in practical and theoretical dimensions; recent demands by students to change the way sexual violence is addressed; theory and sources from popular media; lectures by scholars, activists, and professionals; sexual violence, rape culture, and sexuality-based oppression confronted with academic/therapeutic/political knowledge; real world strategies to help better understand and combat sexual violence, theories. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as RHET:2031.

GWSS:2041 Gender, Communication, and Culture 3 s.h.

Social construction of gender and gendered identities across a range of communicative settings in contemporary U.S. society, including relationships, schools, organizations, media, and social movements; how communication creates, reproduces, sustains, and sometimes challenges and changes the meaning of gender and, with that, cultural structures and practices. Same as COMM:2041.

GWSS:2045 Working for Social Justice 1-3 s.h.

Identification and pursuit of careers in a wide range of fields where people advocate for and engage issues of social justice; writing self-assessments, résumés, sample employment application letters, statements of purpose; development of e-portfolios that highlight areas of student research and expertise; mock interview practice; Pomerantz Career Center resources; interviewing professionals in careers focused on social justice and feminist issues; local internship and volunteer possibilities; national and international educational and career opportunities for making a difference in the world.

GWSS:2052 Women in Islam and the Middle East 3 s.h.

Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: International and Global Issues; Values and Culture. Same as RELS:2852.

GWSS:2055 Persuasion and Advocacy 3 s.h.

History of women's rhetoric in the West and ways in which these approaches can be adapted to modern demands; strategies of prominent women rhetors analyzed from antiquity to present; how our own historical moment constrains, shapes, and enables women's public speaking and writing today; projects that take advantage of multimodal presentation platforms and apply insights from class to causes of interest to UI students; enables students from all disciplinary and professional backgrounds to improve persuasive skills relevant to their careers. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as RHET:2055.

GWSS:2075 Gender, Sexuality, and Media 3 s.h.

Mediated representations of gender and sexuality (television, film, and internet) to understand how these complex and complicated codes influence meaning of sex, sexuality, and gender; contemporary and historical examples used to engage texts that illuminate cultural conceptions of femininity, masculinity, heterosexuality, and homosexuality; cases that confuse and trouble the stability of these categories. Same as COMM:2075.

GWSS:2078 Women, Sport, and Culture 3 s.h.

Feminist analysis of girls' and women's sports experiences, including reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women's sport, feminist critiques, alternatives to sport. Same as SPST:2078.

GWSS:2080 The Cultural Politics of HIV-AIDS 3 s.h.

Complex historical shifts in cultural perceptions about HIV-AIDS in the U.S. and transnationally; controversies around HIV-AIDS and their links with questions of gender and sexuality; how HIV-AIDS subsequently became the basis of a transnational industry comprising nongovernmental organizations, donors, and activists across the global north and south, starting from 1980s in the U.S. when HIV-AIDS first emerged into public sphere as a gay disease; link between HIV-AIDS and ideologies of development or progress, neocolonialism, and emergence of lesbian, gay, bisexual, transgender, intersex, and questioning (LGBTIQ) movements in many parts of world. Recommendations: background in gender studies, and completion of rhetoric or at least one social sciences course. Same as GHS:2080.

GWSS:2102 Anthropology of Marriage and Family 3 s.h.

Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as ANTH:2102.

GWSS:2108 Gendering India 3 s.h.

Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as ANTH:2108.

GWSS:2110 Diversity in American Religious History: Experimenting with Gender and Sexuality 3 s.h.

Introduction to select popular, alternative, and communal religious groups from the 19th and 20th centuries that have challenged society's norms for gender and sexuality. Same as HIST:2210, RELS:2110.

GWSS:2120 Gender and Technology 3 s.h.

Study of the technology field as it relates to gender in global perspective; core topics may include gender and STEM fields, gender in technology workplaces, and gender in the design and use of technological products such as mobile technology, artificial intelligence, and video games. Same as ANTH:2120.

GWSS:2151 Global Migration in the Contemporary World 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as ANTH:2151, IS:2151.

GWSS:2172 The History of African American Women from Slavery to Freedom 3 s.h.

Survey of African American women's history from its beginnings through emancipation and Reconstruction; expansion of slavery in the South and its gendered implications, ways black women influenced antebellum slave culture, female modes of resistance, abolition of slavery in the North, and ways Northern emancipation shaped black women's experiences in the region; development of a free black community and black women's roles in these new social configurations; African American female body under slavery; impact of war and revolution on African American women's lives; black women's experiences during Reconstruction.

GWSS:2190 Love Rules: Law and the Family Across Cultures 3 s.h.

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept, it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as ANTH:2190, IS:2190.

GWSS:2193 Literature, Culture, and Women 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:2193.

GWSS:2200 Identity, Citizenship, and Rights: The Racial Construction of Social Justice in America 3 s.h.

The high ideals of America's founding documents assert that "All men are created equal" with the inalienable rights of life, liberty, and the pursuit of happiness; however, these ideals have been compromised and contested throughout the nation's history—certain groups have been less equal in the eyes of the law and society than others; students explore and critically engage how understandings of race and ethnicity have informed notions of identity, citizenship, and rights as experienced by Native Americans, African Americans, Asians, European immigrants, Hispanics, and whites. Same as SJUS:2200.

GWSS:2222 Women in Premodern East Asian Literature 3 s.h.

Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as ASIA:2222, CL:2222.

GWSS:2250 The History of Social Justice Movements 3 s.h.

History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as HIST:2250, SJUS:2250.

GWSS:2400 Health Disparities and Intersectionality with U.S. Latina/o Peoples 3 s.h.

Exploration of intersectionality (related to gender, immigration status, and more) and U.S. health disparities, particularly as they impact U.S. Latina/o peoples; Latina/o as a heterogeneous group, originating from a variety of countries, with families that may have mixed immigration, education, class, and/or nationality status; public health approaches and concepts; intersectionality, social determinants of health, the Social Ecological Model, Ecosocial Theory, and Critical Race Theory; examination of various levels of racism, sexism, and other forms of intersectional discrimination. Same as CPH:2240, LATS:2400.

GWSS:2500 Love, War, Activism: Stories About Women from Across the World 3 s.h.

Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2570, SJUS:2500.

GWSS:2571 Visualizing Human Rights 3 s.h.

Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2571, SJUS:2571.

GWSS:2600 Men, Masculinity, Identity, and Health 3 s.h.

Impact of male gender roles, masculine identity, and biology on men's health throughout the life course; focus on description, causes, and possible solutions for health related disparities for men in general and for men of color; concepts including machismo, caballerismo, John Henryism, Man Points, hegemonic, and other gender roles related to promoting and reducing quality of health and well-being of U.S. males.

GWSS:2650 Global Reproduction 3 s.h.

History of birth control and work of activists and organizations that emerged to promote it; troubling connections that spawned between reproductive rights and population control movements. Same as GHS:2650.

GWSS:2651 Gender and Sexuality in the Ancient World**3 s.h.**

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of GE CLAS Core Rhetoric and sophomore standing. GE: Values and Culture. Same as CLSA:2651.

GWSS:2700 Transgender People, Politics, and Cultures**3 s.h.**

How people live across and beyond social differentiation of sex and gender; how practices of identity building and political resistance transform or negotiate with social structures of gender, race, and class; burgeoning field of transgender studies which pushes to interrogate some fundamental aspects of human societies and question how supposedly "natural" categories of sex and gender are constructed and transformed; exploration of lives, politics, and subcultures of people who differ from gender norms in the United States and across the world; how transgender cultures and politics negotiate with structures of race and class. Recommendations: background in gender studies or social sciences.

GWSS:2771 Sexual Ethics**3 s.h.**

Introduction to religion and ethics; diverse secular, Jewish, and Christian perspectives on human sexuality and sexual activity; religious views underlying divergent attitudes toward same-gender sexuality and abortion. Same as RELS:2771.

GWSS:2800 African American Women, Health, Hair, and Sexuality**3 s.h.**

From the exotic to the erotic, African American women's bodies have been constructed to fulfill a variety of personal and cultural fantasies as well as social functions that are "killing us softly"; how cultural icons and myths of black women—Jezebel, Mammy, Tragic Mulatto, Aunt Jemima, Sapphire, Matriarch, Welfare Queen, and more recently, the overachieving black woman—shape and create restrictions and visions of the self that contribute to health disparities; engaging black feminist/womanist theory to explore how larger images influence everyday acts of self-care and pleasure, such as hair and sexuality, on the health of African American women. Same as AFAM:2800.

GWSS:2900 Love, Sex, and Money: Sexuality and Exchange Across Cultures**3 s.h.**

Everything from pop songs to advertisements warn us of the evils of gold diggers, "blingsexuals," or "buyfriends"; in America, money is seen to corrupt the purity and authenticity of love and desire, but money also is an inevitable part of sex, love, and intimacy; cross-cultural examination of how relationships between love, money, and sexuality are organized in different places; different ways people form relationships with lovers, spouses, and persons who enable childbearing; rethinking gender roles, work, value, and power. Same as ANTH:2191.

GWSS:3005 Gender, Women's, and Sexuality Studies Practicum**3-4 s.h.**

Experience in volunteer work for organizations that provide services for women. Prerequisites: GWSS:1001.

GWSS:3010 Transnational Sexualities**3 s.h.**

How ideas about normative and nonnormative sexuality, gender/sexual identities, and related social movements travel across geographical, political, and cultural boundaries; potentials and limits of using conceptual frameworks (i.e., sexuality, gender, LGBT, queer) across the west and global south; how sexuality always intersects with race, class, nationhood, and transnational systems of power; power structures that shape gender/sexuality through a transnational approach; connection of inequalities within the United States with those across the world. Same as GHS:3015.

GWSS:3050 Topics in Gender, Women's, and Sexuality Studies**1,3 s.h.**

Representative topics: American Indian/First Nations Women; population and the environment; feminism and the family; women, health, and healing; women of color.

GWSS:3100 LGBTQ/Queer Studies**3 s.h.**

Overview of queer theory and queer studies; development of critical thinking skills in relation to cultural constructions of gender, sexuality, race, and other identity categories.

GWSS:3101 Anthropology of Sexuality**3 s.h.**

Practice, definition, and regulation of sex in different cultures and times; use of anthropological tools, including cross-cultural comparison and social constructionist analysis; how social and historical forces shape sex; how a range of topics relate to sexuality, including science, love, work, globalization, ethnicity, health, aging, pornography, and deviance; focus on ways that dynamics (i.e., class, race, gender norms) shape people's culturally and historically specific ways of having and thinking about sex. Same as ANTH:3101.

GWSS:3118 Politics of Reproduction**3 s.h.**

Debates over women's reproductive experience, including its medicalization. Same as ANTH:3118.

GWSS:3121 Love, Marriage, and Family in India**3 s.h.**

Anthropological understandings of love in India and the region of South Asia more broadly; emphasis on contemporary society; filial and motherly love, arranged marriage and romantic love, devotional and artistic expressions, love between siblings. Same as ANTH:3121.

GWSS:3131 Gender and Sexuality in Asia**3 s.h.**

Conceptions of sex, gender, and sexuality in the religions of China, Korea, and Japan; asceticism and celibacy; sexual alchemy; the difference between male and female bodies and souls; intersexed persons; female saints and immortals; transgressive sexuality; gender and sexuality in colonial Asia; East Asian religions and postcolonial feminism. Same as RELS:3431.

GWSS:3138 Writing to Change the World**3 s.h.**

Writers who can frame questions, weigh competing perspectives, structure an argument, and write with clarity and respect for diverse audiences as powerful agents for change; writers who have inspired human rights movements; public forms of writing with local organizations whose missions are shaped by social attitudes to gender and sexuality; how language, imagery, popular culture, and history affect perceptions of gender and sexuality; conducting research and evaluation of evidence; best practices for communicating and collaborating; skills needed to be an effective advocate. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as RHET:3138, SJUS:3138.

GWSS:3154 Sexuality in the United States**3 s.h.**

GWSS:3157 Gender, Sexuality, and Human Rights 3 s.h.
History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as HIST:3157.

GWSS:3173 Gender, Sexuality, and Literature 3 s.h.
Representations of gender, class, and sexuality in British, American, or postcolonial literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3173.

GWSS:3177 Women and Their Bodies in Health and Illness 3 s.h.
Basic facts about structure and functioning of female body; particular attention to adjustments the body makes during normal physiological events (menstruation, sexuality, reproduction, menopause) and during illness processes; women's mental and physical health issues in relation to women's lives and roles in society; relationship of women as consumers, practitioners, and activists to health system; achievements and limitations of women's health movements; anti-oppression, intersectionalities, and cross-cultural perspectives. Same as NURS:3739.

GWSS:3185 Global Women's Cinema 3 s.h.
Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on post-1968 period and cinema produced outside the United States. Same as WLLC:3185.

GWSS:3190 Tell Magazine Writing and Publishing Workshop 3 s.h.
Students serve as editorial, writing, and production staff for *Tell*, the Department of Gender, Women's, and Sexuality Studies' digital magazine; *Tell* explores issues of race, class, gender, sexuality, ability, national identity, and other differences of power and privilege often absent in mainstream publications; students learn technical aspects of digital publication management, write their own stories and columns for the magazine and its ongoing blog, create digital and graphic materials, organize outreach events and manage social media outlets for the magazine, and work as editors and collaborative partners with one another and with writers and artists who submit work for publication. Requirements: gender, women's, and sexuality studies or social justice major or advanced minor.

GWSS:3200 Theories for Gender, Women's, and Sexuality Studies 3 s.h.
Historical and contemporary theoretical approaches to the study of gender and sexuality; emphasis on interdisciplinary methods of analysis and interpretation.

GWSS:3266 Women and Nonfiction 3 s.h.
Issues of representation and self-representation by and about women through the study of documentary film and personal essay; focus on paired texts in literature and cinema for analysis and critical reflection; development along historical and transnational lines of inquiry to explore literary and cinematic depictions of racial and cultural identity; motherhood, friendship, and the family; women during wartime, violence against women, domestic and industrial women's work. Requirements: junior or senior standing.

GWSS:3280 Women and Power in U.S. History Through the Civil War 3 s.h.

Exploration of how women, as political actors, shaped the outcome of familiar events (the American Revolution, the Civil War); how they organized social movements around important issues of their lives such as the abolition of slavery and the right to consent to sexual intimacy; how women's inequality was established in law and social practice; how women thought about and challenged inequality, both as individuals and in social movements. Same as HIST:3280.

GWSS:3282 Women and Power in U.S. History Since the Civil War 3 s.h.

Major events and themes in U.S. women's history from late 19th century to present; how women's experiences have differed from men's; exploration of distinct, but interconnected histories of different groups of women; changing ideals of femininity; women's experience of industrialization, immigration, depression, war, and sexual revolution; women's activism for social reform, women's rights, labor, civil rights, peace, and the New Right. Same as HIST:3282.

GWSS:3300 Mothers and Motherhood 3 s.h.
Treatment of motherhood; role of motherhood and devaluation of social status. Same as ANTH:3300.

GWSS:3326 The Politics of Progress: NGOs, Development, and Sexuality 3 s.h.

How nonprofit sector increasingly plays a significant role in countering socioeconomic inequalities in the United States and global south; role of nonprofit organizations in relation to governmental policies of development, transnational funders, and ideas of sexual progress; critics of development institutions' arguments that western ideas of progress impose and adversely affect groups they claim to empower, yet also may foster struggles for social justice that go beyond development policy; examination of transnational nonprofit sector in relation to gender/sexuality and how it impacts women and gender/sexual minorities around the world. Recommendations: background in gender studies or social sciences. Same as GHS:3327.

GWSS:3350 Transnational Feminism 3 s.h.

Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as ANTH:3125, IS:3350.

GWSS:3375 Women and Poverty 3 s.h.

Examination of women's experiences of poverty in the U.S.; scholarship that seeks to better understand the complex intersections of gender and class, with specific emphasis on poverty; students meet and interact with professionals working in Iowa, addressing poverty and related issues, and engage in an ongoing dialogue about the causes, consequences, and possible solutions to poverty in communities and beyond; course work and discussions focus specifically on unique challenges women encounter as they navigate their way through and/or out of poverty using an intersectional approach.

GWSS:3400 Gender, Women's, and Sexuality Studies Advocacy and Engagement Colloquium 1-3 s.h.

How to capitalize on volunteer experience; how experience can lead to careers in health care, law, advocacy, social work, social justice, education; issues related to domestic violence, community education, sexual assault; health care for women, youth, and LGBTQ populations; health care inequities, social justice; field journal. Recommendations: active volunteer work at feminist-centered organizations in Iowa, completion of 40-hour training, plan to serve organization for up to ten or more hours each month, and attendance at regularly scheduled volunteer meetings. Same as SJUS:3400.

GWSS:3421 Performing Autobiography 3 s.h.

Write and perform original pieces stemming from personal experiences and interests; readings and videos; genre of contemporary autobiographical performance as established artists have developed it; improvisational performance and writing exercises to foster deeper reflection on personal experiences; final staging of students' original work. Recommendations: RHET:1030. Same as THTR:3421.

GWSS:3425 Women, Crime, and Justice 3 s.h.

Overview of women's experiences with crime and criminal justice system, with reference to experiences of men for purposes of comparison; role of race, ethnicity, and poverty in women's experiences; causes of crime, inequalities in police-citizen interactions, imprisonment, and other aspects of criminal justice system experience. Same as CRIM:3425.

GWSS:3430 Women on Stage 3 s.h.

Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as AMST:3430, THTR:3430.

GWSS:3450 Writing About Girls 3 s.h.

Examination of a wide range of critical and creative works by contemporary women writers on girlhood; common use of the word "girls" to describe adult women; representations of girls in film and television; role of media in sexualization of girls; impact of gender, race, and class in girls' lives; nature of girls' relationships with one another; ways in which girlhood traumas can continue into adult life; contemporary issues of body image and sexuality (e.g., pressures to be thin, disparagement of sexually active girl as "slut"); poverty, hunger, and homelessness; resistance and rebellion. Same as ENGL:3820.

GWSS:3459 Making Change, Making History: Iowa's Black Activists and Digital History 3 s.h.

From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as HIST:3259, SJUS:3459.

GWSS:3460 Girls' Studies 3 s.h.

Introduction to the interdisciplinary field of girls' studies; examination of social constructions of girlhood with focus on contemporary girls in the U.S. and globally; media and popular culture representations of girls; girl culture and psychology; girls' lived experiences of sexism, racism, classism, and homophobia; topics include body, sexuality and identity, education, differences of race, class and nationality, and forms of girls' political activism.

GWSS:3525 Gender, Race, and Citizenship in North and South America 3 s.h.

Interaction between race, gender, and citizenship throughout the 18th, 19th, and 20th centuries in North and South America; comparative study of how men and women engaged in the practice of citizenship; analysis of primary sources and identification of similarities and differences in gender norms and race; how these factors influence the rights, duties, and obligations of citizenship across time and location. Same as HIST:3125.

GWSS:3550 Social Justice, Religion, and Spirituality: Faith and Belief Ignited 3 s.h.

Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as RELS:3550, SJUS:3550.

GWSS:3570 Transnational and Postcolonial Writing by Women 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as CL:3570, ENGL:3570.

GWSS:3600 Art, Feminist Practice, and Social Justice 3 s.h.

Issues related specifically to gender, women's, and sexuality studies through the arts; themes include broad social issues such as violence, sexual assault, incarceration, reproduction, immigration, and labor; students explore a theme and work with community partners to address the theme through social practice in the arts. Recommendations: prior courses in gender, women's, and sexuality studies, or courses in social work, art education, or studio arts.

GWSS:3610 Writing in the Presence of Death: Rhetoric, Narrative, and Hospice 3 s.h.

Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfactory completion of GE CLAS Core Rhetoric. Same as ASP:3610, RHET:3610.

GWSS:3650 Freedom, Democracy, and Revolution 3 s.h.

Investigation of the relationship between freedom, democracy, and revolution in American history; beginning with primary founding documents that grew out of the American Revolution, students explore the ideological and concrete expressions of these ideas, particularly as they affect race and gender; meaning, significance, and boundaries of revolution; space between slavery and freedom; considerations of women's inclusion in the body politic; relationship between political and economic democracy; and questions about whose voices should define the terms of the debate.

GWSS:3700 Narratives of Gender and Masculinity 3 s.h.

Engaging with and deconstructing the stories men and women tell about what it means to be a man in the 21st century; topics may include cultural differences in the construction of gender and masculinity, queer masculinity, masculinity and social justice movements (especially feminism), history of the present moment in masculinity, masculinity from a non-binary perspective, literary representations of masculinity, and masculinity in mass culture. Requirements: completion of GE CLAS Core Rhetoric. Same as RHET:3150.

GWSS:3710 African American Women Writers 3 s.h.

Introduction to major African American women authors of the 19th, 20th, and 21st centuries; major debates of black feminist literary scholarship; analyze African American literary representations by reading novels, poetry, short stories, plays, relevant historical and critical texts. Same as AFAM:3710.

GWSS:3750 Born in the USA: Fertility and Reproduction 3 s.h.

Exploration of when, why, how, and with whom Americans bear children; comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as SOC:3750.

GWSS:3950 Academic Internship 1-3 s.h.

Work under supervision of a faculty member on a scholarly or creative project related to the department or campus, or work with the director of undergraduate studies as a media, digital publishing, or teaching intern; students receive credit for the internship depending on the number of hours they work, learning objectives they develop, and meetings, written reports, and other research-related or self-evaluative writing they contract to do with the supervising faculty member. Prerequisites: GWSS:1001 or SJUS:1001. Requirements: gender, women's, and sexuality studies or social justice major or minor. Same as SJUS:3950.

GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies arr.

Topic not covered in regular curriculum. Prerequisites: GWSS:1001. Requirements: GWSS:1001.

GWSS:4000 Sex/Text:: Engendering the Essay 3 s.h.

Analyze and discuss significant essays that have engaged and articulated sexuality and gender in contemporary societies, in the U.S. as well as other cultures; students write and workshop on these topics: bodies are battlegrounds, gender is convoluted, sex is serious; gender and sexuality are emotionally charged, politically volatile, and socially complex issues. Recommendations: major or minor in writing-intensive disciplines, or previous writing classes.

GWSS:4026 French Women Writers 3-4 s.h.

Survey of 20th-century French women writers with emphasis on Simone de Beauvoir; broad range of literary works by writers including de Beauvoir, Colette, Marguerite Yourcenar, Nathalie Sarraute, Marguerite Duras, Sarah Kofman, Annie Ernaux, Christiane Rachefort; French feminist theorists who followed in de Beauvoir's footsteps, including Helene Cixous, Julia Kristeva, Luce Irigaray. Taught in English. Prerequisites: FREN:3060 and FREN:3300. Requirements: for 4 s.h. option—FREN:3060 and FREN:3300. Same as FREN:4026.

GWSS:4050 Introduction to the Capstone Research Project 1 s.h.

Opportunity to plan and begin work on capstone senior research projects in gender, women's, and sexuality studies and social justice; capstone project builds on course work, knowledge, and academic skills, activism and engagement in the community, and personal experiences and interests; topics include how to choose a subject area and focus, develop key questions, define a problem, find and use sources, identify research archives, employ different methodologies and forms of writing, and link research to creative work. Prerequisites: GWSS:1001 and GWSS:1002.

GWSS:4090 Senior Research Seminar 3 s.h.

Design and development of individual creative or scholarly projects in the field of gender, women's and sexuality studies; emphasis on strengthening students' research and writing skills; synthesizing and extending work already completed in the major. Prerequisites: GWSS:1001 and GWSS:4050. Requirements: two women's studies courses numbered above GWSS:1001.

GWSS:4095 Honors Senior Thesis arr.

Supervised research, writing. Requirements: honors standing and completion of course work for minor in women's studies.

GWSS:4140 Feminist Activism and Global Health 3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101. Same as ANTH:4140, CBH:4140, GHS:4140.

GWSS:4169 Feminist Rhetorics 3 s.h.

Exploration of multiple, varied, and complex histories of U.S. feminisms from rhetorical perspectives; focus on primary documents, the letters, speeches, essays, and manifesto/as that shaped women's movements and inspire social change from late 18th century to present; social, political, and personal issues that feminists sought to address and transform, communicative and rhetorical methods utilized, and implications of these efforts for women's lives and broader U.S. American culture. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as COMM:4169.

- GWSS:4180 Women's Lives in Alternative Texts** 3 s.h.
Work of contemporary comics creators; how they craft memoir-based texts that explore intersections of aging, sexuality, race, gender, and relationships. Same as INTM:4780.
- GWSS:4427 Society and Gender in Europe 1200-1789** 3 s.h.
Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. Same as HIST:4427.
- GWSS:4540 Gender and Sexuality in French Cinema** 3-4 s.h.
Cultural, historical, semiotic approach to studying construction of gender identity and sexual codes in French cinema from 1920s to present. Taught in English. Same as FREN:4540.
- GWSS:4725 Women and Gender in African History** 3 s.h.
Importance of female agency in African history; African women's history in historiographical framework of women's history, challenges historians face in exploring African women's past; varied sources (e.g., novels, films, court records) from sub-Saharan Africa, urban and rural settings; current literature on African women, African women's experiences in a comparative context. Same as HIST:4725.
- GWSS:4820 Sociology of Sexuality** 3 s.h.
Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: SOC:1010 or SOC:1020. Same as SOC:4820.
- GWSS:5000 Foundations for Feminist Inquiry I** 3 s.h.
Theory, critique, methodology, practice.
- GWSS:5120 Reading Transnational Feminist Theory** 3 s.h.
Issues in transnational feminist scholarship, including colonialism, globalization, the nation-state, religion, cultural traditions, and human rights, in global and U.S. domestic contexts; interdisciplinary readings with focus on anthropology, other social sciences. Same as ANTH:5120.
- GWSS:6050 Topics in Gender, Women's, and Sexuality Studies** 3 s.h.
Special topics in women's studies.
- GWSS:6125 Seminar: Feminist Ethnography** 3 s.h.
Feminist critiques of traditional ethnographies; informed by contemporary feminisms. Same as ANTH:6125.
- GWSS:6130 Francophone Thought** 3 s.h.
Comparative study of intellectual, literary, cultural, social, and historical developments that have taken place in Francophone Sub-Saharan Africa, the Caribbean, and the Indian Ocean; approaches include cultural theory, literary criticism, cinema, visual arts, women's studies, popular culture, history, and cultural anthropology; examination of key conceptual paradigms and cultivation of skills in critical thinking methodologies; students acquire the appropriate theoretical tools to explore an interdisciplinary scholarly field and learn to establish connections between the main components of the course and their own research interests. Same as FREN:6130.
- GWSS:6238 Gender and Education in Historical Perspective** 3 s.h.
Gender in context of history of education in the United States; coeducation in common schools, academies, and high schools; women's arrival and experiences as college students; masculinity in higher education; single-sex versus coeducation; emphasis on conflicting historical interpretations. Same as EPLS:6238.
- GWSS:6300 Writing for Learned Journals** 1-4 s.h.
Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as AMST:6300, GRAD:6300, RHET:6330.
- GWSS:6345 New Materialisms** 3 s.h.
Exploration of new strategies for rupturing persistent dichotomies of subject/object, representation/real, culture/nature, and active humans/passive things offered by theories of the vitality and agency of matter; introduction to origins of and developments in new materialisms; oriented to interdisciplinary inquiry and application to research in the humanities, broadly conceived; particular attention to actor-network theory, feminism, queer theory, infrastructuralism, and materialist theories of media. Same as COMM:6345.
- GWSS:6350 Gender and Religion** 3 s.h.
What contemporary religious and spiritual groups and their members believe about sex, sexuality, and gender; how they define and redefine what it means to be a "man" and a "woman"; exploration of contemporary "conservative" and "progressive" cosmologies and theologies; underlying beliefs that construct these perspectives and the impact on individual and group practices; broader implications of individual and group beliefs and practices on national and global policies. Same as RELS:6350.
- GWSS:6415 Seminar: Language, Gender, and Sexuality** 3 s.h.
Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as ANTH:6415, LING:6415.
- GWSS:6710 Seminar: Women in Sport** 3 s.h.
Women's sport involvement in historical and/or contemporary contexts; focus on social class, religion, race, ethnicity, sexuality, medical opinion, economic considerations, political events, and educational philosophies that have influenced women's participation. Same as AMST:6078, SPST:6078.
- GWSS:6990 Independent Study** arr.
- GWSS:7020 Feminist Research Seminar** arr.
Feminist research methodologies; how to conduct original research, write a research proposal and research paper, and read and criticize others' work. Same as HIST:7120.
- GWSS:7122 Readings: History of Gender and Sexuality** arr.
Topics in international and transnational history of gender and sexuality. Same as HIST:7122.
- GWSS:7205 Gender and Race in Nineteenth-Century U.S.** arr.
Same as AFAM:7205, HIST:7205.
- GWSS:7214 Readings: African American Women's History** arr.
Same as AFAM:7214, HIST:7214.

GWSS:7220 Readings: History of Sexuality arr.
History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as HIST:7220.

GWSS:7275 Readings in the History of Women and Gender in the U.S.A. arr.
Same as HIST:7275.

GWSS:7289 Readings: Gender in Latin American History arr.
Same as HIST:7589.

GWSS:7400 Graduate Research Conference Presentation 1 s.h.
Presentation of conference paper based on current research activities; for students pursuing the Certificate in Gender, Women's, and Sexuality Studies. Requirements: gender, women's, and sexuality studies graduate certificate standing.

GWSS:7435 Readings: Women, Men, and Gender in Modern Europe arr.
Same as HIST:7435.

GWSS:7920 Innovative Methods in Pedagogy: Radical Feminist Pedagogy 3 s.h.
Readings in history, theory, and practice of pedagogical innovations appropriate to composition instruction and other interdisciplinary teaching; project-based assignments that produce materials appropriate for classroom use. Same as RHET:7920.

Social Justice Courses

SJUS:1001 Introduction to Social Justice 3 s.h.
Introduction to principles and theories of social justice; students examine the history of influential social movements in the United States and the world in the last century; how intersectionality can create tensions between and among members of social movements; how race, class, gender, age, geography, and our bodies play a role in the application of theories of social justice. Same as GWSS:1003.

SJUS:2200 Identity, Citizenship, and Rights: The Racial Construction of Social Justice in America 3 s.h.
The high ideals of America's founding documents assert that "All men are created equal" with the inalienable rights of life, liberty, and the pursuit of happiness; however, these ideals have been compromised and contested throughout the nation's history—certain groups have been less equal in the eyes of the law and society than others; students explore and critically engage how understandings of race and ethnicity have informed notions of identity, citizenship, and rights as experienced by Native Americans, African Americans, Asians, European immigrants, Hispanics, and whites. Same as GWSS:2200.

SJUS:2250 The History of Social Justice Movements 3 s.h.
History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as GWSS:2250, HIST:2250.

SJUS:2500 Love, War, Activism: Stories About Women from Across the World 3 s.h.
Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2570, GWSS:2500.

SJUS:2571 Visualizing Human Rights 3 s.h.
Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2571, GWSS:2571.

SJUS:3130 Blacks and Jews: History, Imagination, and Cultural Interactions 3 s.h.
Exploration of relationship between blacks and Jews in the United States—often thought of as natural allies in the fight for social justice—from a historical and cultural perspective; blacks and Jews as individual groups and as groups in interaction with one another within the dominant Anglo-Christian society as they struggled for inclusion and equity; emphasis on examination of these two minority groups, each of which has played a significant role in shaping American culture and identity, from the vantage point of key historical moments in which their interests converged as well as diverged.

SJUS:3138 Writing to Change the World 3 s.h.
Writers who can frame questions, weigh competing perspectives, structure an argument, and write with clarity and respect for diverse audiences as powerful agents for change; writers who have inspired human rights movements; public forms of writing with local organizations whose missions are shaped by social attitudes to gender and sexuality; how language, imagery, popular culture, and history affect perceptions of gender and sexuality; conducting research and evaluation of evidence; best practices for communicating and collaborating; skills needed to be an effective advocate. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as GWSS:3138, RHET:3138.

SJUS:3250 Literature and Social Justice 3 s.h.
How literature from various time periods, both American and global, has enacted, represented, depicted, or encouraged forms and acts of social justice; students study various genres (e.g., essay, poem, autobiography, short story, fiction) and learn how literature has been used to conceptualize social justice, address national and global inequities, and take up complex and intersecting issues of power and privilege.

**SJUS:3400 Gender, Women's, and Sexuality Studies
Advocacy and Engagement Colloquium 1-3 s.h.**

How to capitalize on volunteer experience; how experience can lead to careers in health care, law, advocacy, social work, social justice, education; issues related to domestic violence, community education, sexual assault; health care for women, youth, and LGBTQ populations; health care inequities, social justice; field journal. Recommendations: active volunteer work at feminist-centered organizations in Iowa, completion of 40-hour training, plan to serve organization for up to ten or more hours each month, and attendance at regularly scheduled volunteer meetings. Same as GWSS:3400.

**SJUS:3459 Making Change, Making History: Iowa's
Black Activists and Digital History 3 s.h.**

From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as GWSS:3459, HIST:3259.

SJUS:3510 Topics in Social Justice 3 s.h.

Students deep dive into a specific topic that invites research and debate about the ways cultures understand social justice—human rights in relation to gender and sexuality, race and ethnicity, generations, class religion, species, and environment.

**SJUS:3550 Social Justice, Religion, and Spirituality:
Faith and Belief Ignited 3 s.h.**

Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as GWSS:3550, RELS:3550.

SJUS:3950 Academic Internship 1-3 s.h.

Work under supervision of a faculty member on a scholarly or creative project related to the department or campus, or work with the director of undergraduate studies as a media, digital publishing, or teaching intern; students receive credit for the internship depending on the number of hours they work, learning objectives they develop, and meetings, written reports, and other research-related or self-evaluative writing they contract to do with the supervising faculty member. Prerequisites: GWSS:1001 or SJUS:1001. Requirements: gender, women's, and sexuality studies or social justice major or minor. Same as GWSS:3950.

SJUS:4080 Advocacy and Engagement Capstone 3 s.h.

Design and development of individual creative or scholarly projects in the field of social justice; emphasis on strengthening student's research and writing skills; synthesizing and extending work already completed in the social justice major. Prerequisites: SJUS:1001 and GWSS:1002 and GWSS:3138 and PHIL:1034 and SOC:2810.

Gender, Women's, and Sexuality Studies, B.A.

Learning Outcomes

Students graduating with a major in gender, women's, and sexuality studies (GWSS) will demonstrate how to:

- use feminist intersectional theory in scholarly and creative practice;
- evaluate issues, research problems, and construct arguments using GWSS tools and concepts;
- communicate effectively with diverse communities through speech, writing, and other forms of expression; and
- work collaboratively with others in diverse communities using core GWSS strengths and skills.

Overview

Students who major in gender, women's, and sexuality studies investigate through an intersectional feminist lens the ways gender and sexuality shape the world in which we live. Students study inequalities of power and privilege, theoretical frameworks for feminist analysis, transnational and global perspectives, and the complex histories and sociocultural dynamics that affect the lives of girls and women. Students participate in a practicum experience, and during their senior year, create a capstone research project.

Requirements

The Bachelor of Arts with a major in gender, women's, and sexuality studies (GWSS) requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students may declare the major at any time. They are advised by the Academic Advising Center until they have earned 24 s.h. of credit. Transfer credit is evaluated case by case; a maximum of 12 s.h. of transfer credit may be counted toward the degree. Students earning more than one major may count a maximum of three courses completed for another major toward the gender, women's, and sexuality studies major.

Work for the major consists of the undergraduate core, distribution requirements, and electives. The undergraduate core includes a practicum and culminates in a research seminar.

The B.A. with a major in gender, women's, and sexuality studies requires the following course work.

Code	Title	Hours
Undergraduate Core		13-14
Distribution Requirements		12
Electives		12
Total Hours		37-38

Undergraduate Core

The undergraduate core consists of five courses. GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies examines cultural and social beliefs about sex, gender, race,

class, and sexuality; GWSS:1002 Diversity and Power in the U.S. explores the intersections of race, class, and gender in the United States. GWSS:3005 Gender, Women's, and Sexuality Studies Practicum teaches students how to apply feminist intersectional concepts in a practicum experience organized in collaboration with community partners.

Two courses help students to develop the capstone senior project. GWSS:4050 Introduction to the Capstone Research Project is an eight-week 1 s.h. fall course during which students identify their topics and plan their research strategies. GWSS:4090 Senior Research Seminar is a 3 s.h. spring research and writing workshop in which students work collaboratively with their classmates to complete their creative or scholarly projects.

GWSS students who write honors theses enroll in GWSS:4095 Honors Senior Thesis for 3 s.h. in the spring semester.

The undergraduate core includes the following course work.

Code	Title	Hours
All of these:		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:3005	Gender, Women's, and Sexuality Studies Practicum	3-4
GWSS:4050	Introduction to the Capstone Research Project	1
One of these:		
GWSS:4090	Senior Research Seminar	3
GWSS:4095	Honors Senior Thesis	3

Distribution Requirements

The distribution requirements (total of at least 12 s.h.) are chosen from the following lists. They include one GWSS theory course, one transnational theory course, one GWSS course with a global/comparative focus, and one GWSS or other course with a race/ethnicity focus. Students may request permission from the director of undergraduate studies to use courses not on these lists; ideally, these courses should be offered by GWSS (prefix GWSS). At least half of the material in global/comparative topics courses must have a non-U.S. context.

Theory

Code	Title	Hours
One of these:		
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3

Transnational Theory

Code	Title	Hours
One of these:		
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3

Global/Comparative Focus

Code	Title	Hours
One of these:		
GWSS:2052/ RELS:2852	Women in Islam and the Middle East	3
GWSS:2108/ ANTH:2108	Gendering India	3
GWSS:2151/ ANTH:2151	Global Migration in the Contemporary World	3
GWSS:2222/ ASIA:2222/CL:2222	Women in Premodern East Asian Literature	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:3101/ ANTH:3101	Anthropology of Sexuality	3
GWSS:3121/ ANTH:3121	Love, Marriage, and Family in India	3
GWSS:3131/ RELS:3431	Gender and Sexuality in Asia	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3185/ WLLC:3185	Global Women's Cinema	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:3525/ HIST:3125	Gender, Race, and Citizenship in North and South America	3
GWSS:4026/ FREN:4026	French Women Writers	3-4
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
GWSS:4427/ HIST:4427	Society and Gender in Europe 1200-1789	3
GWSS:4540/ FREN:4540	Gender and Sexuality in French Cinema	3-4

Race/Ethnicity Focus

Code	Title	Hours
One of these:		
GWSS:2172	The History of African American Women from Slavery to Freedom	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:3525/ HIST:3125	Gender, Race, and Citizenship in North and South America	3
GWSS:3710/ AFAM:3710	African American Women Writers	3
AFAM:3925/ JMC:3165	African Americans and the Media	3

ENGL:2460/ AFAM:2781/ POLI:2107	Black Literature and Politics: Controversies of National Allegiance	3
ENGL:2463	Topics in African American Literature	3
ENGL:3441/ NAIS:3441	Native American Literature	3
ENGL:3459/ AFAM:3459	African American Literature Before 1900	3
ENGL:3535/ LAS:3535	Inter-American Studies (when topic is visual culture and performance in the Americas)	3
HIST:2266/ AFAM:2266	Civil War and Emancipation	3
HIST:2280/ LATS:2280/ SPAN:2280	Introduction to Latina/o Studies	3
HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
PSQF:3191	Asian American Experiences	3
SPAN:4820/ LATS:4800	Latino/a Popular Culture	3
SPST:2079/ AFAM:2079	Race and Ethnicity in Sport	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3

Any African American studies course (prefix AFAM) numbered 2000 or above

Any Native American and indigenous studies course (prefix NAIS) numbered 2000 or above

Electives

Students must complete at least four electives (minimum of 12 s.h.), earning at least 6 s.h. in courses numbered 3000 or above. Students can count GWSS distribution area requirement courses as electives if they were not used to fulfill their area requirements. With the instructor's permission, honors students may count a graduate-level course numbered 5000 or above toward the electives requirement.

In choosing electives, students are encouraged to pursue a course of study that emphasizes breadth and depth in a specific discipline (anthropology, English, and history, among others) or a focus area (art, writing, literature, sexuality, media, global and transnational studies, race and ethnicity, health, and so on).

Students must select electives from the following list.

Code	Title	Hours
GWSS:1000	First-Year Seminar	1
GWSS:1003/ SJUS:1001	Introduction to Social Justice	3
GWSS:1005	Topics in Gender, Women's, and Sexuality Studies	3

GWSS:1046/ ANTH:1046/ GEOG:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3	GWSS:2771/ RELS:2771	Sexual Ethics	3
GWSS:1060/ AMST:1060/ ENGL:1410	Sex and Popular Culture in America	3	GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:1074/ AMST:1074/ SPST:1074	Inequality in American Sport	3	GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:1100/ CLSA:1100/ GHS:1100/ GRMN:1100/ WLLC:1100	Contraception Across Time and Cultures	3	GWSS:3050	Topics in Gender, Women's, and Sexuality Studies	1,3
GWSS:1310/ SOC:1310	Gender and Society	3-4	GWSS:3100	LGBTQ/Queer Studies	3
GWSS:1600/ CL:1600	Wonder Woman Unleashed: A Hero for Our Times	3	GWSS:3101/ ANTH:3101	Anthropology of Sexuality	3
GWSS:2000/ RHET:2031	Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect	3	GWSS:3118/ ANTH:3118	Politics of Reproduction	3
GWSS:2041/ COMM:2041	Gender, Communication, and Culture	3	GWSS:3121/ ANTH:3121	Love, Marriage, and Family in India	3
GWSS:2045	Working for Social Justice	1	GWSS:3131/ RELS:3431	Gender and Sexuality in Asia	3
GWSS:2052/ RELS:2852	Women in Islam and the Middle East	3	GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World	3
GWSS:2055/ RHET:2055	Persuasion and Advocacy ((Cowgirl Stories))	3	GWSS:3154	Sexuality in the United States	3
GWSS:2075/ COMM:2075	Gender, Sexuality, and Media	3	GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:2078/ SPST:2078	Women, Sport, and Culture	3	GWSS:3173/ ENGL:3173	Gender, Sexuality, and Literature	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3	GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:2102/ ANTH:2102	Anthropology of Marriage and Family	3	GWSS:3185/ WLLC:3185	Global Women's Cinema	3
GWSS:2108/ ANTH:2108	Gendering India	3	GWSS:3190	Tell Magazine Writing and Publishing Workshop	3
GWSS:2151/ ANTH:2151/IS:2151	Global Migration in the Contemporary World	3	GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3
GWSS:2172	The History of African American Women from Slavery to Freedom	3	GWSS:3266	Women and Nonfiction	3
GWSS:2193/ ENGL:2193	Literature, Culture, and Women	3	GWSS:3280/ HIST:3280	Women and Power in U.S. History Through the Civil War	3
GWSS:2222/ ASIA:2222/CL:2222	Women in Premodern East Asian Literature	3	GWSS:3282/ HIST:3282	Women and Power in U.S. History Since the Civil War	3
GWSS:2250/ HIST:2250/ SJUS:2250	The History of Social Justice Movements	3	GWSS:3300/ ANTH:3300	Mothers and Motherhood	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3	GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3	GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
GWSS:2600	Men, Masculinity, Identity, and Health	3	GWSS:3400/ SJUS:3400	Gender, Women's, and Sexuality Studies Advocacy and Engagement Colloquium	1-3
GWSS:2651/ CLSA:2651	Gender and Sexuality in the Ancient World	3	GWSS:3421/ THTR:3421	Performing Autobiography	3
GWSS:2700	Transgender People, Politics, and Cultures	3	GWSS:3425/ CRIM:3425	Women, Crime, and Justice	3
			GWSS:3450/ ENGL:3820	Writing About Girls	3
			GWSS:3525/ HIST:3125	Gender, Race, and Citizenship in North and South America	3
			GWSS:3600	Art, Feminist Practice, and Social Justice	3

GWSS:3610/ ASP:3610/ RHET:3610	Writing in the Presence of Death: Rhetoric, Narrative, and Hospice	3
GWSS:3700/ RHET:3150	Narratives of Gender and Masculinity	3
GWSS:3710/ AFAM:3710	African American Women Writers	3
GWSS:3750/ SOC:3750	Born in the USA: Fertility and Reproduction	3
GWSS:4026/ FREN:4026	French Women Writers	3-4
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
GWSS:4169/ COMM:4169	Feminist Rhetorics	3
GWSS:4180/ INTM:4780	Women's Lives in Alternative Texts	3
GWSS:4427/ HIST:4427	Society and Gender in Europe 1200-1789	3
GWSS:4540/ FREN:4540	Gender and Sexuality in French Cinema	3
GWSS:4820/ SOC:4820	Sociology of Sexuality	3
RELS:2986	Religion and Women	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in the major. Students must write an honors thesis that requires two semesters of work during the senior year: fall (thesis research) and spring (thesis writing).

Students who intend to graduate with honors in the major should meet with the GWSS director of undergraduate study before the end of their junior year. They also must select a faculty member to serve as their honors thesis supervisor before they begin their thesis work. The department recommends that students consider faculty members from whom they have taken GWSS courses.

Students have three options for conducting honors research. They can work with a faculty member in GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies for 3 s.h.; create an honors contract for a GWSS course numbered 3000 or above taught by the honors thesis supervisor; or complete a graduate readings course or seminar related to their thesis subject.

Students write their honors theses during the spring semester of their senior year in GWSS:4095 Honors Senior Thesis. Although enrolled in this class, honors students work throughout the semester with students in GWSS:4090 Senior Research Seminar. Participation in this class allows them to share their research and writing and participate in the department's end of the year Senior Research Poster Presentation. Students have the option to enroll in GWSS:4050 Introduction to the Capstone Research Project in the fall semester.

A GWSS student earning honors in more than one major may choose to complete a single thesis that satisfies the honors

requirements of both departments. Students must have thesis advisors in both departments, and both advisors must approve the final project.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the gender, women's, and sexuality studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies

Before the fifth semester begins: GWSS:1002 Diversity and Power in the U.S. and two GWSS electives

Before the seventh semester begins: one GWSS distribution course (theory or comparative/non-U.S. focus) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: GWSS:3005 Gender, Women's, and Sexuality Studies Practicum, GWSS:4050 Introduction to the Capstone Research Project, one more GWSS distribution course (theory or comparative/non-U.S. focus), and at least one more GWSS elective

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Gender, Women's, and Sexuality Studies, B.A.

Course	Title	Hours
First Year		
Fall		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core:	Diversity and Inclusion ^a	3
Elective course ^b		3
CSI:1600	Success at Iowa	2
	Hours	14-15
Spring		
GWSS:1002	Diversity and Power in the U.S.	3

RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Natural Sciences with Lab ^a		4
GE CLAS Core: Social Sciences ^a		3
Elective course ^b		2
Hours		15-16

Second Year**Fall**

Major: Elective course		3
Major: race and ethnicity course		3
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^b		3
Hours		16-17

Spring

Major: global and comparative course		3
Major: Elective course		3
GE CLAS Core: International and Global Issues ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^b		3
Hours		16-17

Third Year**Fall**

GWSS:3005	Gender, Women's, and Sexuality Studies Practicum	3
Major: theory course		3
GE CLAS Core: Historical Perspectives ^a		3
GE CLAS Core: Natural Sciences without Lab ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		16-17

Spring

Major: transnational theory		3
Major: 3000-level or above course		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^b		3
Elective course ^b		3
Hours		16-17

Fourth Year**Fall**

Major: 3000-level or above course		3
GWSS:4050	Introduction to the Capstone Research Project	1
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
Elective course ^b		3
Elective course ^b		2
Hours		12

Spring

GWSS:4095	Honors Senior Thesis	3
or GWSS:4090	or Senior Research Seminar	
Elective course ^b		3
Elective course ^b		3
Elective course ^b		3

Elective course ^b	3
Hours	15
Total Hours	120-126

a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

Gender, Women's, and Sexuality Studies (GWSS) majors work in diverse settings, such as government and nonprofit agencies, newspaper offices, labs, human resource departments, museums, theaters, schools, and hospitals. They secure careers in fundraising, research and advocacy, political organizing, counseling, teaching, writing, publishing, diversity training, and international development. They become social workers, nurse midwives, doctors, editors, librarians, managers, lawyers, and professors.

The major prepares students to continue their studies in a wide range of graduate programs and professional schools, such as gender and women's studies, history, anthropology, and communication studies, as well as in schools of law, art, education, public health, business, nursing, social work, public affairs and public policy, international relations, medicine, and journalism.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Social Justice, B.A.

Learning Outcomes

Students graduating with a degree in social justice will:

- explore how an intersectional lens can magnify the tensions within constructed identities based on race, ethnicity, gender and gender expression, geography, language, citizenship, sexuality, class, age, ability, and religion to practices of oppression and discrimination;
- learn about historical moments when oppression and discrimination have influenced policy, culture, law, and corporeal practices and find recurring patterns in current events, culture, and policy; and
- express ways their personal experiences and scholarly ideas connect to larger political, environmental, social, and geographical contexts, issues, and problems.

Overview

Students who major in social justice expand their knowledge integrating theory and engagement with real world field experiences. They approach social justice through the arts, history, literature, comparative religious studies, political science, philosophy, health education, and gender, women's, and sexuality studies.

Social justice students:

explore how the intersections of geography, race, class, gender, sexuality, health, economics, and history create networks of privilege and oppression across the globe through course work and reflect on situations they encounter in the field;

read, write, listen, and act through course work and fieldwork in order to understand how conditions are created for change on the local, regional, and national level historically, ethically, politically, and personally;

learn about selected history of social movements, how those movements emerged, and the impacts those movements had on policy, populations, the environment, and culture through engagement in a core course;

develop a deeper understanding of issues, practice, research, and theory related to social justice in one or more areas of study within the traditional disciplines of the liberal arts through 9 s.h. of course work in an area of specialization; and

prepare for employment and/or for graduate study in various fields through high quality internships and educational experiences, including anthropology, political science, law, criminology, health, the cultural sector, social services, business, nonprofit management, or public history projects.

Requirements

The Bachelor of Arts with a major in social justice requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students may declare the major at any time. They are advised by the Academic Advising Center until they have earned 24 s.h. of credit. Transfer credit is evaluated case by case; a

maximum of 6 s.h. of transfer credit may be counted toward the degree. Foundation courses must be completed at the University of Iowa. Students earning more than one major may count a maximum of 6 s.h. completed for another major toward the social justice major.

Work for the major consists of foundation course work, core courses, an emphasis area, and a capstone experience.

The B.A. with a major in social justice requires the following course work.

Code	Title	Hours
Foundation Courses		15
Core Courses		9
Emphasis Area		9
Capstone		6
Total Hours		39

Foundation Courses

The foundation consists of five courses (minimum of 15 s.h.). Two introductory courses, SJUS:1001 Introduction to Social Justice and GWSS:1002 Diversity and Power in the U.S., orient students to the major conceptual areas that constitute social justice as an interdisciplinary field: SJUS:1001 introduces students to the principles and theories of social justice; GWSS:1002 examines issues of race, class, and gender in the United States and the consequences of inequity for communities and individuals.

Code	Title	Hours
All of these:		
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
SOC:2810	Social Inequality	3

Core Courses

History and Social Movement

Code	Title	Hours
Two of these:		
GWSS:2250/ HIST:2250/ SJUS:2250	The History of Social Justice Movements	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
COMM:2054	Movements, Protest, Resistance	3
HIST:3232	History of American Inequality	3
HIST:4101	History of Human Rights	3
HIST:4252	American Labor in the Twentieth Century	3
HIST:4260	The Sixties in America	3
SOC:4540	Political Sociology and Social Movements	3

Human Rights, Diversity, and Ethics

Code	Title	Hours
One of these:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
HIST:2280/ LATS:2280/ SPAN:2280	Introduction to Latina/o Studies	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to American Indian and Native Studies	3
PHIL:2402	Introduction to Ethics	3
PHIL:3430	Philosophy of Human Rights	3
SSW:3847	Discrimination, Oppression, and Diversity	3

Emphasis Area

Students choose one emphasis area from the following lists and complete three courses (9 s.h.); two of the courses must be numbered 3000 and above. A course used to satisfy the foundation, core, or human rights, diversity, and ethics requirement cannot be taken to satisfy an emphasis area requirement. Students may substitute courses with approval of the social justice advisor. They also may include one study abroad course related to social justice, including the India Winterim Program; see Study Abroad [p. 1840] in the Catalog. In addition, students may create their own emphasis area in collaboration with the social justice advisor.

International History, Theory, and Action

Code	Title	Hours
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
ANTH:2100	Anthropology and Contemporary World Problems	3
COMM:2086	Global Media Studies	3
COMM:4131/ IS:4131	Globalization and Culture	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3
HIST:1609	India Now! A Survey from Bollywood Films to Global Terror	3
HIST:1708	Civilizations of Africa	3
HIST:3126	History of Globalization	3
HIST:4640	Imperialism and Modern India	3

POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
POLI:3512	International Conflict	3
RELS:2068	Jews in Popular Culture	3
RELS:3020	Religion and Politics	3
RELS:3431/ GWSS:3131	Gender and Sexuality in Asia	3
RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:3855/IS:3855	Human Rights and Islam	3
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:3230	Modern Mexico	3

Human Rights

Code	Title	Hours
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
ENGL:3555/ AFAM:3555	Topics in African Cinema (when topic is visualizing human rights)	3
GHS:4600	Global Health and Human Rights	3
HIST:4101	History of Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
RELS:3855/IS:3855	Human Rights and Islam	3

Health

Code	Title	Hours
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
GWSS:2600	Men, Masculinity, Identity, and Health	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:3110/ GHS:3110/ NAIS:3110	Health of Indigenous Peoples	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
ASP:3150	Psychology of Aging	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3

CPH:3500/ GHS:3500	Global Public Health	3	ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
DST:1101	Introduction to Disability Studies	3	COMM:2041/ GWSS:2041	Gender, Communication, and Culture	3
ENGL:2105	Disability in Literature and Cultural Theory	3	COMM:2075/ GWSS:2075	Gender, Sexuality, and Media	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3	COMM:4169/ GWSS:4169	Feminist Rhetorics	3
ENGL:3580	Identity and Social Issues	3	HIST:3282/ GWSS:3282	Women and Power in U.S. History Since the Civil War	3
GHS:3720	Contemporary Issues in Global Health	3	POLI:3114	Women and Politics in the United States	3
GHS:4600	Global Health and Human Rights	3	PSY:3560	Psychology of Gender	3
HIST:4160/ GHS:4160	History of Public Health	3	RELS:2771/ GWSS:2771	Sexual Ethics	3
HIST:4162/ GHS:4162	History of Global Health	3	RELS:3431/ GWSS:3131	Gender and Sexuality in Asia	3
HIST:7215	Seminar: History of Disability	3	RELS:3855/IS:3855	Human Rights and Islam	3
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3	SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
PSY:2930	Abnormal Psychology: Health Professions	3	SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
PSY:3065	The Aging Mind and Brain	3	SSW:3796	Family Violence	3
PSY:3240	Motivation, Addiction, and the Brain	3			
RELS:3580/ ANTH:3113/ GHS:3113	Religion and Healing	3			

Issues in Gender, Women's and Sexuality Studies

Code	Title	Hours
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:3005	Gender, Women's, and Sexuality Studies Practicum	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3118/ ANTH:3118	Politics of Reproduction	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3
GWSS:3300/ ANTH:3300	Mothers and Motherhood	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
GWSS:3450/ ENGL:3820	Writing About Girls	3

Politics and Social Justice

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
COMM:2088	Media and Democracy	3
HIST:4260	The Sixties in America	3
NAIS:2292/ HIST:2292	Introduction to American Indian History and Policy	3
POLI:1100	Introduction to American Politics	3
POLI:3111	American Public Policy	3
POLI:3114	Women and Politics in the United States	3
POLI:3150	Problems in American Politics	3
POLI:3512	International Conflict	3
RELS:1810	Happiness in a Difficult World	3
RELS:3020	Religion and Politics	3

Ethnic and Cultural Studies in the United States

Code	Title	Hours
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:2064/ SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:4195/ HIST:4295	African American History 1619-1865	3

ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
COMM:2076/ AFAM:2076	Race, Ethnicity, and Media	3
ENGL:3444	Literatures of the American Peoples	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
HIST:4296/ AFAM:4298	African American History 1865-Present	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to American Indian and Native Studies	3
NAIS:2292/ HIST:2292	Introduction to American Indian History and Policy	3
RELS:3745/ AFAM:3245	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
SOC:3830	Race and Ethnicity	3
SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:4820/ LATS:4800	Latino/a Popular Culture	3

Environmental Issues

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:3103	Environment and Culture	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
EES:1080/ ENVS:1080	Introduction to Environmental Science	3
EES:1400	Natural Disasters	3
EES:3070	Marine Ecosystems and Conservation	3
GEOG:1020	The Global Environment	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3400	Iowa Environmental Policy in Practice	3

GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ GHS:4770	Environmental Justice	3
RELS:3976/ NAIS:3276	American Indian Environmentalism	3

The Arts and Social Practice

Code	Title	Hours
GWSS:3190	Tell Magazine Writing and Publishing Workshop	3
GWSS:3450/ ENGL:3820	Writing About Girls	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3
AFAM:3245/ RELS:3745	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
ARTS:2000/ ASP:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3
ARTS:3400	Grant Writing in the Arts	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
DANC:1055	Creativity in Motion	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:2065	Performing Crisis: Dances of Identity, Witness, and Resistance	3
DANC:2080	Dance and Social Action	3
EDTL:3204	Art Education Studio and Field Components	3
ENGL:2013	Reading and Writing About Poetry	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:3444	Literatures of the American Peoples	3
MUS:1687	Orientation to Music Therapy	2
THTR:3421/ GWSS:3421	Performing Autobiography	3
THTR:3520/ DPA:3520/ ENTR:3520/ INTD:3520	New Ventures in the Arts	3
THTR:4510/ DPA:4510/ ENTR:4510/ INTD:4510	Arts Leadership Seminar	3
WRIT:2100	Writing and Community Outreach	3
WRIT:4100	Iowa Youth Writing Project Mentorship Practicum	1-3

Capstone

Students complete all of the requirements for either Option A or Option B (6 s.h.).

Option A

Students complete a senior project and the following three courses.

Students prepare for the capstone by completing GWSS:4090 Senior Research Seminar, in which they enact research methodologies and prepare a final project that culminates in a substantial written or creative work that focuses on a topic related to course work in their emphasis area. The creative work is presented to the GWSS faculty during the senior research presentation day. During the fall of their last year of study, students enroll in GWSS:4050 and GWSS:3990 to complete a semester-long individual research-related literature review and proposal. Students complete the course and project under the supervision of a faculty mentor.

Code	Title	Hours
GWSS:3990	Independent Readings and Research in Gender, Women's, and Sexuality Studies	2
GWSS:4050	Introduction to the Capstone Research Project	1
GWSS:4090	Senior Research Seminar	3

Option B

Option B requires two semesters of course work. In the fall semester of their final year, students complete an experiential learning activity and earn 3 s.h. through an accredited program such as study abroad, the Pomerantz Career Center, Iowa Center for Research by Undergraduates (ICRU), or an independent study project with preapproval from a social justice faculty member. Students also could choose to take SJUS:3400.

During their senior year, students must complete one of the writing courses from the list below or take SJUS:4080.

Students submit a final project in the form of a written essay, research paper, or creative work during their last year that ties the work in their emphasis area to their experiential learning activity under the supervision of a faculty mentor. This work is showcased in the department's annual spring semester Senior Research Poster Session. Students with interest in Option B should speak with the social justice advisor about procedures and formulating a timeline.

Students complete 6 s.h. for capstone requirement as follows.

Code	Title	Hours
One of these:		
SJUS:3400/ GWSS:3400	Gender, Women's, and Sexuality Studies Advocacy and Engagement Colloquium	3
Experiential learning activity in accredited program such as study abroad, the Pomerantz Career Center, ICRU, or an independent study project; consult social justice faculty member		3
One of these:		
SJUS:4080	Advocacy and Engagement Capstone	3
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2760	The Art and Craft of Writing for Social Change	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. Honors students must complete Capstone Option A.

Capstone Option A

Code	Title	Hours
GWSS:3990	Independent Readings and Research in Gender, Women's, and Sexuality Studies	2
GWSS:4050	Introduction to the Capstone Research Project	1
GWSS:4090	Senior Research Seminar	3

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the social justice major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: SJUS:1001 Introduction to Social Justice, GWSS:1002 Diversity and Power in the U.S., GWSS:3138 Writing to Change the World, PHIL:1034 Liberty and the Pursuit of Happiness, and SOC:2810 Social Inequality

Before the seventh semester begins: two history and social movement courses; the human rights, diversity, and ethics course; and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 9 s.h. in the emphasis area and plan a capstone option with advisor

During the eighth semester: capstone requirement, all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Social Justice, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
GE CLAS Core: Natural Sciences with Lab ^a		4
Elective course ^b		3
CSl:1600	Success at Iowa	2
Hours		15-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
SJUS:1001	Introduction to Social Justice	3
GWSS:1002	Diversity and Power in the U.S.	3
PHIL:1034	Liberty and the Pursuit of Happiness ^c	3
Elective course ^b		3
Hours		15-16
Second Year		
Fall		
SJUS:3138	Writing to Change the World	3
SOC:2810	Social Inequality ^c	3
Major: Core course		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Elective course ^b		3
Hours		16-17
Spring		
Major: Core course		3
Major: Emphasis Area course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Social Sciences ^a		3
Elective course ^b		3
Hours		16-17
Third Year		
Fall		
Major: Core course		3
Major: Emphasis Area course (3000 level or above)		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
Elective course ^b		3
Hours		16-17
Spring		
Major: Emphasis Area course (3000 level or above)		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Natural Sciences without Lab ^a		3
Elective course ^b		3
Elective course ^b		3
Hours		16-17

Fourth Year

Fall

SJUS:3400 or GWSS:3990	Gender, Women's, and Sexuality Studies Advocacy and Engagement Colloquium or Independent Readings and Research in Gender, Women's, and Sexuality Studies	2 - 3
GWSS:4050	Introduction to the Capstone Research Project ^e	1
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
Elective course ^b		3
Elective course ^b		3
Elective course ^b		3
Hours		15-16

Spring

GWSS:4090 or SJUS:4080	Senior Research Seminar or Advocacy and Engagement Capstone	3
GE CLAS Core: International and Global Issues ^a		3
Elective course ^b		3
Elective course ^b		3
Elective course ^b		3
Hours		15
Total Hours		124-131

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Research courses recommended for students interested in graduate school.

Career Advancement

The social justice major prepares students for careers in diverse fields. Graduates may work in nonprofit and governmental agencies, international organizations, think tanks, research and policy institutes, foundations, religious and cultural institutions, schools, universities, businesses, and health care settings. Their positions may focus on emphasis areas developed in the major, such as aging, gender and sexuality, criminal justice, children and family, human rights, labor, sustainability and the environment, race and ethnicity, women and girls, education, disability, health, poverty, and the arts and social practice.

Students also are well prepared to continue their studies in a wide range of graduate programs and professional schools.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Gender, Health, and Healthcare Equity, Minor

The undergraduate minor in gender, health, and healthcare equity requires 15 s.h. in course work, including at least 12 s.h. completed at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work for the minor may not be taken pass/nonpass.

Healthcare evolves continually and capable professionals will be in high demand. In order to meet the national and international challenges posed by a rapidly changing field, people must be knowledgeable, able to innovate, and willing to learn. Upon completion of this minor, students will possess the knowledge and skills necessary to think critically about the complex intersections of gender, race, sexuality, and class in relation to health, illness, and health care.

Students earning a gender, women's, and sexuality studies (GWSS) major also may earn the minor; however, no more than 3 s.h. of work in GWSS courses can be counted toward the minor.

The minor in gender, health, and healthcare equity requires the following course work.

Code	Title	Hours
Core Courses		6
Health Equity Courses		9
Total Hours		15

Core Courses

Code	Title	Hours
This course:		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
And one of these:		
GWSS:1002	Diversity and Power in the U.S.	3
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3

Health Equity Courses

Code	Title	Hours
Three of these:		
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3

GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
CPH:1400	Fundamentals of Public Health	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GHS:3070/ GEOG:3070	Hungry Planet: Global Geographies of Food	3
GHS:3110/ ANTH:3110/ NAIS:3110	Health of Indigenous Peoples	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4600	Global Health and Human Rights	3

Gender, Women's, and Sexuality Studies, Minor

The undergraduate minor in gender, women's, and sexuality studies (GWSS) requires a minimum of 15 s.h. in course work, including at least 12 s.h. completed at the University of Iowa. Students must take GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies and 12 s.h. in courses numbered 2000 or above. Students may count GWSS:1002 Diversity and Power in the U.S. toward the 12 s.h. requirement. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work for the minor may not be taken pass/nonpass.

Students may count a maximum of 3 s.h. of work in courses focused on gender and/or sexuality for another University of Iowa major, minor, or certificate toward the GWSS minor.

Social Justice, Minor

The undergraduate minor in social justice requires a minimum of 15 s.h. of course work, including at least 12 s.h. in courses numbered 2000 or above completed at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students may count a maximum of 3 s.h. from another University of Iowa major, minor, or certificate toward the social justice minor.

The minor in social justice requires the following course work.

Foundation Courses

Code	Title	Hours
Two of the following:		
GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World	3
SOC:2810	Social Inequality	3
May include one of these:		
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
GWSS:1002	Diversity and Power in the U.S.	3
PHIL:1034	Liberty and the Pursuit of Happiness	3

Social Movements

Code	Title	Hours
One of these:		
GWSS:2250/ HIST:2250/ SJUS:2250	The History of Social Justice Movements	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
HIST:3232	History of American Inequality	3
HIST:4101	History of Human Rights	3
HIST:4252	American Labor in the Twentieth Century	3
HIST:4260	The Sixties in America	3
SOC:4540	Political Sociology and Social Movements	3

Human Rights, Diversity, and Ethics

Code	Title	Hours
One of these:		
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
PHIL:3430	Philosophy of Human Rights	3
SSW:3847	Discrimination, Oppression, and Diversity	3

Elective

A course used to satisfy the foundation, social movements, or human rights, diversity, and ethics requirement cannot be taken to satisfy the elective requirement.

Code	Title	Hours
One of these:		
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights	3
GWSS:3005	Gender, Women's, and Sexuality Studies Practicum	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3118/ ANTH:3118	Politics of Reproduction	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3
GWSS:3300/ ANTH:3300	Mothers and Motherhood	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:3450/ ENGL:3820	Writing About Girls	3
AFAM:3500/ RELS:3808	Malcolm X, King, and Human Rights	3
AFAM:4195/ HIST:4295	African American History 1619-1865	3
ANTH:3103	Environment and Culture	3
ANTH:3110/ GHS:3110/ NAIS:3110	Health of Indigenous Peoples	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
ASP:3150	Psychology of Aging	3
COMM:4131/ IS:4131	Globalization and Culture	3
COMM:4169/ GWSS:4169	Feminist Rhetorics	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:3500/ GHS:3500	Global Public Health	3
EES:3070	Marine Ecosystems and Conservation	3
ENGL:3444	Literatures of the American Peoples	3

ENGL:3555/ AFAM:3555	Topics in African Cinema (when topic is visualizing human rights)	3	RELS:3745/ AFAM:3245	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
ENGL:3580	Identity and Social Issues	3	RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3	RELS:3855/IS:3855	Human Rights and Islam	3
GEOG:3400	Iowa Environmental Policy in Practice	3	RELS:3976/ NAIS:3276	American Indian Environmentalism	3
GEOG:3760/ GHS:3760	Hazards and Society	3	SOC:3830	Race and Ethnicity	3
GEOG:4770/ GHS:4770	Environmental Justice	3	SPAN:3230	Modern Mexico	3
GHS:3720	Contemporary Issues in Global Health	3	SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
GHS:4600	Global Health and Human Rights	3	SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
HIST:3126	History of Globalization	3	SPAN:4820/ LATS:4800	Latino/a Popular Culture	3
HIST:3282/ GWSS:3282	Women and Power in U.S. History Since the Civil War	3	SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
HIST:4101	History of Human Rights	3	SSW:3796	Family Violence	3
HIST:4160/ GHS:4160	History of Public Health	3			
HIST:4162/ GHS:4162	History of Global Health	3			
HIST:4216/ LAS:4216	Mexican American History	3			
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3			
HIST:4260	The Sixties in America	3			
HIST:4296/ AFAM:4298	African American History 1865-Present	3			
HIST:4640	Imperialism and Modern India	3			
HRTS:3910/IS:3910	Human Rights Advocacy	3			
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3			
NAIS:2292/ HIST:2292	Introduction to American Indian History and Policy	3			
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3			
POLI:3111	American Public Policy	3			
POLI:3114	Women and Politics in the United States	3			
POLI:3150	Problems in American Politics	3			
POLI:3512	International Conflict	3			
PSY:3065	The Aging Mind and Brain	3			
PSY:3240	Motivation, Addiction, and the Brain	3			
PSY:3560	Psychology of Gender	3			
RELS:3020	Religion and Politics	3			
RELS:3431/ GWSS:3131	Gender and Sexuality in Asia	3			
RELS:3580/ ANTH:3113/ GHS:3113	Religion and Healing	3			

Gender, Women's, and Sexuality Studies, Graduate Certificate

The graduate Certificate in Gender, Women's, and Sexuality Studies (GWSS) requires 16 s.h., including a foundations course and a capstone course (1 s.h.), for which students attend a GWSS conference and present their own research there. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. Students frequently receive advising assistance from the director of graduate studies.

The certificate program is open to University of Iowa graduate students working toward a degree; interested students should contact the director of graduate studies.

The Certificate in Gender, Women's, and Sexuality Studies requires the following course work. Students may not use the same course to satisfy more than one certificate requirement.

Code	Title	Hours
All of these:		
GWSS:5000	Foundations for Feminist Inquiry I	3
GWSS:7400	Graduate Research Conference Presentation	1
Electives (students are strongly encouraged to include at least one course with a transnational or international focus; one course that focuses on U.S. diversity; and one on theory of gender, women, feminism, or sexuality)		12
Total Hours		16

Students may count up to 6 s.h. of elective credit earned in GWSS courses that are cross-listed with their major department. Courses that are not cross-listed may be counted with permission of the director of graduate studies.

Geographical and Sustainability Sciences

Chair

- David A. Bennett

Director, Undergraduate Studies

- Marc A. Linderman

Director, Graduate Studies

- Eric Tate

Undergraduate major: geography (B.A., B.S.)

Undergraduate minors: geographic information science; geography

Undergraduate certificate: geographic information science

Graduate degrees: M.A. in geography; Ph.D. in geography

Faculty: <https://clas.uiowa.edu/geography/people/faculty>

Website: <https://clas.uiowa.edu/geography/>

The importance of geographical and sustainability sciences is rooted in the complexity of social and environmental problems. We live on a dynamic planet, one that is constantly changing in response to human and natural processes that are highly interconnected. Geographers study the interactions of people and their environment to better understand these intricately related processes. At the University of Iowa, the department teaches and conducts research on human and natural systems and how interactions between these systems shape the world we live in. Cutting edge technologies, such as geographic information systems (GIS), satellite imagery, and Global Positioning System (GPS), are used to help inform decision making at geographic scales and to analyze and visualize geographic processes.

The Department of Geographical and Sustainability Sciences offers undergraduate programs leading to a Bachelor of Arts or Bachelor of Science degree. Undergraduate students select from three tracks: environmental studies, geographic information science (GISci), and health and society. Each track requires introductory and upper-level geography and sustainability courses, as well as course work from other departments. The department also offers a minor in geography and a minor and certificate in geographic information science. It administers the interdisciplinary environmental policy and planning major and collaborates with other departments to offer the undergraduate Certificates in Social Science Analytics, Sustainability, and Wind Energy (see below). The department also participates in the University's internship program for students; see Career Center Programs [p. 1808] (University College) in the Catalog.

Geography and sustainability courses provide a background for many related professions including law, health care, planning (urban, regional, environmental, or transportation), environmental or transportation engineering, and international business, and are commonly required for students preparing to teach at elementary and secondary levels.

Geographical and sustainability science students acquire valuable skills in computer-based geographic information systems (GIS) software used to investigate and solve many environmental and social problems. Opportunities for graduates with GIS training are growing rapidly in both private and governmental organizations. To gain related knowledge, get hands-on experience, and conduct independent research,

students have access to the department's state-of-the-art Geographical Information Systems Instructional Lab (GISIL). For more information, see Facilities [p. 497] in this section of the Catalog.

The Department of Geographical and Sustainability Sciences offers Master of Arts and Doctor of Philosophy degrees. Graduate programs focus on studies that extend understanding of the environmental consequences of human decisions at local, regional, and global scales; processes that lead to geographic patterns in health and disease; technologies that help capture, represent, visualize, and analyze geographic patterns and processes; and processes that produce ecosystem services and sustainable futures. Within this broad domain, the department has strengths in environmental justice, environmental modeling, urban ecology, GIScience and GIS, land use/land cover change, and health geography. The mission of the graduate program is to empower graduates with the ability to conduct significant research. In addition to offering graduate degree programs, the department administers the geoinformatics subprogram of the graduate informatics certificate; see Certificate in Informatics [p. 1471] (Graduate College) in the Catalog.

GE CLAS Core Courses

The Department of Geographical and Sustainability Sciences offers a number of courses that students in other majors may use to satisfy requirements of the College of Liberal Arts and Sciences GE CLAS Core. Look for courses with the prefix GEOG under "Natural Sciences," "Social Sciences," and "International and Global Issues" in the GE CLAS Core [p. 459] section of the Catalog. Nonmajors also may choose geographical and sustainability sciences courses as electives.

Related Certificates

Social Science Analytics

The Department of Geographical and Sustainability Sciences collaborates with the Departments of Political Science, Sociology, and Statistics and Actuarial Science (College of Liberal Arts and Sciences) to offer the undergraduate program in social science analytics. The Department of Political Science administers the certificate; see the Certificate in Social Science Analytics [p. 915] in the Catalog.

Sustainability

The Department of Geographical and Sustainability Sciences collaborates with the Departments of Biology, Earth and Environmental Science (College of Liberal Arts and Sciences), Civil and Environmental Engineering (College of Engineering), and Urban and Regional Planning (Graduate College) as well as the Tippie College of Business to offer the undergraduate program in sustainability. The certificate is administered by University College; see the Certificate in Sustainability [p. 1858] in the Catalog.

Transportation Studies

The Transportation Studies Program offers the Certificate in Transportation Studies. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), Geographical and Sustainability Sciences, and the School of Urban and Regional Planning (Graduate College) participate in the program. The certificate is administered by

the School of Urban and Regional Planning. See the Certificate in Transportation Studies [p. 1491] in the Catalog

Wind Energy

The Certificate in Wind Energy includes course work and faculty expertise from the Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering (College of Engineering), and Geographical and Sustainability Sciences. The certificate is administered by the Department of Mechanical Engineering; see the Certificate in Wind Energy [p. 1415] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Geography (Bachelor of Arts) [p. 502]
- Major in Geography (Bachelor of Science) [p. 509]

Minors

- Minor in Geographic Information Science [p. 516]
- Minor in Geography [p. 517]

Certificate

- Certificate in Geographic Information Science [p. 518]

Graduate Programs of Study

Majors

- Master of Arts in Geography [p. 519]
- Doctor of Philosophy in Geography [p. 521]

Facilities

The department houses three geographic information computational laboratories. They support a variety of geographic information system (GIS) software packages, including the latest software from Esri (ArcGIS) and Erdas (Imagine) as well as a suite of other commercial and open-source software. All lab computers are regularly updated to ensure that they are capable of running the latest software at peak performance.

The Geographical Information Systems Instructional Lab (GISIL) is the department's center for GIS teaching as well as a place where students conduct geographic and GIS-related projects. It is equipped with 27 networked student workstations, instructional support technology (e.g., CRT projection), and a suite of peripherals, including a LiDAR 3-D scanner, high-end global positioning system (GPS) units, and a large-format printer.

The environmental modeling and GIS research laboratories contain state-of-the-art machines (Windows and Linux platforms), geoprocessing and statistical software, and an array of software development tools. Projects requiring massive storage or high-performance computing have access to additional resources managed by the University's Information Technology Services research support group. The University of Iowa is a charter member of Internet2, with a high-performance network link to the Department of Geographical and Sustainability Sciences. The University also

is a member of the University Consortium on Geographic Information Science.

To aid studies of water resources and physical geography, the department has a laboratory for the analysis of vegetation, soil, and water quality. The laboratory has a variety of field equipment, including soil probes, portable meteorological stations, GPS, ground-based 3-D LiDAR, anemometers, spectrometers, light sensors, and data loggers.

Faculty and graduate students participate in multidisciplinary working groups through the University's Program in Applied Mathematical and Computational Sciences [p. 1426], the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, International Programs, the Institute for Rural and Environmental Health, the Iowa Quaternary Studies Group, and the Public Policy Center. Participation in multidisciplinary working groups also is available through interdisciplinary research grants with investigators from other University of Iowa academic units, for example, the College of Engineering, the Carver College of Medicine, and the College of Public Health.

Geographic researchers also have access to other University of Iowa resources, such as the University's Main Library, whose collections include more than 115,500 maps; 3,600 atlases and reference works; and around 100,000 aerial photographs, primarily of Iowa.

Courses

Geography Courses

GEOG:1000 First-Year Seminar **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

GEOG:1020 The Global Environment **3 s.h.**

Underlying processes driving human/environment interaction, including climate change, deforestation, and natural disasters; environmental challenges, including declining biological diversity; human response to more frequent severe climate events; production of a more sustainable future. GE: Natural Sciences without Lab.

GEOG:1021 The Global Environment Lab **1 s.h.**

Laboratory application of concepts discussed in GEOG:1020; computer-based and traditional approaches to the investigation of earth's processes, including earthquakes, water and energy balances, climate and weather, and soil development. Corequisites: GEOG:1020, if not taken as a prerequisite. GE: Natural Sciences Lab only.

GEOG:1030 Our Digital Earth **3 s.h.**

New technologies that have revolutionized how people navigate in unfamiliar places, locate friends and colleagues, manage cities, and confront environmental problems during the past decade; fundamental concepts related to how geographic information is used to better understand and manage the world and our everyday lives.

GEOG:1046 Big Ideas: People and the Environment - Technology, Culture, and Social Justice 3 s.h.

How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as ANTH:1046, GWSS:1046.

GEOG:1050 Foundations of GIS 4 s.h.

Introduction to concepts and methods associated with geographical information systems (GIS) technology; remote sensing, map making, data collection, and application of GIS to real-world problem solving.

GEOG:1060 Geography of Asia: From Japan to Pakistan 3 s.h.

Varied cultures and environments of Asia; different geographic regions and processes in Asian development. GE: International and Global Issues.

GEOG:1065 Introduction to Spatial Analysis: Patterns and Processes 3 s.h.

Fundamental concepts and applications of spatial analysis; how clusters of crime in a community are identified; how patterns of disease are described within a community.

GEOG:1070 Contemporary Environmental Issues 3 s.h.

Global environmental challenges; ecological, economical, cultural, and geographical causes and effects; underlying science and potential solutions to global issues of sustainability. GE: International and Global Issues; Social Sciences.

GEOG:1090 Globalization and Geographic Diversity 3 s.h.

World regions including their physical environment, culture, economy, politics, and relationships with other regions; students learn about conflicts within and between regions. GE: International and Global Issues; Social Sciences.

GEOG:1115 The History and Science of Oil 3 s.h.

Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Historical Perspectives. Same as EES:1115, ENVS:1115, HIST:1115.

GEOG:2013 Introduction to Sustainability arr.

Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). Same as BUS:2013, URP:2013.

GEOG:2110 Seven Billion and Counting: Introduction to Population Dynamics 3 s.h.

How dramatic changes to the size of population has changed fundamental characteristics of populations and processes, such as food and water scarcity, climate change and biodiversity, rise of megacities, health and disease, migration, social networks, economics, environment, and household structure. GE: Social Sciences. Same as GHS:2110.

GEOG:2130 World Cities 3 s.h.

Important urban centers, past and present, with focus on why cities exist and how they are organized; examination of different historical eras, including ancient, medieval, and modern; analysis of urban physical structures.

GEOG:2310 Introduction to Climatology 3 s.h.

Introduction to atmospheric processes that determine weather and climate; flow of energy through the atmosphere, distribution and movement of moisture and air, and atmospheric disturbances such as cyclones, hurricanes and tornadoes, and climate change. Recommendations: GEOG:1020 or similar earth systems science course. Same as EES:2310.

GEOG:2374 Biogeography 3 s.h.

Introduction to processes that lead to the patterns of plant and animal distributions we see across the globe; processes of focus include plate tectonics, climate, and human-ecological interactions; species management and conservation in relationship to climate and change in human patterns of environment. Prerequisites: BIOL:1141 or BIOL:1370 or BIOL:1261 or GEOG:1020 or BIOL:1412. Same as BIOL:2374.

GEOG:2410 Environment and Development 3 s.h.

Investigation of questions that surround human-environment interactions; case studies highlight approaches (e.g., political economy, gender, sustainability) to addressing and understanding human relationship to environmental change.

GEOG:2910 The Global Economy 3 s.h.

Examination of contemporary economic geography; types of national economies, uneven development, role of government in shaping economy, multinational corporations; foundation for understanding national economies and economic statistics; contemporary issues including economic globalization, commodification of nature, de-industrialization. GE: International and Global Issues; Social Sciences.

GEOG:2930 Water Resources 3 s.h.

Introduction to science and policy issues affecting water resources management in the U.S.; how the intersection of people, climate, technology, and geography affects the quality, availability, and demand for freshwater resources.

GEOG:2950 Environmental Conservation 3 s.h.

Scientific foundations of biological conservation; strategies used to better connect conservation practice with needs of a growing human population. Prerequisites: EES:1080 or GEOG:1020 or GEOG:1070.

GEOG:2990 Readings for Undergraduates arr.

Supervised readings in geography.

GEOG:3001 Special Topics arr.

Contemporary fields of inquiry, such as biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation, and regional development.

GEOG:3010 Geographic Information Systems and Science 3 s.h.

Solid foundation and introduction to GIS and digital map making; what GIS is and how GIS can contribute to research, careers, and everyday life; fundamentals that underlie GIS, including methods for GIS data collection and georeferencing, spatial modeling, spatial data analysis, and visualization; GIS trends including mobile GIS and the Web. Same as IGPI:3010.

GEOG:3020 Earth Surface Processes 3 s.h.

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as EES:3020, ENVS:3020.

GEOG:3070 Hungry Planet: Global Geographies of Food 3 s.h.

Societal and environmental implications of past, current, and future global food supply examined from a geographical perspective; focus on questions of who eats what, where, and why; transformative history of agriculture, modern agribusiness and alternative food supplies, geopolitical implications of food production, food scarcity and rising food costs, urban versus rural agriculture, the obesity epidemic versus malnutrition, and the future of food. Same as GHS:3070.

GEOG:3110 Geography of Health 3 s.h.

Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as GHS:3111.

GEOG:3210 Health, Work, and the Environment 3 s.h.

Survey of environmental and occupational health hazards and the associated health risks of exposure; how public health protects society from these hazards; how public health policy can be influenced by science. Same as CPH:3400.

GEOG:3310 Landscape Ecology 3 s.h.

Landscapes as complex systems that arise from interactions among physical environments and species, including humans; exploration of how these interactions shape landscape ecosystems and influence landscape change through lecture, computer and field labs, and research discussion; key topics include causes and consequences of landscape pattern, techniques used to quantify and model landscape pattern, the role of humans in determining landscape structure and function, and conservation and management of species and landscapes. Prerequisites: GEOG:2374 or BIOL:2673 or BIOL:2673. Requirements: ecology course numbered 1000-4999.

GEOG:3320 Wetlands: Function, Geography, and Management 3 s.h.

Hydrological, geomorphological, and ecological processes and their interaction in wetlands; geographic differences in wetlands based on climate and hydrology; wetlands, lakes, and rivers; role of wetlands in drainage basin hydrology and flooding; values and valuation of wetlands; wetland law and wetland delineation; wetlands and water resources. Prerequisites: GEOG:2310 or GEOG:2374. Same as EES:3260.

GEOG:3331 Human Dimensions of Climate 3 s.h.

How climate shapes human societies; focus on how climate and climate variability affects food production, water use, energy use, and human disease systems (e.g., influenza, malaria, air pollution, diarrheal disease); climate change impacts (e.g., sea level rise, droughts, wildfires, famine); societal impact, adaptation and vulnerability, mitigation strategies; policy.

GEOG:3340 Ecosystem Services: Human Dependence on Natural Systems 3 s.h.

Ecosystem services—valuable goods and services produced by ecosystems (e.g., flood control, food production, water purification)—from an interdisciplinary perspective centering on geographic techniques used to measure, map, and model ecosystem services; methods used to incorporate ecosystem services into decision and policy making; how human activities alter these services. Prerequisites: GEOG:1050 and (GEOG:2374 or GEOG:3310 or EES:1080 or BIOL:2673 or BIOL:1370 or GEOG:1070 or EES:1080 or BIOL:2673 or GEOG:1020).

GEOG:3350 Urban Ecology 3 s.h.

Urban ecology as an interdisciplinary field that investigates relationships between natural and the systems in urban environments; students explore urban ecosystems through lecture, discussion of current research, and field-based research projects; and identify how cities can become more sustainable systems. Prerequisites: BIOL:2673 or BIOL:2673 or GEOG:2374. Requirements: GEOG:2374 or ENVS:2673 or introductory course in ecology, and junior standing.

GEOG:3360 Soil Genesis and Geomorphology 3 s.h.

Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as EES:3360.

GEOG:3400 Iowa Environmental Policy in Practice 3 s.h.

How Iowa government addresses environmental policy development and implementation; policy process and current environmental issues; students attend meetings with Iowa State legislators and relevant agency personnel in Des Moines, Iowa, to observe how policies move into practice in agency offices. Prerequisites: GEOG:1070 or POLI:3111 or GEOG:3780 or ANTH:3102. Requirements: junior or higher standing.

GEOG:3420 Sustainable Development and Green Building Concepts 3 s.h.

Green building and sustainable development trends and theories: water policy, ecosystem services, climate change, and public health; LEED certified building process and each of the associated credit categories (Sustainable Sites, Energy and Atmosphere, and Water Efficiency); how knowledge of green building and sustainable development can help lessen the environmental impact of built environments, improve the bottom line, and better plan for great communities.

GEOG:3500 Introduction to Environmental Remote Sensing 3 s.h.

Basic concepts and principles of remote sensing; sources of data; georegistration; digital processing and classification of remotely sensed images for extraction of environmental information; linkage of remote sensing techniques with GIS analysis. Same as IGPI:3500.

GEOG:3520 GIS for Environmental Studies 3 s.h.

Students learn new, more advanced techniques for the representation and study of human and natural systems using geographic information systems (GIS); application of this new knowledge to environmental management and problem solving. Prerequisites: GEOG:1050. Same as IGPI:3520.

GEOG:3540 Introduction to Geographic Visualization**3 s.h.**

Introduction of basic concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3-D visualization, virtual and augmented reality. Prerequisites: GEOG:1050. Same as IGPI:3540.

GEOG:3550 Integrating Time into GIS**3 s.h.**

Fundamental concepts for integrating temporal elements into geographic information systems (GIS); conceptual and formal models of time, models of change, event-based modeling, modeling of moving entities; topics related to fundamentals of spatiotemporal databases and query languages. Prerequisites: GEOG:1050.

GEOG:3560 Spatial Analyses of Wind Energy**3 s.h.**

Underlying processes, measurement methods, and spatial analyses related to wind energy; students explore techniques for data collection and analysis; GIS-based approaches to renewable energy siting.

GEOG:3570 Light Detection and Ranging (LiDAR): Principles and Applications**3 s.h.**

Basic principles and applications of Light Detection and Ranging (LiDAR); LiDAR as an essential technology for mapping and analyzing a vast range of topics, including hydrology flooding, transportation planning, and 3-D modeling. Recommendations: GEOG:3500 or EES:3100.

GEOG:3750 Environmental Quality: Science, Technology, and Policy**3 s.h.**

Interpretation of pollutants and water pollutants; emphasis on environmental standards under existing laws, setting environmental priorities, risk assessments and comparisons; local, regional, national and international case studies in environment and health; socioeconomic and institutional considerations in designing environmental protection strategies; selected field trips. Prerequisites: STAT:1020.

GEOG:3760 Hazards and Society**3 s.h.**

Examination of the impact and societal responses to natural and technological hazards; using case studies from around the world, students explore relationships between extreme events, human behavior, disaster management, public policy, and technology to understand what makes people and places vulnerable to hazards. Same as GHS:3760.

GEOG:3780 U.S. Energy Policy in Global Context**3 s.h.**

Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GHS:3780, HIST:3240.

GEOG:3800 Environmental Economics and Policy**3 s.h.**

Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies.

GEOG:3920 Planning Livable Cities**3 s.h.**

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as URP:3001.

GEOG:3940 Transportation Economics**3 s.h.**

Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as ECON:3750, URP:3350.

GEOG:3992 Undergraduate Research**arr.**

Opportunity for undergraduate students to participate in faculty-led research projects.

GEOG:4010 Field Methods in Physical Geography**3 s.h.**

Introduction to basic approaches to research design and of sampling environmental variables commonly used in environmental sciences; basic methods of sampling and lab analyses of vegetation, land cover, soils, and more.

GEOG:4020 Field Methods: Mapping and Mobile Computing**3 s.h.**

Mapping techniques and mobile computing applications associated with GPS, wireless technologies, and data sampling techniques.

GEOG:4030 Senior Project Seminar**3 s.h.**

Development of an independent research project, preparation of a research report, and presentation of the associated outcomes. Offered spring semesters.

GEOG:4150 Health and Environment: GIS Applications**3 s.h.**

Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GHS:4150, IGPI:4150.

GEOG:4500 Applications in Environmental Remote Sensing**4 s.h.**

Theory and practice of remote sensing and digital image processing; practical applications to human-environment interactions. Recommendations: GEOG:3500 or EES:3110 or ENVS:3110. Same as IGPI:4500.

GEOG:4520 GIS for Environmental Studies: Applications**3 s.h.**

Project-driven course to advance student knowledge of geographic information systems (GIS); application of GIS to environmental change analysis, environmental assessment, hazard/risk analysis, and environmental decision making. Prerequisites: GEOG:3520. Same as IGPI:4520.

GEOG:4570 Spatial Analysis and Location Models**3 s.h.**

Application of location models within GIS environments to support decision making; small area demographic forecasting, location-allocation models, regionalization problems, shortest path models, other spatial analysis methods used to support spatial decisions. Prerequisites: GEOG:1050.

GEOG:4580 Introduction to Geographic Databases**3 s.h.**

Introduction to basic building blocks of spatial database design, spatial data models, structures, relationships, queries (SQL), indexing, and geoprocessing; design and construction of various types of spatial databases, including relational and big data approaches such as ArcGIS geodatabase, PostGIS/PostgreSQL, and MongoDB. Prerequisites: GEOG:1050. Same as IGPI:4581.

GEOG:4650 Simulation in Environmental Geography**3 s.h.**

Exploration of how computer simulations are used in environmental studies, with focus on landscape ecology; students learn the basics of performing simulations and the principles and applications of simulation through readings and labs. Requirements: advanced courses in environmental geography or environmental science and senior standing.

GEOG:4750 Environmental Impact Analysis 4 s.h.

In-depth exposure to the history and evolution of the U.S. Environmental Impact Assessment (EIA) process; discussion of major court cases; ecological, economic, and political aspects of current environmental controversies; exposure to real-world scenarios that are crucial to understanding the EIA process in action; field trips to six or seven environmental control facilities in Iowa City and neighboring areas. Prerequisites: GEOG:1070. Same as URP:4750.

GEOG:4770 Environmental Justice 3 s.h.

Introduction to the field of environmental justice; understanding and addressing the processes that lead poor and marginalized communities to face a disproportionate degree of environmental risks and hazards. Same as GHS:4770.

GEOG:4870 Applied Geostatistics 3 s.h.

Applications of geostatistical methods to geology, geography, hydrology, environmental sciences, and engineering; variogram, Kriging, analysis of spatial-varied data with varied computer software in participants' specialties. Same as EES:4870.

GEOG:4990 Senior Thesis 3 s.h.

Original research. Requirements: senior standing.

GEOG:4995 Honors Thesis arr.

Original research. Requirements: honors standing.

GEOG:5001 Readings arr.

Supervised readings by graduate students in topics of their choice.

GEOG:5010 Fundamentals of Geography 3 s.h.

Geography as an academic discipline; history, advances, epistemology, common themes.

GEOG:5050 Research and Writing in Geography 3 s.h.

Identification of research areas; research questions and hypotheses; responsible conduct of research; methodological decisions; research proposal and paper writing.

GEOG:5070 Special Topics arr.

Contemporary fields of inquiry, such as biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation, and regional development.

GEOG:5650 Simulations in Landscape Ecology 3 s.h.

Dynamics of land use and land cover change explored through advanced use of computer simulations in landscape ecology; how simulation is used in the field; simulations based on landscape ecology questions, with analysis of results using typical landscape ecology metrics. Prerequisites: GEOG:4650.

GEOG:5800 Environmental Economics and Policy 3 s.h.

Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies. Same as URP:5800.

GEOG:6100 Seminar in Health and Environment 3 s.h.

Research on health and environment.

GEOG:6264 Planning Sustainable Transportation 2-4 s.h.

Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as URP:6265.

GEOG:6300 Seminar in Environment, Conservation, and Land Use 1-3 s.h.

Research on land use, water resources, conservation.

GEOG:6500 Seminar in Spatial Analysis and Modeling 1-3 s.h.

Research themes in spatial analysis, GIScience, simulation, remote sensing. Same as IGPI:6501.

GEOG:6635 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

GEOG:7000 Geography Colloquium 1 s.h.**GEOG:7150 Research in Health and Environment 1-3 s.h.**

Directed research in health and environment.

GEOG:7350 Research in Environment, Conservation, and Land Use 1-3 s.h.

Directed research in land use, water resources, conservation.

GEOG:7550 Research in Spatial Analysis and Modeling 1-3 s.h.

Directed research in spatial analysis, GIScience, simulation.

GEOG:7750 Research in Environmental Policy 1-3 s.h.

Directed research in environmental justice and policy.

GEOG:7999 Thesis arr.

Geography, B.A.

Learning Outcomes

The goal is for Department of Geographical and Sustainability Sciences graduates to demonstrate spatial literacy, systems thinking, critical thinking, research proficiency, and communications skills.

- Spatial Literacy**
 Students will understand the role of spatial information and data in addressing social and environmental questions. Further, they will be aware of the role of geography as a linchpin discipline that bridges social and biophysical sciences.
- Systems Thinking**
 Students will acquire an understanding of the connections and relationships between human and environmental activities and outcomes across space and time, be able to apply spatial analytical techniques to investigate human/environment interaction, and identify the ethical implications associated with outcomes produced by such analyses. Such understanding and ability will provide students with the necessary tools to assess the sustainability of current and proposed solutions in a variety of settings across a broad spectrum of social and environmental issues.
- Critical Thinking**
 Students will have the capability to assess various points of view and perspectives while assessing complex social and environmental problems, to evaluate the factual basis of assertions, and to understand trade-offs.
- Research Proficiency**
 Students will be able to formulate testable hypotheses, apply quantitative or qualitative approaches and methodological tools to pertinent questions, and acquire secondary data or construct primary datasets when applicable.
- Communication Skills**
 Students will be able to communicate complex geographical and technical concepts using an appropriate vocabulary to a broad spectrum of audiences. Communication skills are defined broadly to include verbal, written, graphic, and cartographic forms of communication.

Requirements

The Bachelor of Arts with a major in geography requires a minimum of 120 s.h., including at least 39-43 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn a minimum of 15 s.h. for the major in residence at the University of Iowa.

Geography majors may not earn the minor in geographic information science.

The major in geography is appropriate preparation for advanced training or careers in geographical and sustainability sciences.

Students choose one of three tracks in the major: environmental studies, geographic information science (GISci), or health and society. All students majoring in geography complete a common set of foundation courses in addition to the requirements for their choice of track.

Consistent with the College of Liberal Arts and Sciences maximum semester hours rule, students may count a maximum of 56 s.h. earned in their major department toward graduation.

The B.A. with a major in geography requires the following work.

Code	Title	Hours
Common Requirements		18-23
Statistics Courses		3-4
Track Courses		15-19

Common Requirements

Students may not use a course to fulfill more than one major requirement.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
GEOG:1090	Globalization and Geographic Diversity	3
One of these:		
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2130	World Cities	3
GEOG:2910	The Global Economy	3
GEOG:2950	Environmental Conservation	3
One of these (not required for GISci track students):		
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4010	Field Methods in Physical Geography	3

GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4650	Simulation in Environmental Geography	3
One of these:		
GEOG:4030	Senior Project Seminar	3
GEOG:4995	Honors Thesis (must enroll for 3 s.h.)	3
One of these (at least 1 s.h. required):		
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3992	Undergraduate Research (including ICIGO or independent research)	arr.
CCP:1201	Academic Internship	1-3

Senior Project Seminar (GEOG:4030) is offered only in spring semesters. Students who choose GEOG:4995 Honors Thesis must make arrangements with a faculty advisor.

The Department of Geographical and Sustainability Sciences is a participant in the University's internship program, which provides opportunities for students to participate in paid and unpaid activities related to their academic programs. The Pomerantz Career Center works with students to develop appropriate internships.

Statistics Courses

Students must earn a minimum of 3 s.h. in statistics by completing one of the following courses or a statistics course equivalent to or numbered above one of these.

Code	Title	Hours
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3

Tracks

All geography majors must complete one of the three tracks described below: environmental studies, geographic information science (GISci), or health and society. Students should pay close attention to prerequisites for the upper-level courses in each track in order to develop a study plan that allows them to complete their major in a timely way.

Students in the environmental studies or health and society track who wish to gain additional experience in theory and application of geographic information systems (GIS) should take GIS-based courses offered by the Department of

Geographical and Sustainability Sciences, as described for each track below.

Students may use GEOG:3001 Special Topics to fulfill a track requirement if the course content is applicable.

Environmental Studies Track

The environmental studies track requires a minimum of 15 s.h. It is designed for students interested in the interrelationships among social and natural processes that affect the environment. The track prepares students for careers or pursuit of personal interests in resource management, landscape ecology, water resources, environmental policy or law, global environmental change, sustainable development, or other complex environmental issues. Graduates may find employment in an environmental profession such as conservation, environmental planning and regulation; or environmental law, policy, and politics.

The environmental studies track offers training in field observation, remote sensing, geographical information systems, quantitative analysis/computing, and cartographic representation. It also provides a sound foundation for graduate or professional-level studies in the natural or social aspects of the environment.

In addition to the common requirements, students in the environmental studies track complete a common track course (3 s.h.) and at least 12 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all environmental studies track students take this:		
GEOG:1070	Contemporary Environmental Issues	3

Students choose a total of four upper-level courses (at least 12 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should take GEOG:3520 GIS for Environmental Studies and GEOG:4520 GIS for Environmental Studies: Applications, or they should earn 6 s.h. in other GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least one of these:		
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
At least one of these:		
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3310	Landscape Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3

GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4650	Simulation in Environmental Geography	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Geographic Information Science Track

The geographic information science track (GISci) requires a minimum of 18-19 s.h. It is designed for students preparing for positions in government agencies, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography, planning, and other disciplines. The track focuses on the design, implementation, and use of geographic information systems. Courses address how geographic data are acquired, stored, accessed, displayed, managed, and analyzed.

Students in the geographic information science track learn to address problems involved in modeling environmental systems, identifying the best locations for service facilities, assessing environmental impacts, and forecasting the populations of small areas. They use the department's Geographical Information Systems Instructional Lab (GISIL) extensively to develop expertise in using GIS software.

Course work in the track covers methods of spatial analysis and geographical modeling and involves database management and computer programming.

In addition to the common requirements, students in the geographic information science track complete a common track course (3-4 s.h.) and at least 15 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all GISci track students take one of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4

Students choose a total of five upper-level courses (at least 15 s.h.) from the following, in consultation with their advisor. GISci track students are encouraged to add breadth to their degree by taking additional upper-level courses in the department. Students interested in the application of GIS to environmental issues should select additional courses from the department's environmental studies area; those interested in health or other socioeconomic issues should select additional courses from the department's health and society area.

Code	Title	Hours
At least one of these:		
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
GEOG:4650	Simulation in Environmental Geography	3
At least one of these:		
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4570	Spatial Analysis and Location Models	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
At least one of these:		
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

Health and Society Track

The health and society track requires a minimum of 15 s.h. It is designed for students interested in understanding the causes and consequences of social inequalities, the long-term effects that changing human/environmental interactions have on human health, and emerging transnational challenges to the sustainability of livelihoods. The track provides students with foundational knowledge and skills to support postgraduate employment in governmental or nongovernmental positions, graduate study in public health or in health-related fields, and service experiences such as the Peace Corps and AmeriCorps.

Students gain understanding of the factors and processes that determine geographic patterns of health. They explore the effects of the social, built, and natural environments on the physical, social, and mental health of populations.

Course work in the track examines patterns and causes of infectious and chronic diseases; hazards, vulnerability, and environmental justice; and the spatial methods used to understand such issues.

Thematic content from courses is complemented by quantitative, spatial, and statistical analysis course work, enabling students to analyze and understand geographic patterns of health. Students have opportunities to work on applied problems, such as assessing patterns of disease, identifying the underlying population and environmental drivers of good or poor health, and evaluating the social dimensions of environmental impacts.

In addition to the common requirements, students in the health and society track complete three common track courses (9 s.h.) and at least two upper-level geographical and sustainability sciences courses (6 s.h.).

Code	Title	Hours
Common courses—all health and society track students take these:		
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

Students choose two upper-level courses (at least 6 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should also take an additional 6 s.h. in GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least two of these:		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4770/ GHS:4770	Environmental Justice	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.A. (Geographic Information Science Track)/M.S. in Informatics

Students majoring in geography with a geographic information science track who are interested in earning a master's degree in informatics with a geoinformatics subprogram may apply to the combined B.A./M.S. program offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the informatics program, see the M.S. in Informatics [p. 1469] (Graduate College) in the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the department's honors program by the first semester of their senior year or earlier.

Honors students in geography pursue study beyond the typical undergraduate level. In order to graduate with honors in the major, they work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Departmental honors students earn credit for their thesis by registering for GEOG:4995 Honors Thesis. They may substitute GEOG:4030 Senior Project Seminar for GEOG:4995, as long as they continue to work on the thesis under the direction of a faculty member.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geography major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: one introductory course in the major

Before the fifth semester begins: five courses in the major

Before the seventh semester begins: 11 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 14 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Geography, B.A.

- Environmental Studies Track [p. 506]
- Geographic Information Science Track [p. 507]
- Health and Society Track [p. 507]

Environmental Studies Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1090	Globalization and Geographic Diversity ^a	3
GEOG:1020	The Global Environment ^a	3
GEOG:1021	The Global Environment Lab ^a	1
GE CLAS Core: Historical Perspectives ^b		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Major: geography "select one" course ^{c, d, e}		3
GE CLAS Core: Values and Culture ^b		3
Elective course ^f		3
Hours		15-16
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^g		4 - 5
Major: statistics course ^h		3
GEOG:1070	Contemporary Environmental Issues ^a	3
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^f		1
Hours		14-15
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g		4 - 5
Major: environmental studies track course		3 - 4
GEOG:1050	Foundations of GIS	4
GE CLAS Core: Quantitative or Formal Reasoning ^b		3

Elective course ^f	1
Hours	15-17

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course ^g	4 - 5
Major: GIS "select one" course ⁱ	3
Major: environmental studies track course	3 - 4
Elective course ^f	3
Elective course ^f	1
Hours	14-16

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^g	4 - 5
GEOG:3400 or GEOG:3992 Practice or CCP:1201 or Undergraduate Research or Academic Internship	1 - 3
Major: environmental studies track course	3 - 4
Elective course ^f	3
Elective course ^f	3
Hours	14-18

Fourth Year

Fall

Major: environmental studies track course	3 - 4
GE CLAS Core: Natural Sciences without Lab ^b	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Hours	15-16

Spring

GEOG:4995 or GEOG:4030 Honors Thesis or Senior Project Seminar	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Hours	15
Total Hours	117-129

- Fulfills a major requirement and may fulfill a GE requirement.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Cannot use GEOG:1070 or GEOG:1090, as these are required elsewhere in the major.
- Choose from the following options: GEOG:1060, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- Students cannot choose a course that they have already used elsewhere in the major.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510. Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- Cannot double-count a class for this requirement and another requirement in the major.

Geographic Information Science Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1090	Globalization and Geographic Diversity ^a	3
GEOG:1020	The Global Environment ^a	3
GEOG:1021	The Global Environment Lab ^a	1
GE CLAS Core: Values and Culture ^b		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1050	Foundations of GIS	4
Major: geography "select one" course ^{c, d}		3
GE CLAS Core: Historical Perspectives ^b		3
Elective course ^e		2
Hours		15-16
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
CS:2110 or CS:1110 or CS:1210	Programming for Informatics or Introduction to Computer Science or Computer Science I: Fundamentals	3 - 4
GE CLAS Core: International and Global Issues or Social Sciences ^b		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
Elective course ^e		3
Hours		16-18
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Major: statistics course ^{g, h}		3
Major: GIS track course		3 - 4
Elective course ^e		3
Elective course ^e		3
Hours		16-18
Third Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Major: GIS track course		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Elective course ^e		3
Hours		13-15
Spring		
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
CCP:1201 or GEOG:3400 or GEOG:3992	Academic Internship or Iowa Environmental Policy in Practice or Undergraduate Research	1 - 3

Major: GIS track course	3 - 4
GE CLAS Core: Diversity and Inclusion ^b	3
Elective course ^e	3
Hours	14-18

Fourth Year

Fall	
Major: GIS track course	3 - 4
GE CLAS Core: Natural Sciences without Lab ^b	3
Elective course ^e	3
Elective course ^e	3
Elective course ^e	3
Hours	15-16

Spring

GEOG:4030 or GEOG:4995	Senior Project Seminar or Honors Thesis	3
Major: GIS track course		3 - 4
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15-16
Total Hours		119-133

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students cannot choose a course that they have already used elsewhere in the major.
- d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- h Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510.

Health and Society Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GE CLAS Core: Values and Culture ^a		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
Major: geography "select one" course ^{b, c}		3
GE CLAS Core: Historical Perspectives ^a		3

Elective course ^d	2
Hours	14-15

Second Year**Fall**

GE CLAS Core: World Languages First Level Proficiency or elective course ^e	4 - 5
Major: statistics course ^f	3
GEOG:1050 Foundations of GIS	4
Elective course ^d	3
Hours	14-15

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
GEOG:2110 Seven Billion and Counting: Introduction to Population Dynamics ^g	3
Major: GIS "select one" course ^h	3
GE CLAS Core: Literary, Visual, and Performing Arts ^a	3
Elective course ^d	1 - 3
Hours	14-17

Third Year**Fall**

GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
GEOG:3110 Geography of Health	3
GE CLAS Core: Quantitative or Formal Reasoning ^a	3
Elective course ^d	3
Elective course ^d	1 - 3
Hours	14-17

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Major: Health and Society "select two" course ⁱ	3
GEOG:3992 Undergraduate Research or GEOG:3400 or Iowa Environmental Policy in Practice or CCP:1201 or Academic Internship	1 - 3
Elective course ^d	3
Elective course ^d	3
Hours	14-17

Fourth Year**Fall**

GEOG:4150 Health and Environment: GIS Applications	3
GE CLAS Core: Natural Sciences without Lab ^a	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Spring

Major: Health and Society "select two" course ⁱ	3
GEOG:4995 Honors Thesis or GEOG:4030 or Senior Project Seminar	3
Elective course ^d	3
Elective course ^d	3

Elective course ^d	3
Hours	15
Total Hours	115-127

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students cannot choose a course that they have already used elsewhere in the major.
- c Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510. Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- g Fulfills a major requirement and may fulfill a GE requirement.
- h Cannot double-count a class for this requirement and another requirement in the major.
- i Choose from the following: GEOG:3070, GEOG:3210, GEOG:3760, GEOG:3920, GEOG:4770.

Career Advancement

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in urban and regional planning. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

The application of geographic information systems (GIS) to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

Geography majors also are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Geography, B.S.

Learning Outcomes

The goal is for Department of Geographical and Sustainability Sciences graduates to demonstrate spatial literacy, systems thinking, critical thinking, research proficiency, and communications skills.

- **Spatial Literacy**

Students will understand the role of spatial information and data in addressing social and environmental questions. Further, they will be aware of the role of geography as a linchpin discipline that bridges social and biophysical sciences.

- **Systems Thinking**

Students will acquire an understanding of the connections and relationships between human and environmental activities and outcomes across space and time, be able to apply spatial analytical techniques to investigate human/environment interaction, and identify the ethical implications associated with outcomes produced by such analyses. Such understanding and ability will provide students with the necessary tools to assess the sustainability of current and proposed solutions in a variety of settings across a broad spectrum of social and environmental issues.

- **Critical Thinking**

Students will have the capability to assess various points of view and perspectives while assessing complex social and environmental problems, to evaluate the factual basis of assertions, and to understand trade-offs.

- **Research Proficiency**

Students will be able to formulate testable hypotheses, apply quantitative or qualitative approaches and methodological tools to pertinent questions, and acquire secondary data or construct primary datasets when applicable.

- **Communication Skills**

Students will be able to communicate complex geographical and technical concepts using an appropriate vocabulary to a broad spectrum of audiences. Communication skills are defined broadly to include verbal, written, graphic, and cartographic forms of communication.

Requirements

The Bachelor of Science with a major in geography requires a minimum of 120 s.h., including at least 46-49 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn a minimum of 15 s.h. for the major in residence at the University of Iowa.

Geography majors may not earn the minor in geographic information science.

The major in geography is appropriate preparation for advanced training or careers in geographical and sustainability sciences. Students with strong interest in

quantitative analysis and model building should pursue the Bachelor of Science and are encouraged to master an appropriate computer programming language.

Students choose one of three tracks in the major: environmental studies, geographic information science (GISci), or health and society. All students majoring in geography complete a common set of foundation courses in addition to the requirements for their choice of track. Bachelor of Science students take additional mathematics course work.

Consistent with the College of Liberal Arts and Sciences maximum semester hours rule, students may count a maximum of 56 s.h. earned in their major department toward graduation.

The B.S. with a major in geography requires the following work.

Code	Title	Hours
Common Requirements		18-23
Statistics, Mathematics, or Computer Science Courses		10
Track Courses		15-19

Common Requirements

Students may not use a course to fulfill more than one major requirement.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
GEOG:1090	Globalization and Geographic Diversity	3
One of these:		
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2130	World Cities	3
GEOG:2910	The Global Economy	3
GEOG:2950	Environmental Conservation	3
One of these (not required for GISci track students):		
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

GEOG:4010	Field Methods in Physical Geography	3
GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4650	Simulation in Environmental Geography	3
One of these:		
GEOG:4030	Senior Project Seminar (offered only in spring semesters)	3
GEOG:4995	Honors Thesis (must enroll for 3 s.h. and make arrangements with a faculty advisor)	3
One of these (at least 1 s.h. required):		
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3992	Undergraduate Research (including ICIGO or independent research)	arr.
CCP:1201	Academic Internship	1-3

Senior Project Seminar (GEOG:4030) is offered only in spring semesters. Students who choose GEOG:4995 Honors Thesis must make arrangements with a faculty advisor.

The Department of Geographical and Sustainability Sciences is a participant in the University's internship program, which provides opportunities for students to participate in paid and unpaid activities related to their academic programs. The Pomerantz Career Center works with students to develop appropriate internships.

Statistics, Mathematics, or Computer Science Courses

Students must earn a minimum of 10 s.h. in statistics, mathematics, or computer science course work by completing the following. Equivalent courses and courses with a higher course number also may be selected in consultation with, and approval by, an advisor.

Students who complete the GIS track may not double count their required computer science courses for the statistics, mathematics, or computer science courses requirement.

Code	Title	Hours
Both of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3200/IE:3760/ IGPI:3200	Applied Linear Regression	3
One of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2230	Computer Science II: Data Structures	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1380	Calculus and Matrix Algebra for Business	4

Tracks

All geography majors must complete one of the three tracks described below: environmental studies, geographic information science (GISci), or health and society. Students should pay close attention to prerequisites for the upper-level courses in each track in order to develop a study plan that allows them to complete their major in a timely way.

Students in the environmental studies or health and society track who wish to gain additional experience in theory and application of geographic information systems (GIS) should take GIS-based courses offered by the Department of Geographical and Sustainability Sciences, as described for each track below.

Students may use GEOG:3001 Special Topics to fulfill a track requirement if the course content is applicable.

Environmental Studies Track

The environmental studies track requires a minimum of 15 s.h. It is designed for students interested in the interrelationships among social and natural processes that affect the environment. The track prepares students for careers or pursuit of personal interests in resource management, landscape ecology, water resources, environmental policy or law, global environmental change, sustainable development, or other complex environmental issues. Graduates may find employment in an environmental profession such as conservation, environmental planning and regulation, or environmental law, policy, and politics.

The environmental studies track offers training in field observation, remote sensing, geographical information systems, quantitative analysis/computing, and cartographic representation. It also provides a sound foundation for graduate or professional-level studies in the natural or social aspects of the environment.

In addition to the common requirements, students in the environmental studies track complete a common track course (3 s.h.) and at least 12 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all environmental studies track students take this:		
GEOG:1070	Contemporary Environmental Issues	3

Students choose a total of four upper-level courses (at least 12 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should take GEOG:3520 GIS for Environmental Studies and GEOG:4520 GIS for Environmental Studies: Applications, or they should earn 6 s.h. in other GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least one of these:		
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3

GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
At least one of these:		
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3310	Landscape Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4650	Simulation in Environmental Geography	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3

Geographic Information Science Track

The geographic information science track (GISci) requires a minimum of 18-19 s.h. It is designed for students preparing for positions in government agencies, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography, planning, and other disciplines. The track focuses on the design, implementation, and use of geographic information systems. Courses address how geographic data are acquired, stored, accessed, displayed, managed, and analyzed.

Students in the geographic information science track learn to address problems involved in modeling environmental systems, identifying the best locations for service facilities, assessing environmental impacts, and forecasting the populations of small areas. They use the department's Geographical Information Systems Instructional Lab (GISIL) extensively to develop expertise in using GIS software.

Course work in the track covers methods of spatial analysis and geographical modeling and involves database management and computer programming.

In addition to the common requirements, students in the geographic information science track complete a common track course (3-4 s.h.) and at least 15 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all GISci track students take one of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4

Students choose a total of five upper-level courses (at least 15 s.h.) from the following, in consultation with their advisor. GISci track students are encouraged to add breadth to their degree by taking additional upper-level courses in the department. Students interested in the application of GIS to environmental issues should select additional courses from the department's environmental studies area; those interested in health or other socioeconomic issues should select additional courses from the department's health and society area.

Code	Title	Hours
At least one of these:		
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
GEOG:4650	Simulation in Environmental Geography	3
At least one of these:		
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4570	Spatial Analysis and Location Models	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

At least one of these:		
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
GEOG:3560	Spatial Analyses of Wind Energy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

Health and Society Track

The health and society track requires a minimum of 15 s.h. It is designed for students interested in understanding the

causes and consequences of social inequalities, the long-term effects that changing human/environmental interactions have on human health, and emerging transnational challenges to the sustainability of livelihoods. The track provides students with foundational knowledge and skills to support postgraduate employment in governmental or nongovernmental positions, graduate study in public health or in health-related fields, and service experiences such as the Peace Corps and AmeriCorps.

Students gain understanding of the factors and processes that determine geographic patterns of health. They explore the effects of the social, built, and natural environments on the physical, social, and mental health of populations. Course work in the track examines patterns and causes of infectious and chronic diseases; hazards, vulnerability, and environmental justice; and the spatial methods used to understand such issues.

Thematic content from courses is complemented by quantitative, spatial, and statistical analysis course work, enabling students to analyze and understand geographic patterns of health. Students have opportunities to work on applied problems, such as assessing patterns of disease, identifying the underlying population and environmental drivers of good or poor health, and evaluating the social dimensions of environmental impacts.

In addition to satisfying the common requirements, students in the health and society track complete three common track courses (9 s.h.) and at least two upper-level geographical and sustainability sciences courses (6 s.h.).

Code	Title	Hours
Common courses—all health and society track students take these:		
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

Students choose two upper-level courses (at least 6 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should also take an additional 6 s.h. in GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least two of these:		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4770/ GHS:4770	Environmental Justice	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition

to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.S./M.S. in Informatics

Students majoring in geography who are interested in earning a master's degree in informatics with a geoinformatics subprogram may apply to the combined B.S./M.S. program offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the informatics program, see the M.S. in Informatics [p. 1469] (Graduate College) in the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the department's honors program by the first semester of their senior year or earlier.

Honors students in geography pursue study beyond the typical undergraduate level. In order to graduate with honors in the major, they work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Departmental honors students earn credit for their thesis by registering for GEOG:4995 Honors Thesis. They may substitute GEOG:4030 Senior Project Seminar for GEOG:4995, as long as they continue to work on the thesis under the direction of a faculty member.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geography major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: two introductory courses in the major

Before the fifth semester begins: six courses in the major

Before the seventh semester begins: 12 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 15 courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Geography, B.S.

- Environmental Studies Track [p. 513]
- Geographic Information Science Track [p. 514]
- Health and Society Track [p. 514]

Environmental Studies Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GEOG:1090	Globalization and Geographic Diversity ^a	3
GEOG:1020	The Global Environment ^a	3
GEOG:1021	The Global Environment Lab ^a	1
GE CLAS Core: Historical Perspectives ^b		3
CSL:1600	Success at Iowa	2
Hours		15-16
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1070	Contemporary Environmental Issues ^a	3
Major: geography "select one" course ^{c, d}		3
GE CLAS Core: Values and Culture ^b		3
Elective course ^e		3
Hours		15-16
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
STAT:2010 ^a	Statistical Methods and Computing	3
GEOG:1050	Foundations of GIS	4
Elective course ^e		3
Elective course ^e		1
Hours		15-16

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
STAT:3200 Applied Linear Regression	3
Major: environmental studies track course	3
GE CLAS Core: Diversity and Inclusion ^b	3
Elective course ^e	1
Hours	14-15

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
Major: GIS "select one" course ^g	3
Major: computer science/math course ^{h, i}	3 - 4
Major: environmental studies track course	3
Hours	13-15

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5
GEOG:3400 Iowa Environmental Policy in or GEOG:3992 Practice or CCP:1201 or Undergraduate Research or Academic Internship	1 - 3
Major: environmental studies track course	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
Elective course ^e	3
Hours	14-17

Fourth Year

Fall

Major: environmental studies track course		3
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

GEOG:4995	Honors Thesis or GEOG:4030 or Senior Project Seminar	3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		116-125

- Fulfills a major requirement and may fulfill a GE requirement.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Students cannot choose a course that they have already used elsewhere in the major.
- Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Students cannot double-count the same course for this requirement and a requirement in the track.

- h Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.
- i Enrollment in math courses requires completion of a placement exam.

Geographic Information Science Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1090	Globalization and Geographic Diversity ^a	3
GEOG:1020	The Global Environment ^a	3
GEOG:1021	The Global Environment Lab ^a	1
GE CLAS Core: Historical Perspectives ^b		3
CSI:1600	Success at Iowa	2
Hours		15-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GEOG:1050	Foundations of GIS	4
Major: geography "select one" course ^{c, d}		3 - 4
GE CLAS Core: Values and Culture ^b		3
Elective course ^e		3
Hours		16-18
Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
STAT:2010	Statistical Methods and Computing ^a	3
Major: GIS track course		3
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^e		1
Hours		14-15
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
STAT:3200	Applied Linear Regression	3
Major: GIS track course		3
GE CLAS Core: International and Global Issues or Social Sciences ^b		3
Elective course ^e		1
Hours		14-15
Third Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Major: GIS track course		3
CS:2110 or CS:1110 or CS:1210	Programming for Informatics or Introduction to Computer Science or Computer Science I: Fundamentals	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Hours		13-15

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Major: GIS track course		3
CCP:1201 or GEOG:3992 or GEOG:3400	Academic Internship or Undergraduate Research or Iowa Environmental Policy in Practice	1 - 3
Major: computer science/math course ^{g, h}		3 - 4
Elective course ^e		3
Hours		14-18

Fourth Year

Fall		
Major: GIS track course		3
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Spring		
GEOG:4030 or GEOG:4995	Senior Project Seminar or Honors Thesis	3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		116-127

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students cannot choose a course that they have already used elsewhere in the major.
- d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.
- h Enrollment in math courses requires completion of a placement exam.

Health and Society Track

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:1090	Globalization and Geographic Diversity ^a	3
GEOG:1020	The Global Environment ^a	3
GEOG:1021	The Global Environment Lab ^a	1
GE CLAS Core: Historical Perspectives ^b		3
CSI:1600	Success at Iowa	2
Hours		15-16

Spring

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics ^a	3
Major: geography "select one" course ^{c, d}		3 - 4
GE CLAS Core: Values and Culture ^b		3
Elective course ^e		3
Hours		15-17

Second Year**Fall**

GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
STAT:2010	Statistical Methods and Computing ^a	3
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^e		3
Elective course ^e		1
Hours		14-15

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
STAT:3200	Applied Linear Regression	3
GEOG:1050	Foundations of GIS	4
Elective course ^e		3
Elective course ^e		1
Hours		15-16

Third Year**Fall**

GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Major: computer science/math course ^{g, h}		4
GEOG:3110	Geography of Health	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Hours		14-15

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
GEOG:3992 or CCP:1201 or GEOG:3400	Undergraduate Research or Academic Internship or Iowa Environmental Policy in Practice	1 - 3
Major: Health and Society "select two" course ⁱ		3
Major: GIS "select one" course ^j		3
Elective course ^e		3
Hours		14-17

Fourth Year**Fall**

GEOG:4150	Health and Environment: GIS Applications	3
Major: Health and Society "select two" course ⁱ		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

GEOG:4995	Honors Thesis	3
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or GEOG:4030	or Senior Project Seminar	
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		117-126

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2130, GEOG:2910, GEOG:2950.
- d Students cannot choose a course that they have already used elsewhere in the major.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.
- h Enrollment in math courses requires completion of a placement exam.
- i Choose from the following: GEOG:3070, GEOG:3210, GEOG:3760, GEOG:3920, GEOG:4770.
- j Cannot use GEOG:4150, as it is required elsewhere in the track.

Career Advancement

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in urban and regional planning. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

The application of geographic information systems (GIS) to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

Geography majors are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Geographic Information Science, Minor

The undergraduate minor in geographic information science requires a minimum of 15 s.h. in geographical and sustainability sciences courses, including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Geography majors may not earn the minor in geographic information science.

Geographic information science is the study of geography using digital technology. The field uses geographic information systems (computer-based technologies designed to facilitate the capture, organization, analysis, and display of geographic data), remote sensing (primarily interpretation of satellite imagery), and spatial modeling (viewing, analyzing, and mapping spatial data) to study geographic patterns and processes and to examine research on the nature, development, and use of these tools.

The minor requires one core course, three mid-level specialization courses, and an advanced course that builds on one of the three mid-level courses. Students should contact the department secretary to request an advisor for help in selecting the advanced course.

The minor in geographic information science requires the following course work.

Code	Title	Hours
Core Course		
One of these:		
GEOG:1050	Foundations of GIS	4
GEOG:3010/ IGPI:3010	Geographic Information Systems and Science	3
Mid-Level Specialization Courses		
All of these:		
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
Advanced Course		
One of these:		
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3

GEOG:4570	Spatial Analysis and Location Models	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
GEOG:4650	Simulation in Environmental Geography	3

Geography, Minor

The undergraduate minor in geography requires a minimum of 15 s.h. in geographical and sustainability sciences courses (prefix GEOG), including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students are encouraged to concentrate their course work in tracks—environmental studies, geographic information science, or health and society (see the B.A. in geography [p. 502] or the B.S. in geography [p. 509]). For help in selecting courses, students should contact the department secretary to request an advisor for the minor.

Geographic Information Science, Certificate

The undergraduate Certificate in Geographic Information Science requires a minimum of 18 s.h. of credit, including at least 12 s.h. earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Courses taken pass/nonpass do not count toward the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Geographic information systems (GIS) and the digital spatial data that they contain inform major decisions on how natural resources are managed, how smart cities are built, how communities respond to natural disasters, and how the spread of disease is detected. These same systems and data guide such everyday tasks as deciding one's driving route, finding family and friends using a phone, or figuring out when the bus arrives. Geographic information science (GIScience) has emerged as a field of study focused on fundamental questions about how to acquire, store, manage, analyze and visualize geographic information using computers.

The certificate is designed to provide the knowledge and skills needed to work with geographic information and prepare individuals to work in this growing profession. The certificate course work helps build a knowledgeable geospatial workforce that understands how to use GIScience properly and applies this understanding to improve transportation systems, improve water quality, or make companies more productive.

Students who major in geography (geographic information science track) or who earn a minor in geographic information science cannot earn the Certificate in Geographic Information Science.

Certificate students may count a total of 6 s.h. of credit earned for other majors, minors, or certificates toward the Certificate in Geographic Information Science with approval from their advisors.

Students who are interested in a specialization in geographic information systems, in remote sensing, or those who seek a more general background may want to select certain options when they plan their certificate course work. For more information, contact the Department of Geographical and Sustainability Sciences [p. 496].

Students must complete all of a course's prerequisites before they register for the course.

The Certificate in Geographic Information Science requires the following course work.

Code	Title	Hours
Core Courses		
One of these:		
GEOG:1030	Our Digital Earth	3
GEOG:1050	Foundations of GIS	4
Both of these:		
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
Geographic Analysis Electives		
Two of these:		

GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4020	Field Methods: Mapping and Mobile Computing	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
Capstone Course		
One of these:		
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4500/ IGPI:4500	Applications in Environmental Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
An independent project or internship (consult advisor)		3

Geography, M.A.

The Master of Arts program in geography focuses on investigating the environmental consequences of human decisions, the social implications of environmental change, and the geographic information science that enables these studies. Central to the department's studies are the theories, methods, and models of environmental, social, and geographic information science. Within this broad domain, the department is developing strengths in environmental justice, environmental modeling, GIScience and GIS, land use and its environmental consequences, and health geography.

Master of Arts students follow one of two tracks. The professional track is designed as a terminal nonthesis degree that prepares students to enter the workforce directly after receiving a M.A. The thesis track includes an independent research project and prepares students to enter a Ph.D. program or a career that requires creative research in selected areas of geography.

The department provides opportunities for graduate students to gain practical experience through service as departmental teaching or research assistants. In addition, graduate students often compete successfully for intramural and extramural funding for graduate education.

Graduate students often present their research at professional conferences and publish their work in academic journals. These presentations and papers can be the product of independent research or research projects led by a faculty member.

Requirements

The Master of Arts with a major in geography requires a minimum of 30 s.h. of graduate credit with thesis and 32 s.h. of graduate credit without thesis. The program is designed to be completed in four semesters.

Thesis students must earn 15 s.h. of credit in Department of Geographical and Sustainability Sciences courses numbered 5000 or above; they may count 6 s.h. of thesis credit and 2 s.h. earned in GEOG:7000 Geography Colloquium toward the degree. Students who earn more than 30 s.h. may use the additional work to increase their breadth of knowledge in geography and to tailor their study programs to their individual interests.

Nonthesis students build skills across a range of topics in geographical and sustainability sciences during their first year and develop skills in particular application areas during their second year. They must earn 15 s.h. of credit in Department of Geographical and Sustainability Sciences courses numbered 5000 or above.

Students demonstrate competence by completing appropriate course work; completing and defending an M.A. thesis (for thesis students) or completing a portfolio of finished work and having it reviewed (nonthesis students).

More detailed information about M.A. requirements is provided in the department's Manual for Graduate Degree Requirements; contact the Department of Geographical and Sustainability Sciences.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

A bachelor's degree with a major in geography is not required, but applicants must have an undergraduate background relevant to the field. Strength in social science, environmental science, or geographic information science and interest in exploring the spatial perspectives that characterize modern geography are important in admission decisions. Depending on their prior training, graduate students may be required to take courses that are prerequisites for course work in their chosen area of graduate study; credit earned in prerequisites does not count toward the graduate degree.

Application materials should include an undergraduate transcript with grade-point average, scores on the Graduate Record Examination (GRE) General Test, three letters of recommendation, and an essay in which applicants state their reasons for wanting to study geography at the University of Iowa.

Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL). Their scores must be provided to the University's Office of Admissions.

New graduate students whose first language is not English are required to take a speaking proficiency test when they arrive at the University; eventually they take the English Language Performance Test (ELPT). Students must be fully certified by the ELPT before they begin their fourth semester in order to be considered for funding in succeeding semesters. Students who do not pass the tests are required to take Teaching Assistant Preparation in English (TAPE) courses until they have achieved proficiency in spoken English.

Financial Support

A number of graduate teaching and research assistantships are available. In addition, outstanding applicants and underrepresented minorities are eligible for several fellowships. Awards are based on merit. In giving awards, the department pays particular attention to grade-point average, especially for the junior and senior years; score on the Graduate Record Examination (GRE) General Test; letters of recommendation; and fit of a student's objectives with department specializations.

Applications for graduate appointments must be received by January 1. Applications for fellowships are due by January 15.

Career Advancement

Graduates hold positions on college and university faculties, in private research organizations, and in business and government.

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in urban and regional planning. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

Geography majors also are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The application of GIS to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Geography, Ph.D.

The Doctor of Philosophy program in geography focuses on investigating the environmental consequences of human decisions, the social implications of environmental change, and the geographic information science that enables these studies. Central to the department's studies are the theories, methods, and models of environmental, social, and geographic information science. Within this broad domain, the department is developing strengths in environmental justice, environmental modeling, GIScience and GIS, land use and its environmental consequences, and health geography.

The department provides opportunities for graduate students to gain practical experience through service as departmental teaching or research assistants. Graduate students often present their research at professional conferences and publish their work in academic journals. These presentations and papers can be the product of independent research or research projects led by a faculty member.

Requirements

The Doctor of Philosophy with a major in geography requires 72 s.h. of graduate credit and is designed to be completed in four or five years. The degree prepares students for college and university teaching and for advanced research. It provides study programs that lead to broad knowledge of a field of geography and its literature and to special expertise in a subfield.

Students may enter the Ph.D. program upon completing an undergraduate degree or with advanced standing corresponding to previous graduate education.

All Ph.D. students take the following courses. They take GEOG:7000 Geography Colloquium (1 s.h.) each semester they are in residence.

Code	Title	Hours
GEOG:5010	Fundamentals of Geography	3
GEOG:5050	Research and Writing in Geography	3
GEOG:7000	Geography Colloquium (taken each semester)	1
Two courses in geography numbered above GEOG:5001		6
Two research seminars chosen from GEOG:6500 through GEOG:6900; each course for 3 s.h.		6

Students complete a set of research milestones, including a research paper, an area of concentration bibliography, and a written qualifying examination in the discipline. With the approval of the dissertation advisor, each student submits a dissertation proposal to the dissertation committee for critical comments, oral questioning, and approval. Once the dissertation is completed, an oral defense of the dissertation is held.

More detailed information about Ph.D. requirements is provided in the department's Manual for Graduate Degree Requirements; contact the Department of Geographical and Sustainability Sciences.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

A bachelor's degree with a major in geography is not required, but applicants must have an undergraduate background relevant to the field. Strength in social science, environmental science, or geographic information science and interest in exploring the spatial perspectives that characterize modern geography are important in admission decisions. Depending on their prior training, graduate students may be required to take courses that are prerequisites for course work in their chosen area of graduate study; credit earned in prerequisites does not count toward the graduate degree.

Application materials should include an undergraduate transcript with grade-point average, scores on the Graduate Record Examination (GRE) General Test, three letters of recommendation, and an essay in which applicants state their reasons for wanting to study geography at the University of Iowa.

Applicants whose first language is not English must take the Test of English as a Foreign Language (TOEFL). Their scores must be provided to the University's Office of Admissions.

New graduate students whose first language is not English are required to take a speaking proficiency test when they arrive at the University; eventually they take the English Language Performance Test (ELPT). Students must be fully certified by the ELPT before they begin their fourth semester in order to be considered for funding in succeeding semesters. Students who do not pass the tests are required to take Teaching Assistant Preparation in English (TAPE) courses until they have achieved proficiency in spoken English.

Financial Support

A number of graduate teaching and research assistantships are available. In addition, outstanding applicants and underrepresented minorities are eligible for several fellowships. Awards are based on merit. In giving awards, the department pays particular attention to grade-point average, especially for the junior and senior years; score on the Graduate Record Examination (GRE) General Test; letters of recommendation; and fit of a student's objectives with department specializations.

Applications for graduate appointments must be received by January 1. Applications for fellowships are due by January 15.

Career Advancement

The Doctor of Philosophy program prepares students to carry on creative and productive research in selected areas of geography. University of Iowa graduates hold positions on college and university faculties, in private research organizations, and in business and government.

Geography majors are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The application of GIS to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14

high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

German

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Chair, Department of German

- Russell Ganim

General Education Language Coordinator

- Bruce H. Nottingham-Spencer

Undergraduate major: German (B.A.)

Undergraduate minor: German

Graduate degree: M.A. in German

Faculty: <https://clas.uiowa.edu/dwllc/german/people>

Website: <https://clas.uiowa.edu/dwllc/german>

The Department of German introduces students to the cultures of Germany, Austria, and Switzerland, including migration to and from those countries, providing an understanding of the historical and contemporary importance of them in a globalized world. The department facilitates development of proficiency in German and fosters critical appreciation of the cultures associated with it, serves to promote awareness of the diversity of languages and cultures worldwide, and to teach skills that are critical for students to become responsible global citizens. The Department of German supports outreach, extracurricular activities, and contributes to the visibility of German-related issues in the state of Iowa, fostering an environment of diversity and inclusion.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in German; see "Language for GE CLAS Core" below. They may satisfy other GE CLAS Core requirements with courses on German literature and culture that are taught in English; look for courses with the prefix GRMN in the area lists under "Culture, Society, and the Arts" in the GE CLAS Core [p. 459] section of the Catalog. GE CLAS Core courses on German literature and culture also are listed with departmental courses taught in English under Courses [p. 524] in this section of the Catalog.

The Department of German is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 336].

Language for GE CLAS Core

The department offers several sequences of German language courses that students in all majors may use to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students who have had experience with German should take the online Placement Test, which helps determine the level at which a student should begin German language study at the University of Iowa. Students with no background in German should begin their study with GRMN:1001 Elementary German I.

The following sequences satisfy the World Languages requirement of the GE CLAS Core. Students using German to satisfy the World Languages requirement should speak with departmental advisors to determine which sequence is best for them.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

or

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2020	Intensive Intermediate German	6

or

Code	Title	Hours
GRMN:1020	Intensive Elementary German	6
GRMN:2020	Intensive Intermediate German	6

or

Code	Title	Hours
GRMN:1010	First-Year German Review	5
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

or

Code	Title	Hours
GRMN:1010	First-Year German Review	5
GRMN:2020	Intensive Intermediate German	6

Programs

Undergraduate Programs of Study

Major

- Major in German (Bachelor of Arts) [p. 527]

Minor

- Minor in German [p. 531]

Graduate Program of Study

Major

- Master of Arts in German [p. 532]

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign

language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

An extensive collection of works and periodicals at University of Iowa Libraries facilitates research in all major areas of German literature and Germanic linguistics and at all levels of study.

The Global Mosaic Living Learning Community is an on-campus housing option of special interest to undergraduate world languages students.

Courses

Graduate students not pursuing a degree in German may take GRMN:1020 Intensive Elementary German and GRMN:2020 Intensive Intermediate German. Those courses do not count for graduate credit.

German Courses

GRMN:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first or second semester standing.

GRMN:1001 Elementary German I 4 s.h.
Understanding and speaking "everyday German"; reading and writing skills; acquaintance with the German-speaking world through discussion, readings, videos. GE: World Languages First Level Proficiency.

GRMN:1002 Elementary German II 4 s.h.
Continuation of GRMN:1001. Prerequisites: GRMN:1001. GE: World Languages Second Level Proficiency.

GRMN:1010 First-Year German Review 5 s.h.
Accelerated course in preparation for third-semester German. Requirements: at least two years of high-school German. GE: World Languages Second Level Proficiency.

GRMN:1020 Intensive Elementary German 4,6 s.h.
Elementary German I and II combined in one intensive course. GE: World Languages Second Level Proficiency.

GRMN:1040 German for Travelers 2 s.h.
Basic German skills for tourists; for students with no previous knowledge of German.

GRMN:1100 Contraception Across Time and Cultures 3 s.h.
Methods and history of contraception and abortion; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Same as CLSA:1100, GHS:1100, GWSS:1100, WLLC:1100.

GRMN:1200 Disability and Inclusion in Film and Writing Around the World

 3 s.h.

Exploration of human experiences of dis/ability and exclusion/inclusion as represented in recent international film and popular writing from Europe, Latin America, Asia, Africa, and the Middle East; how these experiences contribute to and reflect awareness of the challenges of disabilities as well as public policy; strategies that filmmakers and authors deploy to contain, complicate, and challenge cultural preconceptions of the disabled body; how disability intersects with other major identity categories (i.e., sexuality, nationality, race); tools for researching history, policy, and activism. GE: Diversity and Inclusion. Same as DST:1200, GHS:1200, WLLC:1200.

GRMN:1500 German Cultural Activities

 1 s.h.

Attendance and participation at events related to culture and history of German-speaking countries; reflection papers in English; includes scholarly talks, film screenings, art exhibits, literary readings, and music or theater performances; most events in English.

GRMN:2001 Intermediate German I

 4 s.h.

Proficiency in spoken and written German; German-speaking cultures of central Europe, their historical background; emphasis on refinement of reading skills. Prerequisites: GRMN:1020 or GRMN:1002 or GRMN:1010. GE: World Languages Second Level Proficiency.

GRMN:2002 Intermediate German II

 4 s.h.

Continuation of GRMN:2001. Prerequisites: GRMN:2001. GE: World Languages Fourth Level Proficiency.

GRMN:2020 Intensive Intermediate German

 4-6 s.h.

Intermediate German I and II combined in one intensive course. Prerequisites: GRMN:1002 or GRMN:1020 or GRMN:1010. GE: World Languages Fourth Level Proficiency.

GRMN:2248 The Invention of Writing: From Cuneiform to Computers

 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

GRMN:2550 Mardi Gras and More: Cultures of Carnival

 3-4 s.h.

Literature and customs associated with carnival from antiquity through present day; readings on theories of carnivalesque (Mikhail Bakhtin, Peter Burke, and others); materials from three distinct carnival cultures—Renaissance Europe (François Rabelais, German carnival plays), 19th-century New Orleans, and present day Rio de Janeiro. GE: Values and Culture. Same as WLLC:2550.

GRMN:2618 The Third Reich and Literature

 3-4 s.h.

Nazi literature, literature of the Holocaust and the Opposition, and exile literature in English translation. Taught in English. GE: Values and Culture. Same as CL:2618.

GRMN:2620 Anne Frank and Her Story 3-4 s.h.

Analysis of the *Diary of Anne Frank*, its media adaptations, and related materials (e.g., fictionalizations, additional first-hand accounts); examination of Holocaust in the Netherlands, Belgium, and other countries outside Germany; anti-Semitism, discrimination, tolerance, resistance, identity formation, human aspiration and belief. GE: Diversity and Inclusion.

GRMN:2630 German Cinema: Greatest Hits 3-4 s.h.

Overview of German cinema; expressionist film of the Weimar Republic; Nazi cinema; post-war cinema; East German film; New German Cinema; post-unification and contemporary cinema. Taught in English. GE: Literary, Visual, and Performing Arts.

GRMN:2650 German Nationalism After WWII 3-4 s.h.

Introduction to contemporary nationalism and national identity in context of modern Germany; examination of various theories on nationalism. Taught in English. GE: Values and Culture.

GRMN:2655 Muslim Minorities in the West 3-4 s.h.

Introduction to lives of Muslim immigrants in the USA, France, Germany, and England; examination of various theories on multiculturalism. Taught in English. GE: Values and Culture. Same as IS:2600.

GRMN:2660 Magic Mirrors, Self-Discovery, and Murder: Gender Trouble in German Literature 3-4 s.h.

German literature since Romantic era as an intensifying battle of wits over language in which gender has played a central role; a stark rift open where literary space offers much less hospitable conditions to women writers than to men; exploration of gendered fault line that runs through literary space; how women writers respond to and rewrite language that confronts them; readings from German literary texts (in English translation) from 1800 to present; emphasis on writings of women supplemented with key texts by major authors to which they respond and reread; knowledge of German not required. Same as CL:2660.

GRMN:2666 Pact with the Devil 3-4 s.h.

Since early modern times, the pact with the devil has served as a metaphor for humankind's desire to surpass the limits of knowledge and power; students explore a variety of works from German, British, and Russian literature and culture from early modern time to the present, and critique different twists that fascination with the forbidden takes in regard to women. Taught in English. Requirements: RHET:1030 or completion of GE CLAS Core Rhetoric. GE: Literary, Visual, and Performing Arts. Same as CL:2666.

GRMN:2675 The Politics of Memory: Holocaust, Genocide, and 9/11 3-4 s.h.

How contested legacies of genocide, global violent conflict, and 9/11 continue to pose an urgent and generationally mediated challenge for critical politics of memory; various approaches to effective or failed coming-to-terms with injurious and difficult past (e.g., Holocaust, Armenian genocide); analysis of museums, sites of memory, and art work. Taught in English. GE: Diversity and Inclusion.

GRMN:2720 Germany in the World 3-4 s.h.

The Federal Republic of Germany's increasing prominence in post-Cold War international affairs, against backdrop of 20th-century history. Taught in English. GE: International and Global Issues. Same as HIST:2420.

GRMN:2770 Norse Mythology: Gods, Heroes, and Monsters of Northern Europe 3-4 s.h.

Introduction to Norse mythology and related West Germanic mythologies; readings from primary sources in translation (Prose Edda, Poetic Edda, Icelandic sagas); social, historical, and geographic context in northern Europe; reception of Norse mythology in 19th and 20th centuries; incorporation of figures and themes from Norse mythology in works ranging from opera to fantasy fiction and comic books. Taught in English.

GRMN:2775 Scandinavian Crime Fiction 3 s.h.

Contemporary Scandinavian crime novel in its literary, historical, geographic, cultural, and social context. Taught in English. GE: Literary, Visual, and Performing Arts.

GRMN:2785 Cyborgs, Monsters, and the Uncanny 3-4 s.h.

Themes of the fantastic and supernatural in German literature; works by well-known authors from 18th century to present (Goethe to Kafka, the Romantics, *Magic Flute* to latest science fiction or fantasy) in historical context; writers' struggle to define and maintain themselves through tumultuous social and personal changes. GE: Literary, Visual, and Performing Arts.

GRMN:3010 Stories in German 3 s.h.

Stories and other relatively short prose by representative authors; discussion and response; varied topics. Taught in German. Prerequisites: GRMN:2002.

GRMN:3103 Composition and Conversation I 3 s.h.

Improvement of overall language ability with particular emphasis in areas of speaking and writing; students explore German crime fiction or another genre of popular writing—an entertaining way to build language skills; may include vocabulary-building activities and review of selected grammar topics. Requirements: GRMN:2002 or GRMN:2020.

GRMN:3104 Composition and Conversation II 3 s.h.

Improvement of general language abilities with emphasis in areas of speaking, writing, and vocabulary; content drawn from newspapers, magazines, internet, television, recent films, and social media; students also have the opportunity to explore individual interests. Requirements: GRMN:2002 or GRMN:2020.

GRMN:3200 Literary Translation from German 3 s.h.

Workshop and seminar on translating from German to English; emphasis on literary translations and studying existing translations; special issues of German as a source language for translation into English. Requirements: prior completion of two German courses at the 3000 level or above. Same as TRNS:3200.

GRMN:3214 Business German 3 s.h.

World of German business, role of German-speaking countries in world trade; emphasis on German business protocol, correspondence. Taught in German. Requirements: GRMN:2002 or GRMN:2020.

GRMN:3236 German Film 3 s.h.

Overview 1925-1987; examples of avant-garde films of the Weimar Republic, propagandist filmmaking from the Third Reich, filmmaking traditions of the German Democratic Republic (GDR) and the Federal Republic of Germany (FRG). Requirements: GRMN:2002 or GRMN:2020.

GRMN:3250 Brief Texts About Big Events 3 s.h.

Twentieth-century German literature in context of major historical events. Taught in German. Requirements: GRMN:2002 or GRMN:2020.

- GRMN:3405 German Cultural History** 3 s.h.
Emphasis on mythical historical persons and places. Taught in German. Prerequisites: GRMN:3104 or GRMN:3103 or GRMN:3501.
- GRMN:3501 German Writers Engaged** 3 s.h.
Literary works from various genres. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3550 The Politics of Remembrance in German Multicultural Literature and Film** 3 s.h.
Exploration of contemporary literary texts and films by multicultural German authors and filmmakers who deal critically with German collective memory and the politics of remembrance. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3845 The Structure of German** 3 s.h.
Structure analysis of German words and sentences; emphasis on vocabulary expansion and writing with increased grammatical accuracy and complexity; can be taken concurrently with other German courses numbered above GRMN:2002. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3855 The Sounds of German** 3 s.h.
Analysis of sounds and sound system of German; practice in listening and speaking. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3865 History of the German Language** 3 s.h.
History of the German language; its Indo-European roots, important characteristics of the language's major periods. Prerequisites: GRMN:3103 or GRMN:3501 or GRMN:3104.
- GRMN:4315 Contemporary German Civilization** 3 s.h.
Government and political structure, economy, mass media, education, social and cultural life of Germany, Austria, Switzerland from the end of World War II to present. Taught in German. Offered spring semesters of odd years. Prerequisites: GRMN:3501 or GRMN:3103 or GRMN:3104. GE: International and Global Issues.
- GRMN:4512 Topics in Global and Transnational Culture** 3-4 s.h.
In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as ARAB:4512, WLLC:4512.
- GRMN:4540 Literature in Film** 3 s.h.
Representative texts of German literature with film adaptations as specific readings. Taught in German. Requirements: GRMN:3501 or one upper-level literature/culture course taught in German.
- GRMN:4730 Beautiful Souls and Scandalous Writing** 3 s.h.
Varied works of and about the 18th century; fairy tales, plays, short novels, poems, and other texts by authors such as Lichtenberg, Goethe, Naubert, Schiller, Schlegel, Sueskind; gender roles ascribed to women and men. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:4800 Seminar in Comparative Literature** 3 s.h.
Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Same as CL:4800, TRNS:4800, WLLC:4801.
- GRMN:4850 Senior Seminar** arr.
Capstone course for majors in their last year; online graduation portfolio. Prerequisites: GRMN:3103 and GRMN:3104. Requirements: German major and undergraduate standing.
- GRMN:4900 Individual German** arr.
Requirements: German major or minor.
- GRMN:4990 Honors Program in German** 3 s.h.
Individual work in literature, linguistics, and culture. Requirements: three years of college-level German and g.p.a. of at least 3.50 in German.
- GRMN:4991 Honors Research and Thesis** 3 s.h.
Prerequisites: GRMN:4990. Requirements: honors standing.
- GRMN:5000 German Reading for Graduate Students** 3 s.h.
Grammar review, vocabulary building, extensive reading of sophisticated texts. Offered spring semesters. Prerequisites: GRMN:1002 or GRMN:1010 or GRMN:1020. Requirements: non-German graduate standing.
- GRMN:5001 Teaching and Learning Languages** 3 s.h.
Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Same as FREN:5000, SLA:5000, SPAN:5000, WLLC:5000.
- GRMN:6635 Crossing Borders Seminar** 2-3 s.h.
Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.
- GRMN:6920 Multimedia and Second Language Acquisition** 3 s.h.
Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Same as FREN:6920, SLA:6920, SPAN:6920.
- GRMN:7000 Advanced Studies** arr.
Special problems in German literature and linguistics. Requirements: German graduate standing.

German, B.A.

Learning Outcomes

The B.A. in German is directed toward graduates' ability to converse effectively in German; to write coherent short texts; to interpret literary, cultural, and linguistic phenomena; and to exhibit an understanding of alternate cultural perspectives.

- **Interpersonal Speaking:** Capacity to engage effectively in conversations in German on a range of topics, recount events and personal experiences, and produce explanations and descriptions (Intermediate High on the ACTFL scale).
- **Writing:** Capacity to produce a cohesive piece of writing in German, such as an essay, a paper, or a narrative.
- **Interpretation and Analysis:** Capacity to critically interpret and analyze literary texts and other cultural artifacts written in German using appropriate sources to support their arguments.
- **Cultural Understanding:** Capacity to demonstrate understanding of alternative cultural perspectives acquired through course work, study abroad, and other cross-cultural experiences.

Overview

The department offers a comprehensive undergraduate program of study in German with emphases in the culture, literature, and language of Germany, Austria, and German-speaking Switzerland. It prepares students to use German that displays intercultural competency in fields as diverse as international business, teaching, engineering, medicine, music, museum studies, and linguistic or literary study.

Requirements

The Bachelor of Arts with a major in German requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students who plan to earn licensure to teach in elementary and/or secondary schools should see "Teacher Licensure" below.

A maximum of 15 s.h. of approved transfer credit may be counted toward the major, including study abroad course work. However, students may count up to 21 s.h. earned from the Academic Year in Freiburg program toward the major in German.

Students who begin a German major with no previous German language experience must complete the following courses or their equivalents.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

This requirement also may be satisfied by various combinations of GRMN:1010 First-Year German Review, GRMN:1020 Intensive Elementary German, and GRMN:2020 Intensive Intermediate German.

The 30 s.h. required for the major must include at least five German courses numbered 3000 or above taken at

the University of Iowa. Note: GRMN:3501 German Writers Engaged (or equivalent) is prerequisite for some other German literature courses.

The B.A. with a major in German requires the following course work.

Code	Title	Hours
Core Courses		6
Linguistics Course		3
Literature Course		3
Culture Course		3
Capstone Course		3
Electives		12
Total Hours		30

Core Courses

GRMN:3103 and GRMN:3104 can be taken in any order.

Code	Title	Hours
Two of these:		
GRMN:3103	Composition and Conversation I	3
GRMN:3104	Composition and Conversation II	3
GRMN:3845	The Structure of German	3

Linguistics Course

Code	Title	Hours
One of these:		
GRMN:3855	The Sounds of German	3
GRMN:3865	History of the German Language	3

Literature Course

Code	Title	Hours
This course:		
GRMN:3501	German Writers Engaged	3

Culture Course

Code	Title	Hours
One of these:		
GRMN:3405	German Cultural History	3
GRMN:4315	Contemporary German Civilization	3

Capstone Course

Code	Title	Hours
This course:		
GRMN:4850	Senior Seminar	3

Electives

Code	Title	Hours
Four electives chosen from Department of German courses (prefix GRMN), with at least two numbered 3000-4999		12

Students may count a maximum of two Department of German courses taught in English and numbered 2500-2999 toward the major by registering for 4 s.h. of credit for each course instead of 3 s.h.; the additional 1 s.h. of credit reflects

an added research component. See "German in Translation Courses" below. Courses taught in English that are taken for 3 s.h. do not count toward the major in German (e.g. GRMN:2248 The Invention of Writing: From Cuneiform to Computers, GRMN:4800 Seminar in Comparative Literature, and so on). Courses numbered at the 1000 level do not count toward the major.

With the approval of the departmental director of undergraduate studies, students also may apply one course from the University of Iowa Honors Program to the requirements of the major when that course concerns German culture or language.

German majors are urged to supplement their degree programs with relevant courses in areas such as German history, philosophy, and business.

German Studies in Translation Courses

Code	Title	Hours
Students may use two of the following courses toward the major (some also may apply toward GE CLAS Core requirements):		
GRMN:2550	Mardi Gras and More: Cultures of Carnival	4
GRMN:2618	The Third Reich and Literature	4
GRMN:2620	Anne Frank and Her Story	4
GRMN:2630	German Cinema: Greatest Hits	4
GRMN:2650	German Nationalism After WWII	4
GRMN:2655	Muslim Minorities in the West	4
GRMN:2660	Magic Mirrors, Self-Discovery, and Murder: Gender Trouble in German Literature	4
GRMN:2666	Pact with the Devil	4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	4
GRMN:2720	Germany in the World	4
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	4
GRMN:2785	Cyborgs, Monsters, and the Uncanny	4

Study Abroad

There are a number of opportunities for study in Germany, Switzerland, and Austria. For German majors, the following program is most recommended:

The Department of German participates in an academic year abroad program for undergraduate students at the Albert Ludwig University of Freiburg, in Germany. The Freiburg program is offered by a consortium made up of the University of Iowa, Michigan State University, the University of Michigan, and the University of Wisconsin-Madison.

Students arrive during the first week of September and participate in a four-week intensive language program. Then they take a blend of special program classes and regular German university courses. Organized field trips are designed to give students a broader perspective on German culture.

Vacation periods permit extensive travel throughout Europe, and students are encouraged to use weekends for shorter trips in the region.

To apply, students must have reached at least sophomore standing by the beginning of the program, have completed at least the first four semesters of college German or the equivalent with a g.p.a. of at least 3.00 in German, and be in good academic standing at a U.S. college or university.

Students earn resident credit in all courses successfully completed in the program. They may count up to 21 s.h. earned at Freiburg toward the major.

For more information about study abroad opportunities, contact the Department of German or International Programs Study Abroad.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students who plan to use their work toward a German minor as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Combined Programs

B.A./M.A.

The combined B.A./M.A. in German is appropriate for students who enter the University from high school with advanced German language preparation. It is attractive to highly motivated students who plan to study abroad and who plan to pursue a Ph.D. in German or second language acquisition. It may serve as preparation for other programs, such as those related to international studies, library science, business with an international focus, or international relations. Students seeking careers in teaching or other fields may pursue the combined degree as a credential.

Combined program students must fulfill all requirements for the B.A. They ordinarily spend two semesters in their junior year enrolled in the study abroad program at the University of Freiburg, in Germany (see "Study Abroad" under Requirements [p. 527] in this section of the Catalog), unless they have satisfied this requirement another way (e.g., a year abroad during high school or another study abroad program with similar content).

During the last two semesters of their senior year, they may take up to 12 s.h. of graduate-level course work that counts toward both degrees (6 s.h. toward required courses and 6 s.h. toward electives) and they can take graduate-level German courses while they are still undergraduates. Once they complete all B.A. requirements, they complete the remaining M.A. requirements. Students may complete both degrees in five years.

Students must maintain an undergraduate German g.p.a. of at least 3.50; if they fail to meet this standard for more than one semester, they may be required to leave the program. They

must have an overall undergraduate g.p.a. of at least 3.00 when they achieve graduate standing.

Students pay undergraduate tuition and fees during their first semester in the combined program (normally their seventh semester); beginning with their second semester in the combined program (normally their eighth semester), they begin paying graduate tuition and fees. Students may hold a graduate appointment beginning with their second semester in the combined program.

Applicant Requirements

Applicants to the joint program must:

- be University of Iowa undergraduate students;
- be admitted before the beginning of their seventh semester (senior year);
- have completed 80 s.h. or be in the process of completing at least 90 s.h. of undergraduate work;
- have completed, or be in the process of completing, at least 21 s.h. of courses in the German major numbered 3000 or above;
- have a g.p.a. of at least 3.50 at the time of application (or have a letter from a Department of German faculty member recommending an exception); and
- have completed, or be in the process of completing at the time of application, a study abroad program in a German-speaking country or have satisfied this requirement in another way.

Honors

Honors in the Major

Exceptional students have the opportunity to pursue honors study in the major and to graduate with honors in the major. Students must have completed three years of college-level German, or the equivalent, with a g.p.a. of at least 3.50 in upper-level German courses.

Students must register for GRMN:4990 Honors Program in German and must meet regularly with their faculty director of studies. They are expected to engage in readings and discussions in German linguistics, literature, or culture and to write essays in German and English. Honors courses are subject to the same limits on courses taught in English as are Department of German courses; students should consult the faculty director of undergraduate studies. Students also must complete honors research and write an honors thesis, registering for GRMN:4991 Honors Research and Thesis. They complete their honors requirements by presenting their honors thesis to a faculty committee of at least three members. The courses, GRMN:4990 and GRMN:4991, will count toward the 30 s.h. for the major.

If students complete 6 s.h. in elective course work as honors contract research in university-level courses taught in German during their study abroad work, that work may be considered equivalent to GRMN:4990 Honors Program in German; students should consult the faculty director of undergraduate studies.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the German major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: language competency equal to first-year German

Before the fifth semester begins: language competency equal to second-year German

Before the seventh semester begins: four courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester: two or three additional courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

German, B.A.

Course	Title	Hours
First Year		
Fall		
GRMN:1001	Elementary German I ^{a, b, c}	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^e		2
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
GRMN:1002	Elementary German II ^{a, b, c}	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^e		2
Hours		15-16
Second Year		
Fall		
GRMN:2001	Intermediate German I ^{a, b, c}	4
GE CLAS Core: Literary, Visual, and Performing Arts		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
Elective course ^e		3
Elective course ^e		2
Hours		15

Spring

GRMN:2002	Intermediate German II ^{a, b, c}	4
Elective course ^e		3
GE CLAS Core: Natural Sciences with Lab ^d		4
GE CLAS Core: International and Global Issues ^d		3
Elective course ^e		1
Hours		15

Third Year**Fall**

GRMN:3104 or GRMN:3845 or GRMN:3103	Composition and Conversation II or The Structure of German or Composition and Conversation I	3
GRMN:3501	German Writers Engaged	3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

GRMN:3845 or GRMN:3104 or GRMN:3103	The Structure of German or Composition and Conversation II or Composition and Conversation I	3
GRMN:3865 or GRMN:3855	History of the German Language or The Sounds of German	3
GRMN:4315 or GRMN:3405	Contemporary German Civilization or German Cultural History	3
Elective course ^e		3
Elective course ^e		3
Hours		15

Fourth Year**Fall**

GRMN:4850	Senior Seminar	3
Major: German elective course numbered 2500 or above ^g		3
Major: German elective course numbered 2500 or above ^g		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

Major: German elective course numbered 2500 or above ^g		3
Major: German elective course numbered 2500 or above ^g		3
GE CLAS Core: Social Sciences ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Total Hours 119-121

- a GRMN:1001, GRMN:1002, GRMN:2001, and GRMN:2002 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.

- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f GRMN:3103 and GRMN:3104 can be taken in any order.
- g German elective courses can be taken from prefix GRMN numbered 2500-4999. Up to two courses taught in English for 4 s.h. of credit may be taken for credit towards the major.

Career Advancement

Completion of a German major ensures that students enter their professional lives as informed global citizens with a strong skill set in cross-cultural literacy. German is spoken by an estimated 126 million people, giving it the largest number of native speakers in the European Union. Germany has the third largest economy across the globe and was until recently the largest export nation in the world.

German majors also gain a greater appreciation of Iowa history by studying German immigration to the state. Course work builds strong reading, communication, and teamwork skills, which are sought by many employers. Graduates in this area of study frequently enter the teaching profession. They also find positions in government, foreign service, and commercial enterprises.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

German, Minor

The undergraduate minor in German requires a minimum of 15 s.h. in college-level German courses, including at least 12 s.h. in courses taken at the University of Iowa. All Department of German courses numbered 3000 or above count toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor may include a maximum of 3 s.h. in Department of German courses numbered 2002-2100 (e.g., GRMN:2002 Intermediate German II). It must include 9 s.h. in Department of German courses (prefix GRMN) numbered 3000 or above.

Students may count one Department of German course taught in English and numbered 2500-2999 toward the minor by registering for 4 s.h. of credit for the course instead of 3 s.h.; the additional 1 s.h. of credit reflects an added research component. See "German in Translation Courses" below. View 3000-level course selections (prefix GRMN) under Courses [p. 524] in this section of the Catalog. Courses taught in English that are taken for 3 s.h. do not count toward the minor in German (e.g. GRMN:2248 The Invention of Writing: From Cuneiform to Computers, GRMN:4800 Seminar in Comparative Literature, and so on). Courses numbered at the 1000 level do not count toward the minor.

With the approval of the departmental director of undergraduate studies, students also may apply one course from the University of Iowa Honors Program to the requirements of the minor when that course concerns German culture or language.

With the approval of the director of undergraduate studies, students may count up to 6 s.h. earned in study abroad toward the minor.

German in Translation Courses

Code	Title	Hours
Students may use one of the following courses toward the minor (some also may apply toward GE CLAS Core requirements):		
GRMN:2550	Mardi Gras and More: Cultures of Carnival	4
GRMN:2618	The Third Reich and Literature	4
GRMN:2620	Anne Frank and Her Story	4
GRMN:2630	German Cinema: Greatest Hits	4
GRMN:2650	German Nationalism After WWII	4
GRMN:2655	Muslim Minorities in the West	4
GRMN:2660	Magic Mirrors, Self-Discovery, and Murder: Gender Trouble in German Literature	4
GRMN:2666	Pact with the Devil	4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	4
GRMN:2720	Germany in the World	4
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	4

GRMN:2785	Cyborgs, Monsters, and the Uncanny	4
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Study Abroad

There are a number of opportunities for study in Germany, Switzerland, and Austria.

The Department of German participates in an academic year abroad program for undergraduate students at the Albert Ludwig University of Freiburg, in Germany. The Freiburg program is offered by a consortium made up of the University of Iowa, Michigan State University, the University of Michigan, and the University of Wisconsin-Madison.

Students arrive during the first week of September and participate in a four-week intensive language program. Then they take a blend of special program classes and regular German university courses. Organized field trips are designed to give students a broader perspective on German culture. Vacation periods permit extensive travel throughout Europe, and students are encouraged to use weekends for shorter trips in the region.

To apply, students must have reached at least sophomore standing by the beginning of the program, completed at least the first four semesters of college German or the equivalent with a g.p.a. of at least 3.00 in German, and be in good academic standing at a U.S. college or university.

Students earn resident credit in all courses successfully completed in the program. Some credit will count toward the minor; students should consult a German advisor.

For more information about study abroad opportunities, contact the Department of German or International Programs Study Abroad.

German, M.A.

Requirements

The Master of Arts program in German requires a minimum of 33 s.h. of graduate credit. It is offered with or without thesis.

M.A. students choose one of two concentrations: German literature or Germanic linguistics. The German literature concentration requires seven literature courses (21 s.h.) and four linguistics courses (12 s.h.). The Germanic linguistics concentration requires seven linguistics courses (21 s.h.) and four literature courses (12 s.h.).

M.A. students are expected to complete at least 24 s.h. in the Department of German. All M.A. course work taken outside the department requires the graduate advisor's approval.

Before taking the M.A. exam, students must demonstrate reading knowledge of a foreign language other than German, at a level equivalent to two years of college study or four years of high school study. Students may demonstrate competence by submitting proof that they have taken the required course work with a g.p.a. of at least 3.00 or by passing an exam at the fourth-semester college level, as determined by the appropriate language department.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Teaching assistantships, research assistantships, and partial tuition scholarships are available for qualified graduate students. The department awards the Wilson and the Funke prizes to students of distinction.

Career Advancement

Graduates in this area of study frequently enter the teaching profession. They also find positions in government, foreign service, and commercial enterprises.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Global Health Studies

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, Global Health Studies

- Mariola Espinosa (History)

Associate Director, Global Health Studies

- Karmen R. Berger

Undergraduate major: global health studies (B.A., B.S.)

Undergraduate minor: global health studies

Undergraduate certificate: global health studies

Graduate certificate: global health studies

Faculty: <https://clas.uiowa.edu/global-health-studies/people/faculty>

Website: <https://clas.uiowa.edu/global-health-studies/>

The Global Health Studies Program (GHSP) offers an interdisciplinary approach to the study of the complex factors influencing health and disease locally and around the world.

The academic curriculum builds upon the humanities, social sciences, and health sciences to help students understand underlying forces—such as history, culture, gender and sexuality, economics, politics, race and ethnicity, the environment, law, and technology—which lead to health disparities worldwide. The GHSP offers a B.A. and B.S. degree, an undergraduate minor, and an undergraduate and graduate certificate.

The program offers experiential learning opportunities such as study abroad, internships, research, service learning, and capstone courses which allow students to develop real world skills related to major global health issues. These experiences help students define and achieve their post-graduation goals.

Global health studies graduates find employment in a range of global health-related sectors such as nonprofit organizations, immigrant and refugee health, community-based health education, governmental agencies, health policy, and advocacy. Global health studies alumni also have gone on to graduate and professional programs in public health, international development, medicine, pharmacy, nursing, law, urban and regional planning, sustainable agriculture, nonprofit management, and public administration.

The Global Health Studies Program is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

The College of Liberal Arts and Sciences awards the undergraduate degrees, the certificate, and the minor; the Graduate College confers the graduate certificate.

Activities and Resources

University of Iowa global health studies faculty members conduct research at a variety of sites worldwide, including South India, Haiti, South Africa, the Caribbean, Mexico, and Romania. Students in the program are eligible to participate in experiential learning activities at those locations, as well as at other sites. A variety of funding resources are available, including the Stanley Award for undergraduate and graduate research. Contact the Global Health Studies Program for details.

Programs

Undergraduate Programs of Study

Majors

- Major in Global Health Studies (Bachelor of Arts) [p. 539]
- Major in Global Health Studies (Bachelor of Science) [p. 544]

Minor

- Minor in Global Health Studies [p. 549]

Certificate

- Certificate in Global Health Studies [p. 550]

Graduate Program of Study

Certificate

- Certificate in Global Health Studies [p. 551]

Courses

- Associated Courses [p. 533]
- Global Health Studies Courses [p. 534]

Associated Courses

In addition to courses offered by the Global Health Studies Program (see "Global Health Studies Courses" below), students may use the following courses to complete requirements for the certificate or minor.

Code	Title	Hours
Aging and Longevity Studies		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
Anthropology		
ANTH:3118/ GWSS:3118	Politics of Reproduction	3
Community and Behavioral Health		
CBH:5220	Health Behavior and Health Education	3
Economics		
ECON:3760	Health Economics	3
English		
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
History		
HIST:1016	The History That Made Our World (when topic is health in the Global South)	3
HIST:4100	Historical Background of Contemporary Issues (when topic is crisis intervention by the CDC, WHO, and MSF)	2

Nursing

NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
Occupational and Environmental Health		
OEH:4240	Global Environmental Health	3
Public Health		
CPH:1400	Fundamentals of Public Health	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:4200	Agriculture and the Environment	3
Sociology		
SOC:4902	Selected Topics in Family, Health, and Well-Being (when topic is global health care systems)	3

Global Health Studies Courses

GHS:1029 First-Year Seminar 1 s.h.

Introduction to intellectual life of the University; opportunity to work closely with a faculty member or senior administrator; active participation to ease transition to college-level learning.

GHS:1100 Contraception Across Time and Cultures 3 s.h.

Methods and history of contraception and abortion; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Same as CLSA:1100, GRMN:1100, GWSS:1100, WLLC:1100.

GHS:1181 Ancient Medicine 3 s.h.

Thematic examination of theories and practices of Greco-Roman physicians, which in turn became the medical tradition of medieval Islamic world and European medicine until mid-19th century; historical medical terms, theories, and practices. GE: Historical Perspectives. Same as CLSA:1181.

GHS:1200 Disability and Inclusion in Film and Writing Around the World 3 s.h.

Exploration of human experiences of dis/ability and exclusion/inclusion as represented in recent international film and popular writing from Europe, Latin America, Asia, Africa, and the Middle East; how these experiences contribute to and reflect awareness of the challenges of disabilities as well as public policy; strategies that filmmakers and authors deploy to contain, complicate, and challenge cultural preconceptions of the disabled body; how disability intersects with other major identity categories (i.e., sexuality, nationality, race); tools for researching history, policy, and activism. GE: Diversity and Inclusion. Same as DST:1200, GRMN:1200, WLLC:1200.

GHS:1290 Native American Foods and Foodways 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, HIST:1290, NAIS:1290.

GHS:1700 Global Health Nursing 3 s.h.

Complexity of health and nursing in a global context; overview of the biological, social, epigenetic, and environmental contributors to health and diseases in populations around the world and nursing's role in improving health; includes case studies of various global organizational and educational structures and systems relative to population health, selected infectious diseases, nutritional deficiencies, and health effects of environmental change. Same as NURS:1700.

GHS:2000 Introduction to Global Health Studies 3 s.h.

Global health as a study of the dynamic relationship between human health and social, biological, and environmental factors that drive the spread of disease; core areas of global health research that may include health inequalities, maternal and child health, infectious diseases, nutrition, environmental health, and health interventions. Same as ANTH:2103.

GHS:2080 The Cultural Politics of HIV-AIDS 3 s.h.

Complex historical shifts in cultural perceptions about HIV-AIDS in the U.S. and transnationally; controversies around HIV-AIDS and their links with questions of gender and sexuality; how HIV-AIDS subsequently became the basis of a transnational industry comprising nongovernmental organizations, donors, and activists across the global north and south, starting from 1980s in the U.S. when HIV-AIDS first emerged into public sphere as a gay disease; link between HIV-AIDS and ideologies of development or progress, neocolonialism, and emergence of lesbian, gay, bisexual, transgender, intersex, and questioning (LGBTIQ) movements in many parts of world. Recommendations: background in gender studies, and completion of rhetoric or at least one social sciences course. Same as GWSS:2080.

GHS:2090 Medical Spanish in Contemporary Society 4 s.h.

Vocabulary related to medical field; grammatical concepts; health-related cultural competence; discussion of health issues concerning Hispanic communities in the U.S. and abroad. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2090.

GHS:2110 Seven Billion and Counting: Introduction to Population Dynamics 3 s.h.

How dramatic changes to the size of population has changed fundamental characteristics of populations and processes, such as food and water scarcity, climate change and biodiversity, rise of megacities, health and disease, migration, social networks, economics, environment, and household structure. GE: Social Sciences. Same as GEOG:2110.

GHS:2164 Culture and Healing for Future Health Professionals 3 s.h.

Health professions increasingly focused on how to best provide health care to culturally diverse populations; introduction to key cultural and social influences on sickness and healing; worldwide examples. Same as ANTH:2164.

GHS:2181 The Anthropology of Aging 3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ANTH:2181, ASP:2181.

GHS:2182 Africa: Health and Society 3 s.h.

Cultural, political, and economic diversity of African societies from precolonial period to present day; relationship between lived experiences of African people and understanding of their societies from afar; why Africa, more than any other region, is associated with warfare, hunger, and disease; idea of "Africa" in the world today; shared misunderstanding of life on continent contrasted with everyday lives of people who are not so different from ourselves. Same as ANTH:2182.

GHS:2260 Hard Cases in Healthcare at the Beginning of Life 3 s.h.

Exploration of ethical impact that advances in biotechnology—including genetic, reproductive, and neonatal technology—are having in the medical arena and on humanity; consideration of the powerful influence that religion and spirituality have on most people's thinking about life and death. Same as RELS:2260.

GHS:2265 Hard Cases in Healthcare at the End of Life 3 s.h.

Preparation for future healthcare providers to make difficult ethical decisions regarding the end of life; interactive course. Same as RELS:2265.

GHS:2320 Origins of Human Infectious Disease 3 s.h.

Origin and evolution of important infectious diseases in human history; biological evolution of infectious agents and biocultural responses to emerging infectious diseases; primary focus on viruses and bacteria; selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. Same as ANTH:2320.

GHS:2415 Bioethics 3 s.h.

Recent developments in biotechnology and medicine; designer babies and cloning, genetic screening for disease, distributive justice in health care, animal experimentation, physician-assisted suicide, and euthanasia. Same as PHIL:2415.

GHS:2570 Introduction to Islamic Psychology 3 s.h.

Psychology in Islamic civilization; the nature of the human being; pathology, illness, healing, and therapies in the Islamic tradition; Islamic models compared with Euro-American frameworks. Recommendations: basic knowledge of psychology and Islam. Same as IS:2570, RELS:2570.

GHS:2650 Global Reproduction 3 s.h.

History of birth control and work of activists and organizations that emerged to promote it; troubling connections that spawned between reproductive rights and population control movements. Same as GWSS:2650.

GHS:3010 Identifying and Developing a Global Health Project 2-3 s.h.

Review of major components of global health related research process; preparation for a local or international project which addresses a global health issue in a systematic way. Same as IGPI:3011.

GHS:3015 Transnational Sexualities 3 s.h.

How ideas about normative and nonnormative sexuality, gender/sexual identities, and related social movements travel across geographical, political, and cultural boundaries; potentials and limits of using conceptual frameworks (i.e., sexuality, gender, LGBT, queer) across the west and global south; how sexuality always intersects with race, class, nationhood, and transnational systems of power; power structures that shape gender/sexuality through a transnational approach; connection of inequalities within the United States with those across the world. Same as GWSS:3010.

GHS:3020 Proseminar in Global Health 1 s.h.

Important health problems and issues of a global and interrelated nature that affect the developed and developing world.

GHS:3030 Global Health Conference 1 s.h.

Annual conference on major global health issues. Same as CPH:3240.

GHS:3035 Engaging in Global Health 1 s.h.

How to become a participant in promoting health throughout the world; student peers and global health professionals share their experiences in global health; how professionals and volunteers work in a broad variety of settings; working with government-based programs, international organizations (e.g., UNICEF, World Vision), health care agencies, faith-based organizations, industry, and academic institutions; various ways to become engaged and be involved in global health.

GHS:3036 Ethics, Politics, and Global Health 3 s.h.

Ethics of health care policies, delivery systems, and interventions examined globally and locally.

GHS:3040 Health in Mexico 3 s.h.

Use of anthropological perspectives to examine disease, healing systems, and ideas about health and the body in Mexico and its diaspora; relationships between structural conditions and historical and political transformations; ideas about gender and race; chronic and acute disease in Mexico; conquest and disease; racialized bodies; sexual health; biomedicine; shamanism; immigration and health; pollution and narcoviolence; readings in English. Same as ANTH:3111, LAS:3111.

GHS:3050 Global Aging 3 s.h.

Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as ASP:3135, SSW:3135.

GHS:3060 Studies in Complementary and Alternative Medicine 3 s.h.

Rotating topics related to complementary and alternative medicine.

GHS:3070 Hungry Planet: Global Geographies of Food 3 s.h.

Societal and environmental implications of past, current, and future global food supply examined from a geographical perspective; focus on questions of who eats what, where, and why; transformative history of agriculture, modern agribusiness and alternative food supplies, geopolitical implications of food production, food scarcity and rising food costs, urban versus rural agriculture, the obesity epidemic versus malnutrition, and the future of food. Same as GEOG:3070.

GHS:3102 Medical Anthropology 3 s.h.

Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3102, CBH:3102.

GHS:3110 Health of Indigenous Peoples 3 s.h.

Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101. Same as ANTH:3110, NAIS:3110.

GHS:3111 Geography of Health 3 s.h.

Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as GEOG:3110.

GHS:3113 Religion and Healing 3 s.h.

Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, ASIA:3561, RELS:3580.

GHS:3120 Global Maternal and Child Health 3 s.h.

Interdisciplinary approach to health of women and children locally and around the world.

GHS:3131 Health Care and Health Reforms in Russia 3 s.h.

Societal changes and their continuing effect on the Russian health care system since 1991; guest lectures from public health, nursing, medicine, cultural anthropology. Same as RUSS:3131.

GHS:3150 Media and Health 3 s.h.

Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as CBH:3150, JMC:3150.

GHS:3151 The Anthropology of the Beginnings and Ends of Life 3 s.h.

Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3151, ASP:3151.

GHS:3152 Anthropology of Caregiving and Health 3 s.h.

Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ANTH:3152, ASP:3152.

GHS:3170 Visualizing Global Health Through Popular Fiction and Film 3 s.h.

Prominent global health issues visualized through the lens of popular film and fiction; books and film will be used to explore how the public understands various global health topics such as human trafficking, emerging infectious diseases, post-apocalyptic societies, and population control.

GHS:3191 Sustainable Development: India and the Global Context 3 s.h.

Introduction to development in India; critical examination of current discourses on domestic sociological, economic, and ecological environmental effects of the current model of development; taught in Mysore, India.

GHS:3192 Environment and Health in Modern India 3 s.h.

Introduction to India's environmental and health traditions; major contemporary scenarios; taught in Mysore, India.

GHS:3327 The Politics of Progress: NGOs, Development, and Sexuality 3 s.h.

How nonprofit sector increasingly plays a significant role in countering socioeconomic inequalities in the United States and global south; role of nonprofit organizations in relation to governmental policies of development, transnational funders, and ideas of sexual progress; critics of development institutions' arguments that western ideas of progress impose and adversely affect groups they claim to empower, yet also may foster struggles for social justice that go beyond development policy; examination of transnational nonprofit sector in relation to gender/sexuality and how it impacts women and gender/sexual minorities around the world. Recommendations: background in gender studies or social sciences. Same as GWSS:3326.

GHS:3500 Global Public Health 3 s.h.

Exploration of historical, current, and forecasted trends in global public health, the factors influencing health demographics in human populations, sources of health inequalities, and appropriate policy and intervention approaches for addressing global public health challenges. Same as CPH:3500.

GHS:3508 Health in Latin America 3 s.h.

Survey of major topics in Latin American history in relation to development of medicine and public health. Same as HIST:3508, LAS:3508.

GHS:3555 Understanding Health and Disease in Africa 3 s.h.

Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as HIST:3755, IS:3555.

GHS:3560 Global Garbage and Global Health 3 s.h.

Exploration of the fate of waste products as they are burnt, decomposed, landfilled, treated, recycled, reused, dumped on minority communities, or shipped abroad; definition of social and cultural aspects of garbage; students develop an understanding of the link between garbage, human health, and environmental health.

GHS:3600 Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment 1 s.h.

Students work with a UI faculty mentor to articulate an international development project and apply to an international development organization for an internship; students are matched to an organization/project and begin preparation for their internship by communicating with onsite mentor/supervisor.

GHS:3700 Development in a Global Context II: Reflections on Real World Interventions 2 s.h.

Students produce a research paper analyzing their personal internship in an international development program.

GHS:3720 Contemporary Issues in Global Health 3 s.h.

Local and global dimensions of health and disease.

GHS:3760 Hazards and Society 3 s.h.

Examination of the impact and societal responses to natural and technological hazards; using case studies from around the world, students explore relationships between extreme events, human behavior, disaster management, public policy, and technology to understand what makes people and places vulnerable to hazards. Same as GEOG:3760.

- GHS:3780 U.S. Energy Policy in Global Context** 3 s.h.
Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GEOG:3780, HIST:3240.
- GHS:3850 Promoting Health Globally** 3 s.h.
Major global health threats in the United States and abroad; impact of culture, history, economics on health disparities; approaches, programs, policies to remedy them. Requirements: junior or senior standing, or certificate student. Same as HHP:3850.
- GHS:4000 Global Health Studies Service Learning: Local Health is Global Health** 4 s.h.
Service-learning projects with local community organizations; domestic opportunities which offer global health insights.
- GHS:4001 Social Entrepreneurship and Global Health** 3 s.h.
Fundamentals of social enterprise and innovative approaches to improving lives and communities combined with a Global Health Studies focus on social determinants of health; student teams apply their knowledge and skills to projects which support the global health mission of a community partner. Recommendations: one approved global health studies course.
- GHS:4002 Working in Global Health** 3 s.h.
Development of skills needed for careers in global health. Recommendations: junior or higher standing.
- GHS:4100 Topics in Global Health** 1-3 s.h.
Special topics related to global health studies.
- GHS:4120 Global Maternal and Child Health** 3 s.h.
Interdisciplinary approach to health of women and children locally and around the world.
- GHS:4126 International Perspectives: Xicotepec 2-3 s.h.**
Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Requirements: P3 standing. Same as CEE:4788, PHAR:8788, THTR:4265.
- GHS:4140 Feminist Activism and Global Health** 3 s.h.
How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101. Same as ANTH:4140, CBH:4140, GWSS:4140.
- GHS:4150 Health and Environment: GIS Applications** 3 s.h.
Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GEOG:4150, IGPI:4150.
- GHS:4160 History of Public Health** 3 s.h.
State-endorsed measures to avert or control disease in society. Same as HIST:4160.
- GHS:4162 History of Global Health** 3 s.h.
Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as HIST:4162.
- GHS:4180 Climate Change and Health** 3 s.h.
Addressing global health issues affected by climate change through an interdisciplinary lens, drawing from medicine, human psychology, law, history, business, religion, and environmental science; exploring health and disease risk patterns as they vary around the world; examining the major social, economic, political, and related factors contributing to our changing climate and health and security threats; introducing the basic public health and human rights concepts and policies necessary for reducing morbidity and mortality rates among at-risk populations; preparing students to work internationally or domestically to address threats of a changing climate.
- GHS:4230 Health Experience of Immigrants, Migrants, and Refugees** 3 s.h.
Interdisciplinary exploration of the unique health concerns, challenges, and health care experiences of the diverse populations on the move around the world and new to this country; issues to be explored include four overlapping sections—broad overview (definitions, populations, and significant health challenges); health risks and needs of specific sub-populations; patterns of public and private resources and responses; and the local picture (Iowa and Midwest), programs, cases, and concerns.
- GHS:4260 Global Water and Health** 3 s.h.
Overview of global water and health; microbial and toxicant identification, water-related adverse health effects, risk assessment, approaches to reduce water-related disease, distal water-related influences (e.g., global warming), and historic cases. Same as OEH:4260.
- GHS:4340 Global Health and Global Food** 3 s.h.
Practices, patterns, and policies that contribute to the epidemics of obesity, diabetes, and heart disease in wealthy populations; environmental degradation, hunger, and malnutrition among impoverished populations; strategies to meet food and agricultural needs for the world; local/global aspects or perspectives on food/health concerns for Iowa and the international community. Same as HHP:4340.
- GHS:4530 Global Road Safety** 3 s.h.
Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as CPH:4220, OEH:4530.
- GHS:4600 Global Health and Human Rights** 2-3 s.h.
Requirements: sophomore or higher standing.
- GHS:4605 Disease, Politics, and Health in South Asia** 2-4 s.h.
South Asia's long-term success lengthening lives and stopping disease, weighed against its continuing burden of infection, violence, pollution, and class-based suffering. Same as HIST:4605.
- GHS:4770 Environmental Justice** 3 s.h.
Introduction to the field of environmental justice; understanding and addressing the processes that lead poor and marginalized communities to face a disproportionate degree of environmental risks and hazards. Same as GEOG:4770.
- GHS:4900 Approaches to Global Health Studies** 3 s.h.
Global health as a study of the dynamic relationship between human health and social, biological, and environmental factors that drive the spread of disease; core areas of global health research that may include health inequalities, maternal and child health, infectious diseases, nutrition, environmental health, and health interventions.

GHS:4990 Independent Project in Global Health arr.

Independent work completed under the supervision of global health studies faculty.

GHS:4991 Honors Thesis in Global Health Studies 3 s.h.

Completion of honors thesis in consultation with a faculty mentor. Prerequisites: GHS:3010.

GHS:5000 Graduate Seminar in Global Health 2 s.h.

In-depth discussion and analysis of rotating topics pertinent to global health studies.

GHS:5455 Health Insurance and Managed Care 3 s.h.

History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: HMP:5005. Corequisites: PHAR:6330 or HMP:5410. Same as HMP:5450.

GHS:6550 Epidemiology of Infectious Diseases 3 s.h.

Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Prerequisites: EPID:4400. Same as EPID:6550.

GHS:6625 Seminar: Religion and Health 3 s.h.

Examination of global perspectives on relationships between religion, health, disease, living well, and dying. Same as ANTH:6625, RELS:6625.

Global Health Studies, B.A.

Learning Outcomes

The Global Health Studies Program equips its students to:

- identify the core areas of global health such as infectious and non-communicable diseases, maternal and child health, food sovereignty, environmental health, health inequalities, and interventions;
- analyze biomedical, social, cultural, and environmental determinants of health and disease;
- draw connections between significant health problems which affect both domestic and international communities; and
- recognize the ethical challenges involved in interventions designed to improve health and health equity across cultural and geographical boundaries.

Overview

The Bachelor of Arts in global health studies prepares students for careers in local and international global health organizations, and for graduate and professional work in fields such as public health, law, urban and regional planning, social work, international development, sustainable agriculture, public policy, and more.

Requirements

The Bachelor of Arts with a major in global health studies requires a minimum of 120 s.h., including at least 37 s.h. of course work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A minimum of 18 s.h. of major course work must be earned at the University of Iowa. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459] requirements.

A total of 9 s.h. may be double-counted from other majors, minors, or certificates toward the global health studies major, excluding courses taken to satisfy GE CLAS Core requirements.

Students who earn the major in global health studies may not earn the certificate or the minor in global health studies.

Students who earn the major in global health studies may earn the major in international studies as long as they select a track other than the global health track.

Students who earn the major in global health studies may earn the major in interdepartmental studies as long as they select an emphasis other than the global health emphasis in the health science track.

The B.A. with a major in global health studies requires the following course work.

Code	Title	Hours
	World Language and Culture Requirement	6
	Foundation Courses	10
	Global Health Perspectives and Practices Courses	18
	Capstone Experience	3
	Total Hours	37

World Language and Culture Requirement

Students must choose option A or B below. Semester hours necessary to complete this requirement will vary.

Option A: Students may complete a minimum of two semesters of language study beyond that required by the GE CLAS Core [p. 459]. This additional language requirement may be met either by completing at least two semesters of fifth-semester-level study or higher in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two semesters, or the equivalent, of a second world language at any level.

Option B: Students may complete this requirement by completing 6 s.h. from a list of courses approved for one of the following geographical tracks of the international studies major: African studies; Caribbean studies; East Asian studies; Islamic and Middle Eastern studies; Latin American studies; Russian, East European, and Eurasian studies; or South Asian studies. See the International Studies Course Database web page for approved courses each semester.

Foundation Courses

Students complete all of the following.

Code	Title	Hours
GHS:2000	Introduction to Global Health Studies	3
GHS:3030	Global Health Conference	1
GHS:3500	Global Public Health	3
GHS:3720	Contemporary Issues in Global Health	3

Global Health Perspectives and Practices Courses

To provide an appreciation of the interdisciplinary nature of global health studies, students choose from a wide range of courses on topics which reflect the breadth of the field.

Courses taken to complete another area of the major cannot be used toward the global health perspectives and practices requirement.

Students choose a minimum of 18 s.h., with at least 12 s.h. numbered 3000 or above, from the following.

Code	Title	Hours
GHS:1029	First-Year Seminar	1
GHS:1100	Contraception Across Time and Cultures	3
GHS:1181	Ancient Medicine	3
GHS:1200	Disability and Inclusion in Film and Writing Around the World	3
GHS:1290	Native American Foods and Foodways	3
GHS:1700	Global Health Nursing	3
GHS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2164	Culture and Healing for Future Health Professionals	3

GHS:2181	The Anthropology of Aging	3	GHS:3700	Development in a Global Context II: Reflections on Real World Interventions (if not used to satisfy the capstone requirement)	2
GHS:2182	Africa: Health and Society	3			
GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3	GHS:3760	Hazards and Society	3
GHS:2265	Hard Cases in Healthcare at the End of Life	3	GHS:3780	U.S. Energy Policy in Global Context	3
GHS:2320	Origins of Human Infectious Disease	3	GHS:3850	Promoting Health Globally	3
GHS:2415	Bioethics	3	GHS:4000	Global Health Studies Service Learning: Local Health is Global Health (if not used to satisfy the capstone requirement)	4
GHS:2570	Introduction to Islamic Psychology	3			
GHS:3010	Identifying and Developing a Global Health Project (if not used to satisfy the capstone requirement)	2-3	GHS:4001	Social Entrepreneurship and Global Health (if not used to satisfy the capstone requirement)	3
GHS:3015	Transnational Sexualities	3			
GHS:3020	Proseminar in Global Health	1	GHS:4002	Working in Global Health (if not used to satisfy the capstone requirement)	3
GHS:3035	Engaging in Global Health	1			
GHS:3036	Ethics, Politics, and Global Health	3	GHS:4100	Topics in Global Health	1-3
GHS:3040	Health in Mexico	3	GHS:4120	Global Maternal and Child Health	3
GHS:3050	Global Aging	3			
GHS:3060	Studies in Complementary and Alternative Medicine	3	GHS:4126	International Perspectives: Xicotepec (if not used to satisfy the capstone requirement)	2-3
GHS:3070	Hungry Planet: Global Geographies of Food	3			
GHS:3102	Medical Anthropology	3	GHS:4140	Feminist Activism and Global Health	3
GHS:3110	Health of Indigenous Peoples	3			
GHS:3111	Geography of Health	3	GHS:4150	Health and Environment: GIS Applications	3
GHS:3113	Religion and Healing	3	GHS:4160	History of Public Health	3
GHS:3131	Health Care and Health Reforms in Russia	3	GHS:4162	History of Global Health	3
GHS:3150	Media and Health	3	GHS:4180	Climate Change and Health	3
GHS:3151	The Anthropology of the Beginnings and Ends of Life	3	GHS:4230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3152	Anthropology of Caregiving and Health	3			
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3	GHS:4260	Global Water and Health	3
			GHS:4340	Global Health and Global Food	3
GHS:3191	Sustainable Development: India and the Global Context	3	GHS:4530	Global Road Safety	3
GHS:3192	Environment and Health in Modern India	3	GHS:4600	Global Health and Human Rights	2-3
GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	GHS:4605	Disease, Politics, and Health in South Asia	2-4
GHS:3508	Health in Latin America	3	GHS:4770	Environmental Justice	3
GHS:3555	Understanding Health and Disease in Africa	3	GHS:4990	Independent Project in Global Health (if not used to satisfy the capstone requirement)	arr.
GHS:3560	Global Garbage and Global Health	3			
GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment (if not used to satisfy the capstone requirement)	1	ANTH:3118/ GWSS:3118	Politics of Reproduction	3
			ASP:1800	Aging Matters: Introduction to Gerontology	3
			CBH:5220	Health Behavior and Health Education	3
			CPH:1400	Fundamentals of Public Health	3

CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:4200	Agriculture and the Environment	3
CPH:5100	Introduction to Public Health	3
ECON:3760	Health Economics	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
HIST:1016	The History That Made Our World (when topic is health in the Global South)	3
NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
OEH:4240	Global Environmental Health	3
SOC:4902	Selected Topics in Family, Health, and Well-Being (when topic is global health care systems)	3

Capstone Experience

The capstone experience requirement provides an opportunity for students to apply the knowledge and skills they learned in the classroom.

Students choose a minimum of 3 s.h. from the following.

Code	Title	Hours
GHS:3010	Identifying and Developing a Global Health Project	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4002	Working in Global Health	3
GHS:4126	International Perspectives: Xicotepec	3
GHS:4990	Independent Project in Global Health	3
Global health studies-themed winterim in India course (consult global health studies program for preapproval)		3
Global health studies-themed study abroad program (consult global health studies program for preapproval)		3
Or both of these:		
GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	1
GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	2

Honors

Honors in the Major

Students majoring in global health studies have the opportunity to graduate with honors in the major. Students who choose to graduate with honors in the major must satisfy these requirements:

- maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major;
- complete a minimum of 6 s.h. of honors or contract honors courses in their global health studies major course work;
- complete GHS:3010 Identifying and Developing a Global Health Project followed by GHS:4991 Honors Thesis in Global Health Studies as their capstone experience;
- submit an acceptable honors thesis; and
- give an oral or poster presentation of research findings at a venue approved by the Global Health Studies Program.

Students are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the global health studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least six courses in the major

Before the seventh semester begins: at least 12 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two additional courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Global Health Studies, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
The Global Health Studies Program connects students to ethical experiential learning opportunities. ^a		
GHS:3035	Engaging in Global Health ^b	1
Honors: thesis ^c		
Hours		1
First Year		
Fall		
GHS:2000	Introduction to Global Health Studies	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200 or The Interpretation of Literature		
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
GHS:3030	Global Health Conference	1
RHET:1030	Rhetoric	3 - 4
or ENGL:1200 or The Interpretation of Literature		
GE CLAS Core: Social Sciences ^d		3
GE CLAS Core: Values and Culture ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		2 - 3
Hours		16-19
Second Year		
Fall		
Major: global health perspectives and practices course		3
Major: global health perspectives and practices course		3
GE CLAS Core: Natural Sciences without Lab ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3
Hours		16-17
Spring		
GHS:3720	Contemporary Issues in Global Health	3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3
Hours		16-17
Third Year		
Fall		
Major: global health perspectives and practices course numbered 3000 or above		3

Major: world language and culture requirement	3 - 5
GE CLAS Core: Historical Perspectives ^d	3
GE CLAS Core: Natural Sciences with Lab ^d	4
Elective course ^f	2 - 3
Hours	15-18

Spring

Major: global health perspectives and practices course numbered 3000 or above	3
Major: global health perspectives and practices course numbered 3000 or above	3
Major: world language and culture requirement	3 - 5
Elective course ^f	3
Elective course ^f	3
Hours	15-17

Fourth Year

Fall

GHS:3500	Global Public Health	3
Major: global health perspectives and practices course numbered 3000 or above		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Spring

Major: global health capstone course		3 - 4
GE CLAS Core: International and Global Issues ^d		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		2 - 3
Hours		14-16
Total Hours		123-137

- a The Global Health Studies Program connects students to experiential learning opportunities such as study abroad, internships, research, service learning, and capstone courses through which students develop real world skills related to major global health issues. Students meet regularly with their academic advisor for help in identifying ethical activities which can be integrated into their individualized graduation plan.
- b Global Health Studies students are encouraged to enroll in this course to explore how professionals and volunteers work in a broad variety of global health settings. This course counts toward Global Health Perspectives and Practices.
- c Students completing Honors in the Global Health Studies major work with a faculty mentor to produce an honors thesis, and then present their research during their final semester at the spring Global Health Studies honors poster session.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

The Global Health Studies Program engages students and faculty in real-world health problems and challenges students to embark on global health careers which place a priority on improving health and achieving equity in health for people worldwide.

Graduates find opportunities in a range of global health job sectors such as:

- in-country field consultants;
- disaster relief organizations;
- immigrant/refugee health organizations;
- research and academic institutions;
- international agencies;
- other nongovernmental agencies (NGOs);
- lending agencies that do work in developing countries;
- multilateral agencies (such as the World Health Organization); and
- governmental agencies (United States Agency for International Development, Center for Disease Control, in-country ministries of health, etc.).

Global health studies graduates also have pursued graduate and professional degrees in medicine, dentistry, pharmacy, nursing, public health, law, nonprofit management, urban and regional planning, sustainable agriculture, international development, and public administration.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Global Health Studies, B.S.

Learning Outcomes

The Global Health Studies Program equips its students to:

- identify the core areas of global health such as infectious and non-communicable diseases, maternal and child health, food sovereignty, environmental health, health inequalities, and interventions;
- analyze biomedical, social, cultural, and environmental determinants of health and disease;
- draw connections between significant health problems which affect both domestic and international communities; and
- recognize the ethical challenges involved in interventions designed to improve health and health equity across cultural and geographical boundaries.

Overview

The Bachelor of Science in global health studies is designed for students who desire to enter professional programs in the health sciences.

Requirements

The Bachelor of Science with a major in global health studies requires a minimum of 120 s.h., including at least 47 s.h. of course work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A minimum of 18 s.h. of major course work must be earned at the University of Iowa. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459] requirements.

A total of 9 s.h. may be double-counted from other majors, minors, or certificates toward the global health studies major, excluding courses taken to satisfy GE CLAS Core requirements.

Students who earn the major in global health studies may not earn the certificate or the minor in global health studies.

Students who earn the major in global health studies may earn the major in international studies as long as they select a track other than the global health studies track.

Students who earn the major in global health studies may earn the major in interdepartmental studies as long as they select an emphasis other than the global health emphasis in the health science track.

The B.S. with a major in global health studies requires the following course work.

Code	Title	Hours
	World Language and Culture Requirement	6
	Foundation Courses	10
	Global Health Perspectives and Practices Courses	18
	Natural Sciences Courses	7-8
	Mathematics and Statistics Course	3-4
	Capstone Experience	3
	Total Hours	47-49

World Language and Culture Requirement

Students must choose option A or B below. Semester hours necessary to complete this requirement will vary.

Option A: Students may complete a minimum of two semesters of language study beyond that required by the GE CLAS Core [p. 459]. This additional language requirement may be met either by completing at least two semesters of fifth-semester-level study or higher in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two semesters, or the equivalent, of a second world language at any level.

Option B: Students may complete this requirement by completing 6 s.h. from a list of courses approved for one of the following geographical tracks of the international studies major: African studies; Caribbean studies; East Asian studies; Islamic and Middle Eastern studies; Latin American studies; Russian, East European, and Eurasian studies; or South Asian studies. See the International Studies Course Database web page for approved courses each semester.

Foundation Courses

Students complete all of the following.

Code	Title	Hours
GHS:2000	Introduction to Global Health Studies	3
GHS:3030	Global Health Conference	1
GHS:3500	Global Public Health	3
GHS:3720	Contemporary Issues in Global Health	3

Global Health Perspectives and Practices Courses

To provide an appreciation of the interdisciplinary nature of global health studies, students choose from a wide range of courses on topics which reflect the breadth of the field.

Courses taken to complete another area of the major cannot be used toward the global health perspectives and practices requirement.

Students choose a minimum of 18 s.h., with at least 12 s.h. numbered 3000 or above, and a minimum of 6 s.h. selected from the eight courses near the end of the list. Students select from the following.

Code	Title	Hours
GHS:1029	First-Year Seminar	1
GHS:1181	Ancient Medicine	3
GHS:1200	Disability and Inclusion in Film and Writing Around the World	3
GHS:1290	Native American Foods and Foodways	3
GHS:1700	Global Health Nursing	3
GHS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2181	The Anthropology of Aging	3
GHS:2182	Africa: Health and Society	3

GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3	GHS:4140	Feminist Activism and Global Health	3
GHS:2265	Hard Cases in Healthcare at the End of Life	3	GHS:4160	History of Public Health	3
GHS:2415	Bioethics	3	GHS:4162	History of Global Health	3
GHS:2570	Introduction to Islamic Psychology	3	GHS:4180	Climate Change and Health	3
GHS:3015	Transnational Sexualities	3	GHS:4260	Global Water and Health	3
GHS:3020	Proseminar in Global Health	1	GHS:4340	Global Health and Global Food	3
GHS:3035	Engaging in Global Health	1	GHS:4530	Global Road Safety	3
GHS:3036	Ethics, Politics, and Global Health	3	GHS:4600	Global Health and Human Rights	2-3
GHS:3040	Health in Mexico	3	GHS:4605	Disease, Politics, and Health in South Asia	2-4
GHS:3050	Global Aging	3	GHS:4770	Environmental Justice	3
GHS:3070	Hungry Planet: Global Geographies of Food	3	GHS:4990	Independent Project in Global Health	arr.
GHS:3110	Health of Indigenous Peoples	3	ANTH:3118/ GWSS:3118	Politics of Reproduction	3
GHS:3111	Geography of Health	3	ASP:1800	Aging Matters: Introduction to Gerontology	3
GHS:3113	Religion and Healing	3	CBH:5220	Health Behavior and Health Education	3
GHS:3131	Health Care and Health Reforms in Russia	3	CPH:1400	Fundamentals of Public Health	3
GHS:3150	Media and Health	3	CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
GHS:3151	The Anthropology of the Beginnings and Ends of Life	3	CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GHS:3152	Anthropology of Caregiving and Health	3	CPH:4200	Agriculture and the Environment	3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3	CPH:5100	Introduction to Public Health	3
GHS:3191	Sustainable Development: India and the Global Context	3	ECON:3760	Health Economics	3
GHS:3192	Environment and Health in Modern India	3	ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	HIST:1016	The History That Made Our World (when topic is health in the Global South)	3
GHS:3508	Health in Latin America	3	NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
GHS:3555	Understanding Health and Disease in Africa	3	OEH:4240	Global Environmental Health	3
GHS:3560	Global Garbage and Global Health	3	SOC:4902	Selected Topics in Family, Health, and Well-Being (when topic is global health care systems)	3
GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	1	A minimum of 6 s.h. must be selected from these:		
GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	2	GHS:1100	Contraception Across Time and Cultures	3
GHS:3760	Hazards and Society	3	GHS:2164	Culture and Healing for Future Health Professionals	3
GHS:3780	U.S. Energy Policy in Global Context	3	GHS:2320	Origins of Human Infectious Disease	3
GHS:3850	Promoting Health Globally	3	GHS:3060	Studies in Complementary and Alternative Medicine	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4	GHS:3102	Medical Anthropology	3
GHS:4001	Social Entrepreneurship and Global Health	3	GHS:4120	Global Maternal and Child Health	3
GHS:4002	Working in Global Health	3			
GHS:4100	Topics in Global Health	1-3			
GHS:4126	International Perspectives: Xicotepec	2-3			

GHS:4150	Health and Environment: GIS Applications	3
GHS:4230	Health Experience of Immigrants, Migrants, and Refugees	3

Natural Sciences Courses

The natural sciences course requirement can be used to fulfill the GE CLAS Core [p. 459] requirement. Students should consult with their advisor concerning specific courses that satisfy these requirements.

Students must complete a minimum of one of the sequences, with at least one lab, from the following.

Code	Title	Hours
Chemistry		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
Chemistry and Biology		
CHEM:1070 & BIOL:1141	General Chemistry I - Introductory Animal Biology	7
CHEM:1110 & BIOL:1141	Principles of Chemistry I - Introductory Animal Biology	8
CHEM:1110 & BIOL:1411	Principles of Chemistry I - Foundations of Biology	8
CHEM:1110 & BIOL:1412	Principles of Chemistry I - Diversity of Form and Function	8
Chemistry and Physics		
CHEM:1070 & PHYS:1400	General Chemistry I - Basic Physics	7
CHEM:1110 & PHYS:1511	Principles of Chemistry I - College Physics I	8
Physics		
PHYS:1511- PHYS:1512	College Physics I-II	8

Mathematics and Statistics Course

Students must complete at least one calculus or statistics course. In some cases, students also may need to complete a precalculus or statistics course, depending on their math placement.

The mathematics and statistics course requirement can be used to fulfill the GE CLAS Core [p. 459] requirement. Students should consult with their advisor concerning specific courses that satisfy these requirements.

Students complete one of the following.

Code	Title	Hours
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3

Any higher-level statistics course (consult advisor)	3-4
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Capstone Experience

The capstone experience requirement provides an opportunity for students to apply the knowledge and skills they learned in the classroom.

Students must complete the following.

Code	Title	Hours
GHS:3010	Identifying and Developing a Global Health Project	3

Honors

Honors in the Major

Students majoring in global health studies have the opportunity to graduate with honors in the major. Students who choose to graduate with honors in the major must satisfy these requirements:

- maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major;
- complete a minimum of 6 s.h. of honors or contract honors courses in their global health studies major course work;
- complete GHS:3010 Identifying and Developing a Global Health Project followed by GHS:4991 Honors Thesis in Global Health Studies as their capstone experience;
- submit an acceptable honors thesis; and
- give an oral or poster presentation of research findings at a venue approved by the Global Health Studies Program.

Students are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the global health studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least six courses in the major

Before the seventh semester begins: at least 12 courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two additional courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Global Health Studies, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
The Global Health Studies Program connects students to ethical experiential learning opportunities. ^a		
GHS:3035	Engaging in Global Health ^b	1
Honors: thesis ^c		
	Hours	1
First Year		
Fall		
GHS:2000	Introduction to Global Health Studies	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
CSI:1600	Success at Iowa	2
	Hours	15-17
Spring		
GHS:3030	Global Health Conference	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: natural sciences course without lab ^{f, g, h}		3
GE CLAS Core: Social Sciences ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ⁱ		2 - 3
	Hours	16-19
Second Year		
Fall		
Major: global health perspectives and practices course ^j		3
Major: global health perspectives and practices course ^j		3
Major: natural sciences course with lab ^{f, g}		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ⁱ		2 - 3
	Hours	16-18
Spring		
GHS:3720	Contemporary Issues in Global Health	3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Major: mathematics and statistics course ^{g, k, l}		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5

Elective course ⁱ		3
Hours		16-18
Third Year		
Fall		
GHS:3010	Identifying and Developing a Global Health Project	3
Major: global health perspectives and practices course numbered 3000 or above ^j		3
Major: world language and culture requirement		3 - 5
GE CLAS Core: Values and Culture ^d		3
Elective course ⁱ		3
Hours		15-17
Spring		
Major: global health perspectives and practices course numbered 3000 or above ^j		3
Major: global health perspectives and practices course numbered 3000 or above ^j		3
Major: world language and culture requirement		3 - 5
Elective course ⁱ		3
Elective course ⁱ		3
Hours		15-17
Fourth Year		
Fall		
GHS:3500	Global Public Health	3
GE CLAS Core: Historical Perspectives ^d		3
Elective course ⁱ		3
Elective course ⁱ		3
Elective course ⁱ		3
Hours		15
Spring		
Major: global health perspectives and practices course numbered 3000 or above ^j		3
GE CLAS Core: International and Global Issues ^d		3
Elective course ⁱ		3
Elective course ⁱ		3
Elective course ⁱ		3
Hours		15
Total Hours		124-137

- a The Global Health Studies Program connects students to experiential learning opportunities such as study abroad, internships, research, service learning, and capstone courses through which students develop real world skills related to major global health issues. Students meet regularly with their academic advisor for help in identifying ethical activities which can be integrated into their individualized graduation plan.
- b Global Health Studies students are encouraged to enroll in GHS:3035 Engaging in Global Health to explore how professionals and volunteers work in a broad variety of global health settings. This course counts toward Global Health Perspectives and Practices.
- c Students completing Honors in the Global Health Studies major work with a faculty mentor to produce an honors thesis, and then present their research during their final semester at the spring Global Health Studies honors poster session.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Choose from CHEM:1110 & CHEM:1120, CHEM:1070 & BIOL:1141, CHEM:1110 & BIOL:1141, CHEM:1110 & BIOL:1411, CHEM:1110 & BIOL:1412, CHEM:1070 & PHYS:1400, CHEM:1110 & PHYS:1511, PHYS:1511 & PHYS:1512.

- g Fulfills a major requirement and may fulfill a GE requirement.
- h Enrollment in chemistry courses requires completion of a placement exam.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- j Students should choose from the Global Health Studies approved B.S. course list.
- k Choose from MATH:1380, MATH:1440, MATH:1460, MATH:1550, MATH:1850, STAT:1020.
- l Enrollment in math courses requires completion of a placement exam.

Career Advancement

The Global Health Studies Program engages students and faculty in real-world health problems and challenges students to embark on global health careers which place a priority on improving health and achieving equity in health for people worldwide.

Graduates find opportunities in a range of global health job sectors such as:

- in-country field consultants;
- disaster relief organizations;
- immigrant/refugee health organizations;
- research and academic institutions;
- international agencies;
- other nongovernmental agencies (NGOs);
- lending agencies that do work in developing countries;
- multilateral agencies (such as the World Health Organization); and
- governmental agencies (United States Agency for International Development, Center for Disease Control, in-country ministries of health, etc.).

Global health studies graduates also have pursued graduate and professional programs in medicine, dentistry, pharmacy, nursing, public health, law, nonprofit management, urban and regional planning, sustainable agriculture, international development, and public administration.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Global Health Studies, Minor

The undergraduate minor in global health studies requires a minimum of 15 s.h., including 12 s.h. in courses numbered 3000 or above taken at the University of Iowa. A maximum of 6 s.h. of course work used to satisfy another major, minor, or certificate may be applied toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students may earn either the minor or the certificate in global health studies, but not both. Undergraduates who earn the minor in global health studies may not earn the major in global health studies.

The minor is interdisciplinary, designed for students who wish to study the complex factors influencing health and disease locally and around the world. Students may choose courses offered by the Global Health Studies Program (prefix GHS) or associated courses offered by other departments and programs (see "Associated Courses" under Courses [p. 533] in this section of the Catalog); they should choose courses from at least two different disciplines. Students are strongly encouraged to include one of the courses required for the Certificate in Global Health Studies [p. 550] in their plan of study for the minor. The program highly recommends that students complete an experiential learning activity which addresses global health issues, such as a study abroad program or an internship with a local organization which focuses on global connections.

Global Health Studies, Certificate

The undergraduate Certificate in Global Health Studies requires 18 s.h. of study. Students must maintain a minimum g.p.a. of 2.00 or higher in the 18 s.h. of course work required for the certificate.

University of Iowa undergraduate students who are not concurrently enrolled in a UI graduate or professional degree program may apply for admission to the certificate program. Students in the College of Pharmacy are an exception; those who have earned the Pharm.D. degree also may earn an undergraduate global health studies certificate.

Work for the certificate includes required courses, electives, a global health project that culminates in a public presentation and written report, and study of a world language. Students must earn at least 12 s.h. of credit for the certificate in courses numbered 3000 or above taken at the University of Iowa. A maximum of 6 s.h. of course work used to satisfy another major, minor, or certificate may be applied toward the certificate. Students may choose courses offered by the Global Health Studies Program (prefix GHS) or associated courses offered by other departments and programs (see "Associated Courses" under Courses [p. 533] in this section of the Catalog).

The certificate program is interdisciplinary, and requires students to complete a global health project (either in an international setting or in a domestic setting which focuses on global connections) during which they address an important global health issue in a systematic way. Students then present their results and report on the completed project. The program helps prepare students for advanced work or careers in global health.

Undergraduates may earn the certificate or the minor in global health studies, but not both. Undergraduates who earn the certificate in global health studies may not earn the major in global health studies.

The Certificate in Global Health Studies requires the following work.

Required Courses

Code	Title	Hours
All of these:		
GHS:2000	Introduction to Global Health Studies	3
GHS:3010	Identifying and Developing a Global Health Project	3
GHS:3030	Global Health Conference (may be repeated for elective credit)	1
GHS:3500	Global Public Health	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4990	Independent Project in Global Health	1

Electives

Students complete 4 s.h. of approved electives chosen from the course lists under Courses [p. 533] in this section of the Catalog. They may petition to use other courses as electives

if they can demonstrate that the courses include substantial material related to global health. Contact the Global Health Studies Program for details.

Global Health Project

Students must complete a global health project during which they systematically address an important global health issue. The project can be completed either in an international setting or in a domestic setting which focuses on global connections. Eight weeks is considered the optimal amount of time to meet this requirement. The project may be completed as part of a study abroad program, a service learning course, an internship, a volunteer experience, or an independent research project.

Projects require approval by the Global Health Studies Program steering committee and must be supervised by a faculty member. Students may apply for a Stanley Award; other financial support may be available for some projects. Visit Global Health Project on the program's website for more information.

Language Study

Students must complete the GE CLAS Core [p. 459] World Languages requirement or demonstrate fourth-semester-level language proficiency.

The Global Health Studies Program steering committee may advise students to take additional language study in preparation for a research or internship program. Students interested in learning an infrequently taught language to facilitate their participation in a global health project can contact the Autonomous Language Learning Network (ALLNet).

Public Presentation and Report

Certificate requirements culminate in a public presentation and report. Students present the results of their global health project in GHS:3010 Identifying and Developing a Global Health Project or in an equivalent public forum. Students also must submit a 10-12 page report that summarizes their global health project. Students enroll in GHS:4990 Independent Project in Global Health for 1 s.h. during the semester in which they are completing their report and presentation.

Admission

Admission to the certificate program is competitive. Applicants must be in good academic standing and must be able to demonstrate interest in and understanding of the field of global health. For application forms and deadline information, contact the Global Health Studies Program advisor.

Global Health Studies, Graduate Certificate

The graduate Certificate in Global Health Studies requires 18 s.h. of study. Students must earn at least 12 s.h. of credit for the certificate in courses numbered 3000 or above taken at the University of Iowa. Students must maintain a minimum g.p.a. of 2.50 or higher in the 18 s.h. course work required for the certificate.

The certificate is open to University of Iowa graduate and professional students, except for those in the College of Pharmacy who have earned the Pharm.D. degree; they are awarded the undergraduate certificate. Other students are awarded the graduate certificate by the Graduate College.

Work for the certificate includes required courses, electives, a global health project that culminates in a public presentation and written report, and study of a world language. A maximum of 6 s.h. of course work used toward another academic program may be applied toward the certificate. Students may choose courses offered by the Global Health Studies Program (prefix GHS) or associated courses offered by other departments and programs (see "Associated Courses" under Courses [p. 533] in this section of the Catalog).

Graduate and professional students who would like to count credit from a degree program toward the global health studies certificate should consult their graduate/professional academic programs.

The certificate program is interdisciplinary, and requires students to complete a global health project (either in an international setting or in a domestic setting which focuses on global connections) during which they address an important global health issue in a systematic way. Students then present their results and report on the completed project. The program helps prepare students for careers in global health.

The Certificate in Global Health Studies requires the following work.

Required Courses

Code	Title	Hours
All of these:		
GHS:3010	Identifying and Developing a Global Health Project	3
GHS:3030	Global Health Conference (may be repeated for elective credit)	1
GHS:3500	Global Public Health	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4900	Approaches to Global Health Studies	3
GHS:4990	Independent Project in Global Health	1

Electives

Students complete 4 s.h. of approved electives chosen from the course lists under Courses [p. 533] in this section of the Catalog. They may petition to use other courses as electives if they can demonstrate that the courses include substantial material related to global health. Contact the Global Health Studies Program for details.

Global Health Project

Students must complete a global health project during which they systematically address an important global health issue. The project can be completed either in an international setting or in a domestic setting which focuses on global connections. Eight weeks is considered the optimal amount of time to meet this requirement. The project may be completed as part of a study abroad program, a service learning course, an internship, a volunteer experience, or an independent research project.

Projects require approval by the Global Health Studies Program steering committee and must be supervised by a faculty member. Students may apply for a Stanley Award; other financial support may be available for some projects. Visit Global Health Project on the program's website for more information.

Language Study

Students must either complete the GE CLAS Core [p. 459] World Languages requirement or demonstrate fourth-semester-level language proficiency.

The Global Health Studies Program steering committee may advise students to take additional language study in preparation for a research or internship program. Students interested in learning an infrequently taught language to facilitate their participation in a global health project can contact the Autonomous Language Learning Network (ALLNet).

Public Presentation and Report

Certificate requirements culminate in a public presentation and report. Students present the results of their global health project in GHS:3010 Identifying and Developing a Global Health Project or in an equivalent public forum. Students also must submit a 10-12 page report that summarizes their global health project. Students enroll in GHS:4990 Independent Project in Global Health for 1 s.h. during the semester in which they are completing their report and presentation.

Admission

Admission to the certificate program is competitive. Applicants must be in good academic standing and must be able to demonstrate interest in and understanding of the field of global health. For application forms and deadline information, contact the Global Health Studies Program advisor.

Health and Human Physiology

Chair

- Warren G. Darling

Undergraduate majors: health and human physiology (B.A.); human physiology (B.S.); sport and recreation management (B.S.); therapeutic recreation (B.S.)

Undergraduate minors: human physiology; physical activity and nutrition science; sport and recreation management

Undergraduate certificate: interscholastic athletic/activities administration

Graduate degrees: M.A. in leisure studies; M.A. in sport and recreation management; M.S. in health and human physiology; Ph.D. in health and human physiology

Faculty: <https://clas.uiowa.edu/hhp/people/faculty>

Website: <https://clas.uiowa.edu/hhp/>

The Department of Health and Human Physiology offers undergraduate majors, minors, and a certificate; and graduate degree programs in health and human physiology, leisure studies, and sport and recreation management. The department also administers the Certificate in Disability Studies, as well as coaching authorization courses. In addition, the department is home to the Health and Physical Activity Skills Program, which offers courses that provide instruction and practice in lifetime sports, fitness training, and wellness activities aimed at enhancing physical health and well-being. Additionally, the department collaborates with other departments to offer the Certificate in Event Planning.

Undergraduates in all majors may use several health and human physiology courses to fulfill requirements of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. The department's First-Year Seminar is designed for entering undergraduate students.

Certificates

Disability Studies

The Department of Health and Human Physiology administers the undergraduate certificate program in disability studies. Disability studies examines disability as a social, cultural, historical, and political phenomenon rather than focusing on its clinical, medical, or therapeutic aspects. It is an interdisciplinary and multidisciplinary field that draws on scholarship from diverse disciplines. The certificate program helps students expand their knowledge and awareness of disability issues and prepare for careers in public life. See the Certificate in Disability Studies [p. 331] in the Catalog.

Event Planning

The Departments of Health and Human Physiology and Communication Studies, the School of Journalism and Mass Communication (College of Liberal Arts and Sciences), and Marketing (Tippie College of Business) collaborate to offer the undergraduate Certificate in Event Planning. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event planning and careers in the event planning industry. For information, see the Certificate in Event Planning [p. 437] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Health and Human Physiology (Bachelor of Arts) [p. 566]
- Major in Human Physiology (Bachelor of Science) [p. 571]
- Major in Sport and Recreation Management (Bachelor of Science) [p. 574]
- Major in Therapeutic Recreation (Bachelor of Science) [p. 580]

Minors

- Minor in Human Physiology [p. 584]
- Minor in Physical Activity and Nutrition Science [p. 585]
- Minor in Sport and Recreation Management [p. 586]

Certificate

- Certificate in Interscholastic Athletic/Activities Administration [p. 587]

Graduate Programs of Study

Majors

- Master of Arts in Leisure Studies [p. 589]
- Master of Arts in Sport and Recreation Management [p. 590]
- Master of Science in Health and Human Physiology [p. 591]
- Doctor of Philosophy in Health and Human Physiology [p. 594]

Facilities

Classroom and research laboratories are located in the Field House and in other buildings on campus. They provide excellent facilities for instruction and research at both the undergraduate and graduate levels.

Cooperative efforts with other units facilitate specialization by allowing Department of Health and Human Physiology students to use additional special facilities and research equipment in other departments on campus (e.g., biology, biochemistry, molecular physiology and biophysics, orthopedic surgery, internal medicine, pharmacology, and the College of Engineering).

Courses

- Health and Human Physiology Courses [p. 553]
- Athletic Training Program Courses [p. 559]
- Sport and Recreation Management Courses [p. 560]
- Therapeutic Recreation Courses [p. 562]
- Health and Physical Activity Skills Courses [p. 564]

Health and Human Physiology Courses

HHP:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

HHP:1010 Exploring Athletic Training arr.

Exploration of professional preparation for athletic trainers; application, career opportunities, professional organizations, awareness of basic athletic training principles.

HHP:1030 Introduction to Critical Thinking 3 s.h.

Concepts and skills required for critical thinking about what should and should not be taken as true; analysis and evaluation of a variety of complex extended arguments. GE: Quantitative or Formal Reasoning.

HHP:1048 Basics of Personal Training and Program Design 3 s.h.

Provides a basic understanding of the role of a personal trainer and key concepts for exercise program design; presentation of a fitness training model to assist in the design of individualized programs based on a client's health, fitness, and performance goals; how to facilitate rapport, adherence, self-efficacy, and behavior change in clients; design programs that help clients improve posture, movement, flexibility, balance, core function, cardiorespiratory fitness, muscular endurance, and strength; aligns with basic personal training certifications, but does not certify students on completion.

HHP:1050 Exploring Exercise Science 1 s.h.

Introduction to field of exercise science; employment and observation opportunities, academic and professional development.

HHP:1100 Human Anatomy 3 s.h.

General human anatomy covering most systems of the body. GE: Natural Sciences without Lab.

HHP:1110 Human Anatomy Laboratory 1 s.h.

All major systems of the human body, understood through computer-generated images, models, histological slides, anatomical specimens.

HHP:1150 Human Anatomy Lecture with Lab 4 s.h.

Study of general human anatomy, covering all systems of the body in lecture and most systems in lab; appropriate for students planning on careers in various health professions or for those needing an introductory human anatomy course.

HHP:1200 First Aid/CPR Athletic Training 2 s.h.

First Aid and CPR with automated external defibrillator (AED); opportunity for certification in basic life support through the American Heart Association; satisfies the first aid and CPR requirement for the athletic training program application; for declared athletic training interest majors. Requirements: completion of or current enrollment in ATEP:1010.

HHP:1300 Fundamentals of Human Physiology 3 s.h.

Introduction to function and regulation of the human body. Recommendations: high school chemistry and basic biology. GE: Natural Sciences without Lab.

HHP:1310 Human Physiology Laboratory 1 s.h.

Laboratory course illustrating principles of physiological principles through experimental measurements, practical assessments, and computer-based illustrations of human function. Recommendations: one semester of biology.

HHP:1350 Fundamentals of Human Physiology with Laboratory 4 s.h.

Combines lecture and laboratory; introduction to function and regulation of the human body; laboratory work illustrates principles learned in lectures utilizing experimental measurements, practical assessments, and computer-based simulations.

HHP:2130 Human Development Through the Life Span 3 s.h.

Overview of human developmental theories across the life-span; aspects of cognitive, physical, and personality development from birth to death; the role of culture, environment, health, and economic factors over the developmental process and life continuum.

HHP:2200 Physical Activity and Health 3 s.h.

Physical activity determinants in society; school, workplace, community-based health promotion interventions to improve activity levels. GE: Values and Culture.

HHP:2280 Cultural Competency in Health Interventions 3 s.h.

Examination of the importance of ethnic and cultural factors for community health practice; essential theories, models, and practices for working with race, ethnicity, gender, and social issues; topics may include demographics, disparities, complementary and alternative medicine, spiritually grounded approaches, multicultural populations, communication, workforce, aging, sexual orientation, and future challenges.

HHP:2310 Nutrition and Health 3 s.h.

Physiology, biochemistry of human nutrition; appropriate food sources; qualitative and quantitative evaluation of diets using standard references. GE: Natural Sciences without Lab.

HHP:2350 Biomechanics of Sport and Physical Activity 3 s.h.

Principles of biomechanics, kinesiology, and anatomy; quantitative aspects of sport and physical activity; emphasis on developing a qualitative grasp on mechanical principles of human movement within sports and physical activity; how to apply these principles in a sport/exercise environment. Prerequisites: HHP:1100 or HHP:1150.

HHP:2500 Psychological Aspects of Sport and Physical Activity 3 s.h.

Psychological theory and research related to sport and physical activity; motivation, aggression, attribution, socialization, competitive anxiety, leadership.

HHP:3000 Equity Issues in the Health Sciences 3 s.h.

Examination of equity issues in the health sciences, including a review of the historical challenges that led to Human Subjects Review Boards, FDA oversight of drug development and clinical trials, inclusion of women in research; effect of situational ethics in the workplace; potential danger of making assumptions about clients/patients; importance of developing an inclusive communication style; assessing the effectiveness of family-friendly employment policies in providing equitable opportunities for career advancement for both women and men. Recommendations: junior or senior standing. Same as INTD:3020.

HHP:3030 Coaching for Health and Wellness 3 s.h.

Opportunities to expand knowledge and develop skills to help individuals change behavior and meet health-related goals; general health and wellness principles; principles and techniques for change; experience providing health-coaching services to clients. Prerequisites: HHP:2200 and HHP:2310. Same as INTD:3030.

HHP:3050 Obesity: Causes, Consequences, Prevention, and Treatment 3 s.h.

In-depth overview of biological, behavioral, and societal causes and consequences of obesity epidemic; potential solutions from primary and secondary prevention standpoints; causes of obesity, available treatments, and global impact that obesity epidemic presents to society. Prerequisites: HHP:2200 and HHP:2310.

HHP:3060 Advanced Human Anatomy for Athletic Trainers 4 s.h.

Extremities and relevant body cavity anatomy; anatomical terminology, anatomical relationships of human body, 3-D view of anatomy, clinical relevance of anatomy; basic science lectures, radiologic imaging discussions, introduction to clinically relevant anatomy, dissection laboratories, small group learning and teaching, faculty interaction, and computer-assisted resources. Offered summer sessions. Prerequisites: HHP:1100.

HHP:3105 Anatomy for Human Physiology 3 s.h.

All major systems of the body are covered with focus on the normal structure of the human body; appropriate for preprofessional students planning on careers in the various health professions.

HHP:3110 Advanced Anatomy Laboratory 2 s.h.

Detailed gross anatomy of all major systems of the body; structure of the human body at organ, tissue, and cellular levels; examination of various human and other mammalian specimens.

HHP:3115 Anatomy for Human Physiology with Lab 5 s.h.

Covers all major systems of the body in a combined lecture and laboratory anatomy course; focus on normal structure of the human body; laboratory includes gross anatomy of some human structures and dissection of other mammalian specimen; appropriate for preprofessional students planning on careers in various health professions. Prerequisites: BIOL:1411.

HHP:3148 Personal Training for the Exercise Scientist 3 s.h.

Essential aspects of personal training including theory and applied practice of screening, assessment, exercise prescription, and technique for development of safe and effective training programs for clients. Prerequisites: (HHP:1100 or HHP:1150) and HHP:2200 and HHP:2310 and (HHP:1300 or HHP:1350).

HHP:3150 Program Design in Strength and Conditioning 3 s.h.

Examination of elements of program design for developing muscular fitness and skill related to fitness; applies to programming for individuals with whom a major goal of their physical activity program is to maximize human performance potential; these goals can either be for personal fitness, success in specific sports, or for applications in occupational athletes.

HHP:3200 Health Behavior and Health Promotion 3 s.h.

Principles of epidemiology and health behavior theories applied to multilevel frameworks for health promotion. Prerequisites: HHP:2200 and HHP:2310.

HHP:3230 Psychopharmacology 3 s.h.

How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Prerequisites: (PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-)) or (HHP:1300 with a minimum grade of C- or HHP:3500 with a minimum grade of C-). Same as PSY:3230.

HHP:3300 Human Growth and Motor Development 3 s.h.

Human growth and biological maturation; focus on motor development from birth through puberty. Recommendations: prior course in anatomy, human physiology, or biology.

HHP:3400 Applied Exercise Physiology 3 s.h.

Effects of acute exercise and chronic exercise training on different physiological systems (energy, neuromuscular, circulatory, respiratory, endocrine); overview of physiological principles necessary for more advanced study of fitness evaluation and exercise prescription; preparation for ACSM certification. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500.

HHP:3420 College Health Education 3 s.h.

Practical experience in planning, implementing, and evaluating health programs in the college health setting; how health issues apply to individuals and communities to which they belong; foundation of health behavior change in college setting. Prerequisites: HHP:2310 and HHP:2200.

HHP:3430 Health Management and Administration 3 s.h.

Introduction to management, administration, and leadership principles as they relate to health promotion programs. Prerequisites: HHP:3200.

HHP:3440 Physical Activity Interventions 3 s.h.

Development, implementation, evaluation of effective health communication interventions; identification of health education resources for targeted groups. Prerequisites: HHP:2310 and HHP:2200.

HHP:3450 Immunology in Health and Disease 3 s.h.

Overview of immunology, beginning at the molecular level and ending with the role of the immune system in disease; fundamental concepts of the immune system; innate and adaptive immunity, focusing on cell-mediated and humoral immune responses, in addition to effector mechanisms in both of these responses; concepts of immunologic tolerance; autoimmune disease; immunodeficiency syndromes; the inflammatory process in disease. Prerequisites: HHP:3500 or HHP:3550.

HHP:3500 Human Physiology 3 s.h.

Organ system approach to physiology in order to understand normal function of the human body from the submolecular and cellular levels to the whole organism; emphasis on the development of a mechanistic understanding of organ system function and integrated physiological function across systems to promote homeostatic regulation in the human body. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110).

HHP:3550 Human Physiology with Laboratory 5 s.h.

Use of organ system approach to understand human function from submolecular and cellular levels to the whole organism; emphasis on development of a mechanistic understanding of organ system function and integrated function across systems necessary for homeostatic regulation in the human body; experiential laboratory activities incorporate fundamental measurements of human physiological function, basic research methodologies, and presentation of experimental data. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110).

HHP:3555 Lab for Human Physiology arr.

Experiential laboratory activities incorporating fundamental measurements of human physiological function; basic research methodologies and data analysis; presentation of experimental data. Prerequisites: HHP:3500.

HHP:3650 Applied Sport and Exercise Psychology 3 s.h.

Application of sport and exercise psychological theory; theoretical and practical experience using psychological skills training for sport and exercise.

HHP:3655 Emotional and Psychological Aspects of Health 3 s.h.

Interfaces among emotional, psychological, and physical aspects of health; examination of how individuals with healthy psychological profiles engage in health behaviors; health-related implications of negative emotional and psychological states; strategies for promoting healthy psychological patterns; designed for health promotion, health studies students, and others interested in health-related careers. Prerequisites: HHP:2200.

HHP:3850 Promoting Health Globally 3 s.h.

Major global health threats in the United States and abroad; impact of culture, history, economics on health disparities; approaches, programs, policies to remedy them. Requirements: junior or senior standing, or certificate student. Same as GHS:3850.

HHP:3860 Leadership Theory for Health and Fitness 3 s.h.

Theories and applications of current scholarship in group and individual leadership relevant for health, sport, fitness, and exercise leadership; areas of study include group dynamics, humanist leadership, leader-member exchange theory, transformational leadership, contingency/reinforcement leadership models, path-goal leadership, and multi-dimensional leadership models; approaches to leadership contextualized to build skills in cultural competence and ethics of leadership.

HHP:3870 Motivational Interviewing for Health Professions 3 s.h.

Theoretical foundations, empirical research support, and application of motivational interviewing; how people make changes with regard to health behaviors, how health professionals can support positive change, barriers to change process, empowerment and autonomy, intrinsic motivation, applications of motivational interviewing; theory and research; motivational interviewing for health behavior change; extensive applied practice of motivational interviewing techniques and group work to practice skills; discussion and application of techniques, research, and practical knowledge.

HHP:3900 Writing for Health and Human Physiology 3 s.h.

Effective written communication specific to health sciences; planning, drafting, revising, and peer-editing materials (e.g., personal statements, professional communications, general articles of interest, scientific papers); practicum experience.

HHP:4010 Behavioral and Clinical Health Assessment Laboratory 3 s.h.

Expected assessment skill set for health promotion professionals, including ability to assess and interpret blood pressure, lung function, blood lipids, and heart rate; health behavior measurement issues including how to use objective monitors, self report, interview, and web-based trackers to assess diet, physical activity, and sleep; general measurement and research concepts will be introduced and students will have laboratory practice in sphygmomanometry, spirometry, anthropometry, accelerometry, sleep tracking, computerized dietary assessments, and graded exercise testing. Prerequisites: HHP:2200 and HHP:2310 and (HHP:1100 or HHP:1150) and (HHP:1300 or HHP:1350).

HHP:4020 Health Communication and Coaching Strategies 3 s.h.

Science of health communication, including evidence-based development, strategic dissemination, and critical evaluation of relevant, accurate, accessible, and understandable health information communicated to individuals to advance their health; the art of health coaching including the processes that facilitate healthy, sustainable behavior change; health coaching strategies will include motivational interviewing, goal setting, and social support. Prerequisites: HHP:2200 and HHP:2310.

HHP:4030 Policy, Environmental, and Social Determinants of Health 3 s.h.

How health is determined by access to social and economic opportunities (e.g., quality of our schools, safety of neighborhoods, and quality of our social interactions); policy, environmental, and social factors that influence health; how collaboration among federal, state, and local-level partners can improve health; goals and objectives of Healthy People 2020 (U.S. Federal Health Promotion Planning Guide) will be used to frame course material. Prerequisites: HHP:2200 and HHP:2310.

HHP:4040 Health Services: Current Barriers and Innovative Solutions 3 s.h.

Barriers to quality health care access (e.g., lack of availability, high costs, lack of insurance coverage, health disparities); consequences of such barriers (e.g., unmet health needs, delays in care, lack of preventive services, preventable hospitalization); innovative solutions for improving access and quality of care (e.g., technologies and innovations, improving access to preventive health services, reducing costs); novel ways to improve access and quality of today's health care system. Prerequisites: HHP:2200 and HHP:2310.

HHP:4110 Advanced Human Anatomy Laboratory 4 s.h.

Regional dissection of the human body. Prerequisites: HHP:3110 or HHP:3115.

HHP:4130 Skeletal Muscle Physiology 3 s.h.

Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500 or HHP:3550.

HHP:4150 Clinical Exercise Physiology 3 s.h.

Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500 or HHP:3550 or HHP:3400. Recommendations: HHP:4460.

HHP:4160 Exercise Electrocardiography 2 s.h.

Electrocardiography (ECG) including basic cardiac electrophysiology and ECG leads; atrial, junctional, ventricular, and atrioventricular (AV) node block arrhythmias; identifying myocardial infarction, hypertrophy, and QRS axis deviation on 12 lead ECG; other topics include ECG changes during exercise testing, diagnostic and prognostic value of exercise/pharmacological testing, and cardiac rehabilitation. Prerequisites: HHP:3500.

HHP:4190 Scientific Basis of Training for Elite Performance 3 s.h.

Application of scientific principles to goal of improving strength, speed, endurance, and overall human function; general overview of structure and function of muscular, nervous, cardiovascular, and respiratory systems; bioenergetics of exercise; endocrine response to exercise; biomechanics of resistance exercise; adaptations to anaerobic and aerobic training programs; age and sex related considerations on training; nutrition and ergogenic aids. Prerequisites: HHP:3500 or HHP:1300.

HHP:4195 Exercise Programming for Special Populations 3 s.h.

Measurement of health-related fitness and exercise capacity in special populations (e.g., children, older adults, obesity, orthopedic problems, cerebral palsy, intellectual disabilities). Prerequisites: HHP:3400 and (HHP:4200 or HHP:4210).

HHP:4200 Metabolic Exercise Testing and Prescription 4 s.h.

Basic techniques in physical fitness assessment, prescription of exercise for healthy and unhealthy adults, promotion of physical activity within communities; provides knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.

HHP:4210 Musculoskeletal Exercise Testing and Prescription 4 s.h.

Educational and practical experience for designing resistance training and flexibility programs; competencies for certification with National Strength and Conditioning Association. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.

HHP:4220 Biomechanics of Human Motion 3 s.h.

Application of the principles of mechanics to investigation of human motion in two dimensions; system modeling, force system and equilibrium analysis, particle and rigid body kinematics, Newton's and Euler's equations of motion, work-energy and impulse-momentum integral principles. Prerequisites: (HHP:1100 or HHP:1150 or HHP:3105 or HHP:3115) and (PHYS:1400 or PHYS:1511 or PHYS:1611 or HHP:2350).

HHP:4230 Motor Learning: Theory and Application 3 s.h.

How skilled motor behavior is acquired; behavioral changes that occur during skill acquisition; structural and physiological changes that occur in central nervous system; principles of training and practice that yield efficient and effective motor learning; how this information is helpful to health professionals involved in motor rehabilitation, physical educators and coaches, music instructors and musicians, strength and conditioning professionals, fitness professionals, and athletes, among others. Prerequisites: HHP:1300. Recommendations: familiarity with basic neuroscience (neurons, synaptic transmission, basic anatomical organization of sensory and motor systems).

HHP:4250 Human Pathophysiology 3 s.h.

In-depth study of human pathological processes and their effects on homeostasis; etiology, symptoms, and risk factors of various diseases; emphasis on major diseases impacting worldwide disability and death; how pathological processes are manifested and progress in the body. Prerequisites: HHP:3500 or HHP:3550.

HHP:4260 Respiratory Pathophysiology 3 s.h.

Structure and function of human respiratory system; focus on didactic and case study-based learning; control of breathing, gas exchange, lung mechanics, regulation of pulmonary blood flow, respiratory responses to stress; application of these physiological concepts to case studies of human disease. Prerequisites: HHP:3500 or HHP:3550. Recommendations: PHYS:1511, and MATH:1460 or MATH:1850.

HHP:4300 Neural Control of Posture and Movement 3 s.h.

Neuroanatomical and neurophysiological bases of human motor control; mechanisms for locomotion and posture, control of arm and hand movements, role of sensory information. Offered spring semesters. Prerequisites: HHP:3500 or HHP:1100. Requirements: anatomy or human physiology course.

HHP:4310 Sport and Exercise Nutrition 3 s.h.

Relationship between nutrition, fitness and sport performance; basic nutrition, physiology, chemistry, psychology, food preparation. Prerequisites: HHP:2200 and HHP:2310.

HHP:4320 Nutrition Interventions 3 s.h.

Strategies that assist in assessment and evaluation of nutrition behaviors of individuals and groups; interventions to meet nutritional needs of individuals and groups with a variety of health issues. Prerequisites: HHP:2200 and HHP:2310.

HHP:4340 Global Health and Global Food 3 s.h.

Practices, patterns, and policies that contribute to the epidemics of obesity, diabetes, and heart disease in wealthy populations; environmental degradation, hunger, and malnutrition among impoverished populations; strategies to meet food and agricultural needs for the world; local/global aspects or perspectives on food/health concerns for Iowa and the international community. Same as GHS:4340.

HHP:4350 Health and Human Physiology Practicum 1 s.h.

Experience in planning and implementing programs in the areas of fitness, strength and conditioning, nutrition, clinical rehabilitation, or health promotion. Prerequisites: (HHP:1100 or HHP:1150) and HHP:2200 and HHP:2310 and (HHP:1300 or HHP:1350 or HHP:3500).

HHP:4360 Practicum in Group Fitness Instruction 2 s.h.

Opportunity to observe group-fitness instructors in an applied setting; help organize and execute a group-fitness class. Prerequisites: (HHP:4410 or HHP:3400) and HHP:2310 and (HHP:3500 or HHP:1300) and HHP:1100. Requirements: CPR/AED or Group Fitness Instructor (ACSM, ACE, AFAA) or specific fitness (yoga, indoor cycling, crossfit) certification.

HHP:4365 Practicum in Health Coaching 3 s.h.

Opportunity to develop and practice health coaching skills in an observed classroom setting; includes discussion, reviews of case studies, and role playing as health coaches; students dedicate seven-and-one-half hours per week in the community outreach laboratory, remotely (phone, Skype, text messaging) or in person, providing health coach services to referred patients and community members. Prerequisites: HHP:4020 or HHP:3030.

HHP:4370 Practicum in Strength and Conditioning 2 s.h.

Opportunity to observe strength and conditioning professionals in an applied setting; participation in process of helping athletes reach performance goals. Prerequisites: HHP:2310 and (HHP:3400 or HHP:4410) and HHP:1100 and (HHP:3500 or HHP:1300). Requirements: CPR/AED certification.

HHP:4390 Understanding Human Disease 3 s.h.

Introduction to process of human disease at cell, organ, and whole body level throughout the lifespan; pathophysiological changes occurring with disease, including risk factors, disease development, and overall effects of disease on the body; cancer, diabetes, obesity, cardiovascular, neurodegenerative diseases, and aging. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500.

HHP:4400 Health Promotion Clinical Practicum 1 s.h.

Experience in planning and implementing clinical health promotion programs focusing on nutrition, physical fitness, cardiac rehabilitation, and respiratory rehabilitation. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).

HHP:4405 Health Promotion Community and Worksite Practicum 1 s.h.

Planning and implementing community and worksite health promotion programs. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).

HHP:4410 Exercise Physiology 3 s.h.

Mechanisms responsible for the acute and chronic effects of exercise on the different organ systems of the body. Offered fall semesters. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500 or HHP:3550.

HHP:4415 Exercise Science Practicum 1 s.h.

Experience in planning and implementing exercise programs related to physical fitness, including strength and conditioning in healthy and diseased/injured populations, and in elite athletes. Prerequisites: HHP:4200 and HHP:4210.

HHP:4420 Planning and Evaluating Health Interventions 3 s.h.

Assessment, planning, implementation, and evaluation of health promotion programs. Prerequisites: HHP:3200.

HHP:4440 Physiology of Nutrition 3 s.h.

Metabolic and biological aspects of human energy production, relationship to energy consumption; systems or integrative approach. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500 or HHP:3550.

HHP:4450 Genetic Basis of Disease 3 s.h.

Changes in single molecules that lead to systemic physiological alterations in mammals; relationship of these changes to development, aging, exercise, and specific diseases; current methodologies for studying mammalian genetics and physiology. Prerequisites: HHP:3500 or HHP:3550.

HHP:4460 Cardiovascular Physiology 3 s.h.

Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, regulation during physical stress. Prerequisites: HHP:3500 or HHP:3550. Recommendations: calculus and physics.

HHP:4465 Environmental Exercise Physiology 3 s.h.

Study of physiological responses of the human organism to various forms of environmental stress at rest and during exercise; how physical performance is affected by environmental stressors such as heat, cold, altitude, microgravity, and hyperbaria. Prerequisites: HHP:3400 or HHP:3500 or HHP:3550.

HHP:4470 Physiology of Aging 3 s.h.

Aging's effects on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:3500 or HHP:3550.

HHP:4480 Introduction to Human Pharmacology 3 s.h.

General pharmacology (e.g., administration, distribution, and elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of the disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce disease's impact; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: HHP:3500 or HHP:3550.

HHP:4490 Diagnosing Diseases: Patient History and Physical Examination 3 s.h.

Different diseases studied by interacting with patients at Meenakshi Mission Hospital and Research Center in Madurai, India; formal lectures in mornings followed by bedside teaching in afternoons and grand rounds in evenings; for pre-health professional students.

HHP:4500 Undergraduate Independent Study arr.

Library or laboratory research related to a specific topic in human physiology, normally culminating with a written manuscript; work directed by a faculty member.

HHP:4510 Energy Metabolism in Health and Disease 3 s.h.

Comprehensive and molecular-driven approach to energy metabolism during exercise and calorie restriction regimens in skeletal muscle, adipose tissue, liver, heart, brain; special emphasis on muscle metabolism and its interaction with other organ systems in treatment and prevention of metabolic diseases (e.g., obesity, diabetes, cardiovascular diseases, cancer). Prerequisites: HHP:3500 or HHP:3550. Recommendations: HHP:4410 and BIOL:2723.

HHP:4800 Honors Research I 2 s.h.

Research for honors thesis; selection of faculty mentor, preparation of research proposal, written and oral presentations of research proposal, literature review, participation in experiments designed to develop laboratory skills for research, work with an active research tenure-track faculty member in a laboratory; first of a two-semester sequence. Requirements: honors standing.

HHP:4900 Honors Research II 3 s.h.

Completion of honors research begun in HHP:4800; analysis of data, writing and oral presentation of honors thesis, work with an active research tenure-track faculty member in a laboratory; second of a two-semester sequence. Prerequisites: HHP:4800 with a minimum grade of B. Requirements: honors standing.

HHP:4930 Health and Human Physiology Internship 3-9,12 s.h.

Directed practical field experience involving program planning, implementation, evaluation, and administration; varied areas such as fitness, wellness, nutrition, clinical, and strength and conditioning.

HHP:4935 Clinical Exercise Physiology Internship 1-6 s.h.

Directed practical field experience; program planning, implementation, evaluation, and administrative procedures.

HHP:4940 Health Promotion Honors Readings 1-2 s.h.

First step to complete an honors thesis; work with health and human physiology faculty member; comprehensive readings in a specific area (e.g., obesity in children, disabilities and sport); readings include primarily research reviews, popular press, and editorials; production of an annotated bibliography summarizing readings and presentation to faculty member at end of semester; brief research proposal summarizing background, research questions, and methods of selected area.

HHP:5000 Problems arr.**HHP:5200 Epidemiology of Physical Activity 3 s.h.**

Overview of epidemiological evidence on how physical activity, sedentary behavior, and sleep affect health outcomes including cardiovascular disease, diabetes, cancer, and obesity; emphasis on research design, interpretation of studies, selection of appropriate measurement tools, and translating scientific findings to recommendations/policies for health promotion and disease prevention.

HHP:5300 Advanced Human Physiology 3 s.h.

Provides an advanced study of human physiology for students entering health related fields; mechanisms of body function will be presented at various levels ranging from cellular and molecular, to tissue and organ system levels, with emphasis on integration of the various systems. Offered spring semesters. Prerequisites: HHP:1100 and HHP:3500.

HHP:6000 Research arr.**HHP:6010 Non-Thesis Seminar 2 s.h.**

For candidates for the M.S. without thesis. Offered spring semesters.

HHP:6020 Research Methods and Ethics 1,3 s.h.

Introduction to concepts, principles, and methods of research; topics include research design, data collection, data analysis, and reporting research; students identify and formulate research questions, design appropriate research, collect data using different methods, conduct data analysis, present research findings, and critically critique research literature; main ethical issues and professional conduct in scientific research. Recommendations: concurrent enrollment in BIOS:5120 or STAT:6513.

HHP:6030 Physical Activity and Dietary Behavior Change 3 s.h.

Major determinants (barriers and facilitators) of physical activity and dietary behaviors; evidence-based behavior change techniques; application of behavior change techniques to improve physical activity and dietary behaviors at the individual and organizational levels.

HHP:6050 Advanced Topics in Obesity 3 s.h.

In-depth overview of biological, behavioral, and societal causes and consequences of obesity epidemic; potential solutions from primary and secondary prevention standpoints; causes of obesity, available treatments, and global impact that obesity epidemic presents to society.

HHP:6100 Health and Human Physiology Seminar 0 s.h.

Biweekly forum for research presentations by health and human physiology faculty and graduate students, and by invited guest speakers; attended by health and human physiology faculty and students, and by faculty and guests from other departments and programs on campus.

HHP:6130 Advanced Skeletal Muscle Physiology 1,3 s.h.

Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500.

HHP:6150 Advanced Clinical Exercise Physiology 1,3 s.h.

Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500. Recommendations: HHP:4460.

HHP:6160 Advanced Exercise Electrocardiography 1-2 s.h.

Electrocardiography (ECG) including basic cardiac electrophysiology and ECG leads; atrial, junctional, ventricular, and atrioventricular (AV) node block arrhythmias; identifying myocardial infarction, hypertrophy, and QRS axis deviation on 12 lead ECGs; other topics include ECG changes during exercise testing, diagnostic and prognostic value of exercise/pharmacological testing, and cardiac rehabilitation; readings and critiquing current research literature. Prerequisites: HHP:3500.

HHP:6200 Advanced Metabolic Exercise Testing and Prescription 1,4 s.h.

Basic techniques in physical fitness assessment; prescription of exercise for healthy and unhealthy adults; promotion of physical activity within communities; knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:1300 or HHP:3500).

HHP:6300 Motor Control Seminar 1 s.h.
Current topics in neural control of movement, biomechanics, and rehabilitation sciences.

HHP:6400 Integrative Physiology Seminar 1 s.h.
Current topics in cardiovascular physiology, vascular biology, free radical biology.

HHP:6410 Advanced Exercise Physiology 1,3 s.h.
Mechanisms responsible for acute and chronic effects of exercise on different organ systems of the body. Offered fall semesters. Prerequisites: HHP:1300 or HHP:3500.

HHP:6460 Advanced Cardiovascular Physiology 1,3 s.h.
Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, and regulation during physical stress. Prerequisites: HHP:3500. Recommendations: calculus and physics.

HHP:6470 Advanced Physiology of Aging 1,3 s.h.
Effects of aging on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:1100 and HHP:3500.

HHP:6480 Advanced Human Pharmacology 1,3 s.h.
General pharmacology (administration, distribution, elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce impact of disease; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: HHP:3500.

HHP:6500 Seminar in Health Promotion 1 s.h.
Peer and faculty response to graduate student work addressing health promotion, physical activity and health outcomes, clinical exercise physiology; review and critique current literature; presentation of published work or in-process projects; critical thinking, scientific writing, and oral communication skill development pertaining to health promotion.

HHP:6510 Advanced Energy Metabolism in Health and Disease 1,3 s.h.
Discussions of recent published, and/or seminal, state-of-the-art papers on energy metabolism related to exercise and diet interventions in context of cardiovascular diseases, obesity, diabetes, and cancer. Prerequisites: HHP:3500. Recommendations: HHP:4410 and BIOL:2723.

HHP:7000 Practicum in College Teaching arr.

HHP:7290 Graduate Internship 3-9 s.h.
Requirements: recreational sports management emphasis.

HHP:7300 Advanced Neural Control of Posture and Movement 1,3 s.h.
Neuroanatomical and neurophysiological bases of human motor control; mechanisms for locomotion and posture, control of arm and hand movements, role of sensory information. Offered spring semesters. Prerequisites: HHP:3500 and (HHP:1100 or HHP:3500). Requirements: anatomy or human physiology course.

HHP:7500 Thesis: M.S. 0-4 s.h.

HHP:7900 Thesis: Ph.D. arr.

Athletic Training Program Courses

ATEP:1000 First Aid and CPR 2 s.h.
American Red Cross certification: basic first aid, CPR procedures.

ATEP:2010 Practicum in Athletic Training I 2 s.h.
Basic clinical skill instruction, evaluation, and integration for athletic trainers. Requirements: athletic training major.

ATEP:2020 Practicum in Athletic Training II 2 s.h.
Integration of basic physical skills and orientation to traditional settings; clinical experience for first-year students arranged through the athletic training program. Prerequisites: ATEP:2010 with a minimum grade of C.

ATEP:2030 Basic Athletic Training 3 s.h.
Basic pathology, epidemiology, materials biology for prevention and immediate care of athletic injuries.

ATEP:2040 Clinical Sciences I 2 s.h.
Theoretical knowledge base in therapeutic modalities. Offered spring semesters. Prerequisites: ATEP:2010 with a minimum grade of C.

ATEP:2060 Advanced Emergency Care for Athletic Trainers 1-2 s.h.
Coordinated initial professional emergency response certifications for athletic trainers; recertification for those holding valid certifications. Requirements: Red Cross First Aid and CPR certifications.

ATEP:3010 Clinical Sciences III 3 s.h.
Theoretical and practical skill development in the areas of musculoskeletal evaluation for ankle, knee, shoulder, and upper extremity. Offered fall semesters. Prerequisites: ATEP:2040. Requirements: athletic training major.

ATEP:3020 Clinical Sciences V: Rehabilitation 2 s.h.
Rehabilitation for athletic trainers based on the theory and principles of therapeutic exercise; application of current research concepts. Prerequisites: ATEP:2040. Corequisites: ATEP:3010. Requirements: athletic training major.

ATEP:3030 Practicum in Athletic Training III 3 s.h.
Advanced clinical skill instruction, evaluation, and integration for athletic trainers. Prerequisites: ATEP:2020 with a minimum grade of C.

ATEP:3040 Clinical Sciences IV 3 s.h.
Continuation of musculoskeletal evaluation, completion of EENT, chest, abdomen, and dermatologic evaluation; integration of rehabilitation programs. Offered spring semesters. Prerequisites: ATEP:3010 with a minimum grade of C.

ATEP:4010 Administration of Athletic Training Programs 2 s.h.
Health care supervision, professional athletic training responsibilities, philosophies in athletic health care. Offered fall semesters. Prerequisites: ATEP:2030.

ATEP:4187 Practicum in Athletic Training IV 4 s.h.
Advancement of clinical skills required for eligibility to enter the athletic training profession; focus on review of general medical evaluation skills and preparation for the board of certification examination; first clinical experience course in third-year athletic training student practicum progression. Prerequisites: ATEP:3030 with a minimum grade of C.

ATEP:4188 Practicum in Athletic Training V 4 s.h.

Students work to master clinical skills required for eligibility to enter the profession of athletic training; focus includes preparation for the Board of Certification examination, culmination and presentation of senior research project; final clinical experience in the athletic training course progression.

ATEP:5010 Seminar in Athletic Training 1-4 s.h.

Educational issues faced by approved clinical instructors in athletic training education programs. Offered fall semesters.

Sport and Recreation Management Courses

SRM:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

SRM:1045 Diversity and Inclusion in Healthy Living 3 s.h.

Personal health strategies; information and empowerment; application-based work, including creating a family health pedigree or individual health portfolio; discussion of current health ethics topics; subjects may include nutrition, sleep, stress, physical fitness, relationships, injury prevention, prenatal health, vaccination, cancer, infectious diseases, global health, and more. GE: Diversity and Inclusion.

SRM:1060 Contemporary Issues in Sports 3 s.h.

Basic philosophical, historical, scientific foundations and developments; function, settings of organized recreation.

SRM:1072 Leisure and the Liberal Arts 3 s.h.

Integration of the ideal of a liberal education with worthy, meaningful use of free time in contemporary society; classic writings in the humanities. GE: Values and Culture.

SRM:1085 Introduction to Travel and Tourism 3 s.h.

Nature, scope, and significance of fields of travel and tourism: their histories, theories and philosophies, current trends, issues and challenges; critical analysis of current travel and tourism practices; green alternatives that are more sustainable and in keeping with values the field of leisure studies has long placed on active participation and local, community development.

SRM:2065 The Experience Economy 3 s.h.

Introduction to emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is now gaining ascendancy as the last, best hope for future economic growth; critical analysis of experience economy with discussion of ways in which experience economy may offer green, moral, and humane alternatives to previous stages of economic development; new opportunities for travel and tourism, sports settings, recreation and wellness services, possible applications in education and helping professions.

SRM:3020 Nutrition in Health and Performance 3 s.h.

Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as INTD:3027.

SRM:3146 Sports Officiating: Rules, Theories, and Issues 3 s.h.

Fundamental principles of officiating sports at all levels; supervision and management of officials for sport and recreation administrators; rules and mechanics of sports officiating, general qualifications to be a sports official, philosophy of officiating, teaching and evaluation methods for officials, and application of principles through officiating intramural sports.

SRM:3147 Sport Event Management 3 s.h.

Current status, challenges, and opportunities in sporting event industry; sporting event planning, budgeting, marketing, sponsorship, and evaluation; development of event timelines and event management skills; introduction to networking and interaction with sporting events. Recommendations: SRM:3154.

SRM:3148 Interscholastic Activities and Athletics Administration 3 s.h.

Survey of activities administration foundations including philosophy, leadership, professional programs and activities administration principles, strategies and methods; understanding of the techniques and theory of coaching concepts and strategies for interscholastic budget and concepts and strategies for interscholastic fundraising; basics of assessment and evaluation of interscholastic athletic programs and personnel, dealing with challenging personalities, and administration of professional growth programs for interscholastic personnel.

SRM:3149 Coaching Theory, Body Structure, and Human Development 3 s.h.

Comprehensive introduction to the coaching profession and obtaining a coaching license in the state of Iowa; ethics, licensing, and body development.

SRM:3150 Recreation Administration 3 s.h.

Personnel, finance, budgets, liability, marketing.

SRM:3151 Liability in Sport and Recreation 3 s.h.

Unintentional torts (negligence), civil liability, and criminal liability in recreation and sport settings; focus on community/commercial recreation and campus recreation settings. Requirements: must have 30 s.h. completed.

SRM:3152 Design and Management of Sport and Recreation Facilities 3 s.h.

Facilities management, personnel assignment and evaluation, fee structures, maintenance, programming, compliance with regulations and standards. Requirements: must have 30 s.h. completed.

SRM:3153 Sport Business Practices 3 s.h.

Business of professional and intercollegiate athletics including league, team, and player-level issues; revenue generation and distribution; competitive balance issues; sport league structure strategies; business behind intercollegiate athletics and challenges facing NCAA structure; negotiation. Requirements: must have 30 s.h. completed.

SRM:3154 Foundations of Event Management 3 s.h.

Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures.

SRM:3155 Prevention and Care of Athletic Injuries for Coaches 3 s.h.

Comprehensive introduction to the sports world in relation to obtaining a coaching license in the state of Iowa in regards to first aid, injury prevention, and care.

SRM:3156 Design of Recreation Facilities 3 s.h.

Horticulture, floriculture, landscape design, agronomy, turf management; their relation to planning and design of recreation and park areas and facilities. Requirements: must have 30 s.h. completed.

SRM:3157 Managerial Operations in Sport and Recreation 3 s.h.

Introduction to the operation of a private or nonprofit sport-related business.

SRM:3158 Sport and Recreation Promotion 3 s.h.

Foundations and principles of recreation sport promotion and sales operation; application of foundations and principles to sport and recreation industries; historical aspects; current and future trends of sport and recreation management as it relates to sales and promotions; sales management, marketing, financial/economic, legal, and ethical principles related to sport management. Requirements: must have 30 s.h. completed.

SRM:3172 Finance in Sport and Recreation 3 s.h.

Capital funding and revenue acquisition for funding public and private sport and leisure service organizations; contemporary sport and leisure service; financial and economic issues. Requirements: 30 s.h. completed.

SRM:3175 Sales in Sport 3 s.h.

Fundamentals of business development and sales management; incentivizing sports consumers, direct and indirect sales strategies, brand communications, atmospherics, technology in sports sales, ticket sales, licensing products, negotiating sports sponsorships, and brand building. Recommendations: health and human physiology major.

SRM:3176 Sports Analytics for Coaches, Managers, and Other Decision Makers 3 s.h.

Data management, analytic models, and information systems; how sports analytics are used to make decisions for structuring athletic departments, develop in-game competitive strategies, and improve player performance; analytic examples applied to professional sports, college sports, high school sports, and fantasy sports; experience with statistics or computer science not required.

SRM:3178 Communications and Public Relations in Sports 3 s.h.

How public relations is used to promote service products, demonstrate social responsibility, and communicate with consumers and investors; campaigns, customer service, legal and ethical considerations in promoting service products, media events, information services, public relations in strategic management, atmospherics, critical service moment, social media. Recommendations: health and human physiology major.

SRM:3200 Topics in Sport and Recreation Management 3 s.h.

Exploration of various issues shaping the future of sport and recreation industries; in-depth focus on a specific topic within sport or recreation utilizing the expertise of the instructor.

SRM:3210 Event Bidding: Processes and Strategies 3 s.h.

Event rights holders—such as the International Olympic Committee (IOC) and the National Collegiate Athletic Association (NCAA)—use a competitive bid process to select a location, venue, and host committee to plan and execute their sport events; non-sport organizations also use the bidding process to select hosts for exhibitions, conferences, and workshops; students learn the processes and strategies used by event rights holders and event hosts in event bidding process.

SRM:3300 Writing for Sport and Recreation Managers 3 s.h.

Students discover their unique writing style and routine; areas of weakness in writing process; necessary tools to become more efficient, clear, and effective writers; discussion, practice, and review of important writing skills; writing skills of diverse professional situations; proper mechanics of persuasive, informative, and factual writing; styles applied to document formats (e.g., press releases, résumés, cover letters, emails, memos, marketing messages, interviews, crisis management); guest speakers provide unique expertise and insight; student-centered, workshop format.

SRM:3700 Ethics in Sport 3 s.h.

Ethical development and decision making processes in the sport and recreation industry including personal development, educational focused programming, and other types of ethics-based program development.

SRM:3800 Sport Law for Interscholastic Athletic Directors 3 s.h.

Part of the Interscholastic Athletic Director certificate; content includes sport unintentional torts, intentional torts, constitution, legislation, and risk management.

SRM:4190 Preinternship 0-1 s.h.

Orientation to internship process. Requirements: sport and recreation management major.

SRM:4194 Honors Readings arr.**SRM:4195 Honors Problems** arr.**SRM:4196 Internship** 3-9 s.h.

Capstone course for recreation sport business track; 360 contact hours of practical experience with private or nonprofit recreation or sport-related enterprise; supervision by an agency mentor and a university representative.

SRM:4197 Sport and Recreation Field Experience arr.

Educational opportunity involving a small group of students in a unique sport business experience; students serve as consultants for a sport or recreation organization; in-class preparation prior to off-campus work with designated agency; sport or recreation enterprise vary according to faculty expertise and agency availability.

SRM:4198 NCAA Rules Compliance and Enforcement 3 s.h.

Rules that govern NCAA athletics, rules compliance function on campuses of member institutions, and enforcement of rules by NCAA; essential legislation in NCAA Manual, including bylaws covering recruiting, eligibility, and amateurism; history of NCAA as related to organization's current structure and activities; summer session capstone experience includes attendance at NCAA Regional Rules Seminar in Indiana and participation in educational sessions conducted by NCAA staff.

SRM:5065 The Economy of Experience 3 s.h.

In-depth analysis of emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is gaining ascendancy as the last, best hope for future economic growth; exploration of current research in positive psychology and sociologist findings on evolution of post-materialist values as related to experience economy; evaluation of current trends; critical analysis and theory development; case studies; original research and investigation of novel marketing possibilities and experience design.

SRM:5200 Historical and Philosophical Perspectives on Leisure 3 s.h.

Historical and philosophical origins of leisure studies; historical issues related to leisure ideas, such as shorter hours, share-the-work, utopian vision of a better society.

SRM:6251 Risk Management 3 s.h.

Legal knowledge necessary for effective management of sport, recreation, and physical activity programs, avoidance of legal problems; strategies for addressing issues such as right to participate, liability for injuries, risk management; legal statutes that govern sport, health, recreation organizations.

SRM:6252 Economics and Financing 3 s.h.

Economic issues for sport/leisure services in nonprofit, private/commercial, and public sectors; strategic financial analysis for the nonfinancial manager; principles, issues in financing sport/leisure organizations.

SRM:6253 Sport Administration 3 s.h.

Overview of various segments that constitutes the role and function of a sport administrator (i.e., planning, organizing, leading, controlling); focus on ways in which sport administrators and their subsequent organizations influence and are influenced by the link between sport and globalization; sport administration encompassing services provided within an organizational context; administration viewed as the coordination of production and distribution of those services.

SRM:6254 Marketing and Sport Promotion 3 s.h.

Overview of varied segments that constitutes sports business practice, including marketing, data-based marketing, sales, promotion, sponsorship; varied segments that make up the sport industry, including the mass media, infrastructure, stadium building, consumer behavior; readings and discussions consider the development and structure of each segment, interactions between segments, planning, policy implications; focus on the United States, professional team sports, comparisons to other sports.

SRM:6255 Capstone Project 3 s.h.

Development of a project applying expertise acquired through required course work to an area of interest fitting student's career ambitions; includes final presentation to a faculty committee and written paper to support the presentation. Prerequisites: SRM:5065 and SRM:6251 and SRM:6252 and SRM:6253 and SRM:6254.

Therapeutic Recreation Courses

TR:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

TR:1061 Recreation Leadership and Programming 3 s.h.

Leadership principles, techniques; programming techniques.

TR:1070 Perspectives on Leisure and Play 3 s.h.

Relationships between leisure and economics, sociology, other social sciences; effect of leisure on individual and group behavior; antecedents, motives, consequences of leisure behavior. GE: Social Sciences.

TR:1077 Introduction to Child Life 3 s.h.

Orientation to the field of child life services including services for hospitalized children and their families.

TR:1800 Aging Matters: Introduction to Gerontology 3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, NURS:1800, SSW:1800.

TR:3160 Introduction to Therapeutic Recreation 3 s.h.

Lifestyles and barriers faced by persons with disabilities; basic aspects of the therapeutic recreation profession; skills used to establish therapeutic relationship; techniques used with patients; theoretical and conceptual bases for practice.

TR:3161 Assessment and Evaluation in Therapeutic Recreation 3 s.h.

Basic assessment psychometrics (e.g., reliability), standardized instrumentation and data collection (e.g., observation, self-report), construction of instruments, data reduction. Prerequisites: TR:3160.

TR:3162 Therapeutic Recreation: Clientele 3 s.h.

Developmental patterns of special populations; examination of specific interventions and research applied to specific cognitive, emotional, and physical impairments.

TR:3163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession 3 s.h.

Ethical, professional, and theoretical issues in delivery of therapeutic recreation services; impact of legislation, standards of practice, health care reform; application of research to practice and marketing services. Prerequisites: TR:3160.

TR:3164 Therapeutic Recreation: Rehabilitation 3 s.h.

In-depth review of therapeutic recreation techniques used in clinical and community rehabilitation; opportunities to use techniques with patients. Prerequisites: TR:3160.

TR:3170 Children and Health Care 3 s.h.

Broad overview of issues and systemic approaches to working with children in a health care setting; practical and clinically based experiences for pediatric population; provision of health care services to patients and issues that affect them; models of intervention, ethical issues, case studies, and impact of cultural diversity on health care; for undergraduates who are interested in working with children in a health care setting.

TR:3171 Child Life Practical Application 3 s.h.

Overview of medical conditions and treatments commonly encountered by children and adolescents in health care settings; common pediatric sedation medications; sequence of medical procedures to understand how to provide procedural preparation and support; facilitate medical play with pediatric population.

TR:3174 Cultural Perspectives in Health Care 3 s.h.

Health care beliefs related to various cultures and religions; focus on illness, hospitalization, treatment, death.

- TR:3261 Inclusive Recreation** 3 s.h.
Laws pertaining to access to recreation and leisure opportunities for disabled persons in a community; evaluation of physical access to built environment; how social construction of disability can be a barrier to integrated leisure involvement; practical aspects of how to include disabled persons in community recreation and sport activities.
- TR:3262 Therapeutic Recreation Administration** 3 s.h.
Examination of the organization and administration of therapeutic recreation services; focus on planning, organizing, and managing therapeutic recreation services; comprehensive and strategic planning, funding, marketing, legal and legislative issues, personnel management, and professional practice of therapeutic recreation.
- TR:3281 Special Projects in Child Life Practice** 2 s.h.
Student directed and student led hospital camping experience for patients at the University of Iowa Children's Hospital; planning and preparing for a large function, planning and leading therapeutic activities, working directly with patients and their families, processing and discussion of experiences and concerns; practical and clinical-based experiences for students interested in working with pediatric population in health care setting. Requirements: hospital orientation, patient confidentiality (HIPAA) training, and health screening.
- TR:4169 Spring Break Child Life Experience** 1 s.h.
Practical experience with ill children, including a trip to the Give Kids the World village in Florida; documentation and engagement of course materials, experience working with ill children; students are assigned a specific diagnosis and present the diagnosis (appropriate statistics, effects of hospitalization, treatment, etc.) on child and family; coping strategies, appropriate methods of talking to and interacting with children and families, overview of child life in hospitals.
- TR:4190 Preinternship Seminar** 1 s.h.
Interviewing skills, résumés and cover letters, selection of internship site(s), application procedures for internship positions, and responsibilities of interns to the agency.
- TR:4191 Therapeutic Recreation Internship** arr.
Practical field experience; direct leadership, program planning, administrative procedures. Prerequisites: TR:4190. Requirements: overall g.p.a. of 2.00 and major g.p.a. of 2.00.
- TR:4192 Child Life Internship** 9,12 s.h.
Minimum 12-week, 480-contact-hour field experience under supervision of a Certified Child Life Specialist. Prerequisites: TR:5165 and TR:3160 and TR:5166 and TR:5167 and TR:3162 and TR:1077 and TR:1061.
- TR:4193 Independent Study** arr.
Problem in a specific area.
- TR:4194 Honors Readings** arr.
Independent reading or research project under faculty supervision usually leading to an honors paper. Requirements: admission to honors program.
- TR:4195 Honors Problems** arr.
Completion of a project over and above normal independent study as an honors project; major research effort involving close work with an advisor.
- TR:5165 Child Life: Child Development and Healthcare Interventions** 3 s.h.
Application of typical growth and development content, including theoretical content for children and adolescents (birth to 18 years old); theories of cognitive development, psycho-social development, and attachment applied to essential healthcare interventions unique to child life practice; history of child life profession and scope of practice; application of developmental perspectives to intervention (e.g., education, healthcare play, support and coping interventions, pain management, bereavement).
- TR:5166 Child Life: Seminar** 3 s.h.
Current issues and research in child life, expanding scope of service in child life.
- TR:5167 Child Life Practicum** 1-3 s.h.
Experience observing and assisting child life staff members providing services to hospitalized children, under Certified Child Life Specialist supervision.
- TR:5205 Research Methods and Play Behavior** 3 s.h.
The scientific process: research designs for experiments and surveys, questionnaire construction, sampling theory, basic data analysis.
- TR:5211 Professional Ethics and Practice in Pediatrics** 3 s.h.
Examination of core issues in clinical pediatrics; beginning life critical care, end-of-life care, role of medical technology, public health research pertinent to children, and maintaining professional boundaries. Prerequisites: TR:1077.
- TR:5212 Child Life Research Problems** arr.
Work one-to-one with a faculty member on a mentored research project pertaining to child life, play, and development, or an appropriate special topic agreed upon by student and faculty member. Prerequisites: TR:5205. Requirements: acceptance to M.S. program in health and human physiology child life track.
- TR:5260 Play and Childhood** arr.
Multiple levels of theories and current research on importance of play in child development; advocacy for importance and necessity of play in childhood that leads to well-being and healthy lifestyles; practical and theoretically based experiences; for students interested in working with children in health care, clinical, school, community, and family life settings.
- TR:5261 Family Systems** 3 s.h.
Examination of dynamics of family life as a social system from a historical, sociocultural, and theoretical perspective; approaches to working with diverse children and families facing life stresses; interactive format, incorporates experiential learning, classroom lecture, and discussion.
- TR:5270 Child Life Internship** 9,12 s.h.
Child life student interns complete a minimum 15-week, 600-hour field experience under supervision of a Certified Child Life Specialist to meet certification requirements of the Association of Child Life Professionals; students are required to complete academic course work in addition to clinical requirements. Prerequisites: TR:5165 and TR:5166 and TR:5167 and TR:5205 and TR:5211 and TR:5260 and TR:5261.
- TR:6200 Child Life Graduate Forum** 0 s.h.
Informational sessions, networking, review of research scholarship, resources, and joint collaboration for first- and second-year child life graduate students. Requirements: enrollment in Department of Health and Human Physiology M.S. child life track.

TR:7289 Graduate Practicum in Therapeutic Recreation 3 s.h.

Field placement with a therapeutic recreation service delivery agency; meets NCTRC certification standards. Prerequisites: TR:3160. Corequisites: TR:3163 and TR:3164.

Health and Physical Activity Skills Courses

HPAS:1001 Alcohol and Your College Experience 1 s.h.

Patterns of alcohol, drug use focused on college years; strategies for monitoring use, behavioral change plans for implementing lower-risk drinking practices; for drinkers and non-drinkers.

HPAS:1002 Tobacco and Your College Experience 1 s.h.

Current behavior change theories related to tobacco use, cessation; nicotine replacement therapies (NRT), non-NRT methods; triggers, relapse prevention, cognitive behavioral skills, support systems; for smokers and non-smokers.

HPAS:1003 Resiliency and Your College Experience 1 s.h.

Resiliency and psychological hardiness theories relevant to college life; resiliency and ability to cope with challenges; components of psychological fitness; skills for personal growth and emotional well-being.

HPAS:1004 Food and Your College Experience 1 s.h.

Sociocultural perspective on the forces that facilitate "junk" diets, particularly during young adulthood; basic components of nutrition; opportunity to develop skills in diet planning and healthy eating.

HPAS:1005 Indoor Group Cycling 1 s.h.

Introduction to group cycling; bike setup, safety, proper technique, injury prevention, and utilization of interval training.

HPAS:1006 Intuitive Eating 1 s.h.

How to create and sustain a healthy relationship with mind, body, food, and exercise using an evidence-based approach; introduction to 10 basic principles of intuitive eating, taking a critical look at dieting and a healthful approach to satisfying eating balanced with exercise.

HPAS:1007 Basic CPR 1 s.h.

Basic, beginner-level information on CPR procedures; passing the course leads to certification in CPR; more advanced certifications may be sought for medical professionals.

HPAS:1008 Basic First Aid 1 s.h.

Basic, beginner-level information on first aid procedures; leads to certification in first aid; more advanced certifications may be needed for medical professionals.

HPAS:1010 Personal Fitness 1 s.h.

Introduction to personal workout programming and design; includes sections on cardiovascular fitness, muscular strength and endurance, and flexibility.

HPAS:1020 Core Strengthening 1 s.h.

Introduction to developing strength, flexibility, and endurance through the core; students will learn what the core is, how to best develop the muscles of the core, and why core training is important.

HPAS:1030 Cardio Training 1 s.h.

Beginner's guide to cardio fitness to develop and maintain levels of cardiovascular health and fitness.

HPAS:1040 Pilates I 1 s.h.

Introduction to the study and practice of Pilates for beginners; topics include proper breathing techniques, flexibility, balance, relaxation, and Pilates exercises.

HPAS:1045 Pilates II: Intermediate Pilates 1 s.h.

Study and practice of Pilates; intermediate and advanced Pilates moves; modifications and use of props based on current ability level; musculoskeletal anatomy and biomechanics as related to Pilates. Prerequisites: HPAS:1040.

HPAS:1055 Introduction to Triathlon Training 1 s.h.

Introduction to the sport of triathlon; promote skill development to enable beginner level students to complete an indoor sprint triathlon; students will swim in an indoor pool, cycle on indoor bicycles and run inside and outside weather permitting; how to use basic periodization, improve technique, and nutritional guidelines for triathlon; beginning training for the outdoor triathlon season. Requirements: ability to swim 200 yards (4 laps) without stopping.

HPAS:1060 High Intensity Interval Resistance Training 1 s.h.

Increased fitness levels through principles of resistance training using a high-intensity interval training (HIIT) method; various types of resistance (free weights, rubber bands, partner resistance, and body weight resistance); topics include muscular anatomy, principles of resistance training, various resistance training exercises, safety, motivation and goal setting, and personal program design. Recommendations: general understanding of resistance training.

HPAS:1070 Introduction to Weight Training 1 s.h.

Introduction to basic principles of weight training using barbells and dumbbells as resistance; muscular anatomy, principles of weight training, muscular strength, muscular endurance, weight room safety, motivation and goal setting, personal program development; no prior weight training experience required.

HPAS:1075 Weight Training II 1 s.h.

Builds on skills and concepts acquired in HPAS:1070; advanced weight training programs aimed at developing muscular strength and endurance. Prerequisites: HPAS:1070. Recommendations: knowledge of basic anatomy, ability to demonstrate proper lifting techniques, and understanding of weight training principles.

HPAS:1080 Olympic Weightlifting 1 s.h.

Beginning-level introduction to classical Olympic weightlifting movements leading up to the snatch, clean and jerk, power snatch, and power clean. Recommendations: HPAS:1070 and/or an understanding of weight training fundamentals and basics.

HPAS:1090 Sports Skills and Drills 1 s.h.

Develop and practice basic skills and game strategy for an array of team sports; participate in a variety of educational and competitive physical activities that may include flag football, soccer, basketball, tennis, pickleball, and racquetball.

HPAS:1100 Kettlebell Training 1 s.h.

Introduction to basic principles and benefits of using kettlebells for strength, power, mobility, weight loss, and more; topics include history, mobility drills, foundational movements (e.g., deadlift, swing, clean, press, Turkish Get Up, high pull, snatch), safety, goal-setting, and personal program development.

- HPAS:1110 Fitness Walking** 1 s.h.
Walking as a means to improve cardiovascular health and fitness; utilizes outdoor walking, weather permitting, or the indoor track.
- HPAS:1130 Couch to 5K: Beginner Jogging** 1 s.h.
- HPAS:1140 PE Games** 1 s.h.
Participation in and design of physical activity games and skills; students improve physical health through cardio endurance and resistance training during game play; games and variations of games may consist of basketball, dodgeball, tag, volleyball, and other physical activities; how to be physically active and healthy while having fun; physiological responses to physical activity.
- HPAS:1150 Introduction to Health and Wellness** 1 s.h.
Optimal physical health and wellness in the college years; focus on behavioral change and goal setting, five components of fitness, dimensions of wellness, and stress management.
- HPAS:1210 Relaxation Techniques** 1 s.h.
How to define the sources of underlying stress, learn to cope with everyday stressors, and become more proactive through life skill management.
- HPAS:1220 Flexibility** 1 s.h.
Help students move through full range of motion, work to correct imbalances, and ultimately move better through activities of daily living.
- HPAS:1230 Hatha Yoga** 1 s.h.
Introduction to the study and practice of yoga; geared towards beginners.
- HPAS:1235 Hatha Yoga II: Intermediate Hatha Yoga** 1 s.h.
Study and practice of Hatha Yoga; topics may include history and philosophy of Hatha Yoga, props and modifications, and biomechanics and anatomy as it relates to yoga. Prerequisites: HPAS:1230.
- HPAS:1240 Power Yoga** 1 s.h.
Build strength, flexibility, and balance while maintaining traditional yoga emphasis of breath and intention; breath and movement are linked as you flow in and out of a combination of vinyasas (yoga sequences) and balancing poses; topics include proper breathing techniques, sun salutations, arm balances, backbends, and inversions. Requirements: basic understanding and background in yoga; a 6-week yoga practice is recommended.
- HPAS:1250 Tai Chi** 1 s.h.
Introduction to the practice of tai chi; basic structure, footwork, and breathing involved in execution of routines consisting of a variety of postures; application of this knowledge to a self-defense situation.
- HPAS:1320 Lap Swimming I** 1 s.h.
Introduction to swim stroke development utilizing swimming as a form of exercise; this is not a learn-to-swim class and a basic prerequisite swimming test will be performed prior to instruction.
- HPAS:1325 Lap Swimming II** 1 s.h.
Advanced technique refinement course geared towards students who have passed HPAS:1320 or can perform the prerequisite swim test. Prerequisites: HPAS:1320.
- HPAS:1340 Water Workout** 1 s.h.
Basic principles and benefits of aquatic exercise; guidelines for creating safe and effective aquatic exercise programs; topics include fitness and conditioning, anatomy, safety, deep-water workouts, goal setting, and nutrition.
- HPAS:1410 Badminton** 1 s.h.
Introduction to the game, rules, and skills involved in badminton.
- HPAS:1430 Racquetball** 1 s.h.
Introduction to the game, rules, and skills involved in racquetball.
- HPAS:1440 Table Tennis** 1 s.h.
Introduction to the game, rules, and skills involved in table tennis.
- HPAS:1530 Volleyball I** 1 s.h.
Introduction to the game, rules, and skills involved in volleyball.
- HPAS:1535 Volleyball II** 1 s.h.
Advanced skill refinement course geared towards students who have passed HPAS:1530 or are able to show mastery of the basic techniques. Prerequisites: HPAS:1530.
- HPAS:1550 Slow-Pitch Softball** 1 s.h.
Introduction to the game, rules, and skills involved in softball; course will meet outside, weather permitting.
- HPAS:1560 Ultimate Frisbee** 1 s.h.
Introduction to the game, rules, and skills involved in ultimate frisbee; course will meet outside, weather permitting.
- HPAS:1610 Self Defense** 1 s.h.
Introduction to the practice of self-defense through upper and lower body strikes, joint manipulation, and other personal protection measures; this is a noncontact course.

Health and Human Physiology, B.A.

Learning Outcomes

The B.A. degree in health and human physiology:

- provides students a broad education in the health sciences;
- prepares students to employ their fundamental knowledge of human physiology and health sciences together with the scientific method to solve problems in their chosen professional and/or graduate career fields; and
- instills in students the understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life, and the importance of lifelong learning in the rapidly evolving fields of physiology and the health sciences.

Requirements

The Bachelor of Arts with a major in health and human physiology requires a minimum of 120 s.h., including work for the major, which varies by track. The health promotion track requires a total of 46-50 s.h. of work for the major; the health studies track requires 43-47 s.h. of work for the major; and the exercise science track requires 48-52 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The health promotion track is intended for students seeking careers that promote wellness in the community and the workplace. The health studies track is designed for students who want a more flexible health science curriculum. The exercise science track is intended for students seeking careers as professionals in fitness and in strength and conditioning.

Students may earn a Bachelor of Arts degree with a major in health and human physiology or a Bachelor of Science degree with a major in human physiology, but not both.

Students who major in health and human physiology may not earn the minor in human physiology or the minor in physical activity and nutrition science.

Students in all tracks are required to complete the following science and math foundation courses and departmental core courses, as well as additional courses required specifically for their track.

The B.A. with a major in health and human physiology requires the following course work.

Code	Title	Hours
	Science and Math Foundation Courses	10-12
	Departmental Core Courses	12-14
	Track Courses	21-26
	Total Hours	43-52

Science and Math Foundation Courses

All students complete three foundation courses (minimum of 10 s.h.): one each in chemistry, biology, and mathematics or statistics.

Code	Title	Hours
Chemistry—one of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4
Biology—one of these:		
BIOL:1140	Human Biology	4
BIOL:1141	Introductory Animal Biology	4
BIOL:1411	Foundations of Biology	4
Mathematics or statistics—one of these:		
MATH:1020	Elementary Functions	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3

Departmental Core Courses

All students must complete the four-course departmental core (12-14 s.h.).

Code	Title	Hours
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
Both of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3

Tracks

Health Promotion Track Requirements

The health promotion track prepares students to directly work with individuals and communities to improve health and quality of life. Students learn how to assess, plan, implement, evaluate, and oversee programs designed to improve health behaviors, create environments supportive of healthy lifestyles, and effectively communicate health issues to key stakeholders. The health promotion track prepares students to take the certification exam from the National Commission for Health Education Credentialing. The mix

of natural and social sciences in this track also provides a foundation for professional or graduate study in allied health, health management, or public health.

In addition to completing the courses listed above under "Science and Math Foundation Courses" and "Departmental Core Courses," health promotion track students must complete the following health promotion core courses (15 s.h.) and major electives (9 s.h.).

Code	Title	Hours
Health Promotion Core		
All of these:		
HHP:3200	Health Behavior and Health Promotion	3
HHP:3430	Health Management and Administration	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	3
HHP:4020	Health Communication and Coaching Strategies	3
HHP:4420	Planning and Evaluating Health Interventions	3
Health Promotion: Major Electives		
Students must complete at least 9 s.h. selected from courses numbered HHP:2000 or above		

Health Studies Track Requirements

The health studies track interconnects the systems, technologies, and policies driving the U.S. wellness and health care industries. It provides flexible opportunities to work with faculty in developing the knowledge and skills needed to understand health determinants and anticipate continuing changes in preventive and clinical health delivery.

In addition to completing the courses listed above under "Science and Math Foundation Courses" and "Departmental Core Courses," health studies track students must complete the following health studies core courses (9 s.h.) and major electives (12 s.h.).

Code	Title	Hours
Health Studies Core		
All of these:		
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
HHP:4040	Health Services: Current Barriers and Innovative Solutions	3
HHP:4390	Understanding Human Disease	3
Health Studies: Major Electives		
Students must complete at least 12 s.h. selected from courses numbered HHP:2000 or above		

Exercise Science Track Requirements

The exercise science track provides focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes. The curriculum has been approved by the American College of Sports Medicine (ACSM) as meeting the academic preparation for certification as an ACSM certified exercise physiologist and ACSM certified personal trainer. It also prepares students for certification by the National

Strength and Conditioning Association as a certified strength and conditioning specialist and certified special population specialist. The strong physiological science-based curriculum can serve as preparation for professional or graduate study in rehabilitation sciences, performance sciences, or medical fields.

In addition to completing the courses listed above under "Science and Math Foundation Courses" and "Departmental Core Courses," exercise science track students must complete the following exercise science core courses (20 s.h.) and major electives (6 s.h.).

Code	Title	Hours
Exercise Science Core		
All of these:		
HHP:2350	Biomechanics of Sport and Physical Activity	3
HHP:2500	Psychological Aspects of Sport and Physical Activity	3
HHP:3400	Applied Exercise Physiology	3
HHP:4200	Metabolic Exercise Testing and Prescription	4
HHP:4210	Musculoskeletal Exercise Testing and Prescription	4
HHP:4310	Sport and Exercise Nutrition	3
Exercise Science: Major Electives		

Students must complete at least 6 s.h. selected from courses numbered HHP:2000 or above

Combined Programs

B.A./M.S. in Athletic Training

The Department of Health and Human Physiology and the Department of Orthopedics and Rehabilitation (Carver College of Medicine) offer a combined Bachelor of Arts in health and human physiology (exercise science track)/Master of Science in athletic training. The combined degree program allows students to count a limited amount of credit toward both degrees, enabling them to begin the study of athletic training before they complete their bachelor's degree. Course work taken during the first three years on campus constitutes the required prerequisites for application to the master's degree program.

Admission

Students apply to the M.S. program in their third year of undergraduate study. Admission to the M.S. program in athletic training is for summer entry. Students should consult their advisor about the appropriate sequence of courses and other requirements.

For more information, see the M.S. in athletic training [p. 1602] section in the Catalog.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain an overall g.p.a. of at least 3.33 in work for their major.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Honors Research I and HHP:4900 Honors Research

II; write an honors thesis that is deposited with the University of Iowa Honors Program and is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the health and human physiology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: one foundation course and at least six more courses in the major

Before the seventh semester begins: at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two more courses in the major (total of 15)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Health and Human Physiology, B.A.

- Health Promotion Track [p. 568]
- Health Studies Track [p. 569]
- Exercise Science Track [p. 569]

Health Promotion Track

Course	Title	Hours
First Year		
Fall		
CHEM:1070	General Chemistry I ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: Social Sciences ^b		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
HHP:2200	Physical Activity and Health	3

CHEM:1080	General Chemistry II	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: math/statistics requirement ^c		3
Elective course ^d		3
Hours		15-16

Second Year

Fall

HHP:2310	Nutrition and Health	3
Major: biology requirement ^c		4
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
Elective course ^d		2
Hours		16-17

Spring

HHP:1100	Human Anatomy	3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Hours		16-17

Third Year

Fall

HHP:1300	Fundamentals of Human Physiology	3
HHP:3200	Health Behavior and Health Promotion	3
Major: Elective course ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Hours		16-17

Spring

HHP:4020	Health Communication and Coaching Strategies	3
Major: Elective course ^f		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Fourth Year

Fall

HHP:3430	Health Management and Administration	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

HHP:4420	Planning and Evaluating Health Interventions	3
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Major: Elective course ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Total Hours	123-129

- a Course not required before CHEM:1080 if student has completed high school chemistry.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students must complete at least 9 s.h. selected from courses in acronym HHP, numbered :2000 or above.

Health Studies Track

Course	Title	Hours
First Year		
Fall		
CHEM:1070	General Chemistry I ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: Social Sciences ^b		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
HHP:2200	Physical Activity and Health	3
CHEM:1080	General Chemistry II	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: math/statistics requirement ^c		3
Elective course ^d		3
Hours		15-16
Second Year		
Fall		
HHP:2310	Nutrition and Health	3
Major: biology requirement ^c		4
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
Elective course ^d		2
Hours		16-17
Spring		
HHP:1100	Human Anatomy	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Hours		16-17

Third Year

Fall

HHP:1300	Fundamentals of Human Physiology	3
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
Elective course ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Hours		16-17

Spring

HHP:4390	Understanding Human Disease	3
Major: Elective course ^f		3
Elective course ^d		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^d		3
Hours		16-17

Fourth Year

Fall

HHP:4040	Health Services: Current Barriers and Innovative Solutions	3
Major: Elective course ^f		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: Elective course ^f		3
Major: Elective course ^f		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15
Total Hours		123-129

- a Course not required before CHEM:1080 if student has completed high school chemistry.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students must complete at least 12 s.h. selected from courses in acronym HHP, numbered :2000 or above.

Exercise Science Track

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CHEM:1070	General Chemistry I ^a	3
GE CLAS Core: Diversity and Inclusion ^b		3

GE CLAS Core: Social Sciences ^b	3
CSI:1600 Success at Iowa	2
Hours	14-15

Spring

HHP:2200 Physical Activity and Health	3
CHEM:1080 General Chemistry II	3
RHET:1030 Rhetoric	3 - 4
or ENGL:1200 or The Interpretation of Literature	
Major: math/statistics major requirement ^c	3
Elective course ^d	3
Hours	15-16

Second Year**Fall**

HHP:2310 Nutrition and Health	3
Major: biology requirement ^c	4
GE CLAS Core: Historical Perspectives ^b	3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e	4 - 5
Elective course ^d	2
Hours	16-17

Spring

HHP:1100 Human Anatomy	3
HHP:2500 Psychological Aspects of Sport and Physical Activity	3
GE CLAS Core: International and Global Issues ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-17

Third Year**Fall**

HHP:1300 Fundamentals of Human Physiology	3
HHP:4310 Sport and Exercise Nutrition	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Hours	16-17

Spring

HHP:2350 Biomechanics of Sport and Physical Activity	3
HHP:3400 Applied Exercise Physiology	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Elective course ^d	3
Elective course ^d	3
Hours	16-17

Fourth Year**Fall**

HHP:4200 Metabolic Exercise Testing and Prescription	4
Major: elective course ^f	3
Elective course ^d	3
Elective course ^d	3

Elective course ^d	2
Hours	15

Spring

HHP:4210 Musculoskeletal Exercise Testing and Prescription	4
Major: elective course ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	2
Hours	15
Total Hours	123-129

- a Course not required before CHEM:1080 if student has completed high school chemistry.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students must complete at least 6 s.h. selected from courses in acronym HHP, numbered :2000 or above.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Human Physiology, B.S.

Learning Outcomes

The B.S. degree in human physiology:

- provides students a broad education in the health sciences;
- prepares students to employ their fundamental knowledge of human physiology and health sciences together with the scientific method to solve problems in their chosen professional and/or graduate career fields; and
- instills in students the understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life, and the importance of lifelong learning in the rapidly evolving fields of physiology and the health sciences.

Requirements

The Bachelor of Science with a major in human physiology requires a minimum of 120 s.h., including 62 s.h. of work for the major (31 s.h. in health and human physiology and 31 s.h. in required cognate courses). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major in human physiology is designed primarily for individuals who intend to continue their education beyond the B.S. in the health professions, including medicine, dentistry, optometry, physician assistant, physical therapy, and podiatry, and for those who intend to pursue graduate degrees in basic life sciences.

Students may earn a Bachelor of Science degree with a major in human physiology or a Bachelor of Arts degree with a major in health and human physiology, but not both.

Students who major in human physiology may not earn the minor in human physiology or the minor in physical activity and nutrition science.

The B.S. with a major in human physiology requires the following course work.

Code	Title	Hours
Human Physiology Courses		31
Cognate Area Courses		31
Total Hours		62

Human Physiology Courses

Code	Title	Hours
All of these:		
HHP:2200	Physical Activity and Health	3
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3550	Human Physiology with Laboratory	5
At least 18 s.h. from these, of which at least 12 s.h. must be in HHP course work:		
HHP:3230/PSY:3230	Psychopharmacology	3
HHP:3300	Human Growth and Motor Development	3
HHP:3450	Immunology in Health and Disease	3

HHP:3900	Writing for Health and Human Physiology	3
HHP:4110	Advanced Human Anatomy Laboratory	4
HHP:4130	Skeletal Muscle Physiology	3
HHP:4150	Clinical Exercise Physiology	3
HHP:4200	Metabolic Exercise Testing and Prescription	4
HHP:4210	Musculoskeletal Exercise Testing and Prescription	4
HHP:4220	Biomechanics of Human Motion	3
HHP:4250	Human Pathophysiology	3
HHP:4260	Respiratory Pathophysiology	3
HHP:4410	Exercise Physiology	3
HHP:4440	Physiology of Nutrition	3
HHP:4450	Genetic Basis of Disease	3
HHP:4460	Cardiovascular Physiology	3
HHP:4465	Environmental Exercise Physiology	3
HHP:4470	Physiology of Aging	3
HHP:4480	Introduction to Human Pharmacology	3
HHP:4500	Undergraduate Independent Study	arr.
HHP:4510	Energy Metabolism in Health and Disease	3
HHP:4900	Honors Research II	3
BIOC:3110	Biochemistry	3
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2603	Mechanisms of Aging	3
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3373	Human Population Genetics and Variation	3
MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
MICR:3168	Viruses and Human Disease	3
PSY:3220	Behavioral Neuroscience	3
SOC:3510	Medical Sociology	3

Cognate Areas

Students must earn a minimum of 31 s.h. in cognate areas—subjects outside of human physiology—by completing courses from the following lists.

Code	Title	Hours
Biology		
This sequence:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
Chemistry		
This sequence:		

CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
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Mathematics

One of these:

MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

Physics

This sequence:

PHYS:1511- PHYS:1512	College Physics I-II	8
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Statistics

One of these:

STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Honors Research I and HHP:4900 Honors Research II; write an honors thesis that is deposited with the University of Iowa Honors Program and is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the human physiology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: calculus and at least six more courses in the major

Before the seventh semester begins: at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least two more courses in the major (total of 15)

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Human Physiology, B.S.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
GE CLAS Core: Diversity and Inclusion ^c		3
GE CLAS Core: Social Sciences ^c		3
CSI:1600	Success at Iowa	2
	Hours	15-16

Spring

BIOL:1411	Foundations of Biology ^b	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1460	Calculus for the Biological Sciences ^{b, d}	4
	Hours	15-16

Second Year

Fall

HHP:2200	Physical Activity and Health	3
HHP:3115	Anatomy for Human Physiology with Lab	5
BIOL:1412	Diversity of Form and Function	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
	Hours	16-17

Spring

HHP:3550	Human Physiology with Laboratory	5
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		1
	Hours	16-17

Third Year

Fall

PHYS:1511	College Physics I	4
Major: Elective course ^g		3
Major: statistics requirement		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		2
	Hours	16-17

Spring

PHYS:1512	College Physics II	4
Major: Elective course ^g		3
GE CLAS Core: International and Global Issues ^c		3
GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course ^e		
Elective course ^f		2
Hours		16-17

Fourth Year**Fall**

Major: Elective course ^g		3
Major: Elective course ^g		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Spring

Major: Elective course ^g		3
Major: Elective course ^g		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		3
Hours		15
Total Hours		124-130

- a Enrollment in chemistry courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students complete at least 18 s.h. in approved major electives, of which at least 12 s.h. must be in HHP course work.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Sport and Recreation Management, B.S.

Learning Outcomes

Students with a B.S. in sport and recreation management will be able to:

- demonstrate knowledge of foundational sport and recreation management principles;
- apply and analyze financial, human resource and facility management principles; marketing, communications and sales strategies; and legal concepts to the sport and recreation industries;
- evaluate and explore career paths in the sport and recreation industries to identify where individual student strengths and interests will thrive;
- acquire knowledge in a concentration area within sport or recreation unique to individual student career objectives;
- express ideas clearly, logically, and persuasively in both oral and written formats; and
- demonstrate critical thinking; effective research methods; and teamwork, project management, and presentation principles to unique sport and recreation organization business challenges.

Requirements

The Bachelor of Science with a major in sport and recreation management requires a minimum of 120 s.h., including 48 s.h. of work for the major (27 s.h. in sport and recreation management, 12 s.h. in a concentration area, and 9 s.h. in field experience). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The Bachelor of Science in sport and recreation management prepares students to make meaningful contributions to the sport and recreation industry at all levels and broaden their understanding and appreciation of the sport and recreation industry.

The curriculum challenges students to think critically and creatively while developing analytical, rhetorical, and research abilities that are required for leadership positions in the sport and recreation industry. Moreover, the program emphasizes and provides experiential learning opportunities for a student's application of concepts and skills in professional settings to enhance learning and development.

Students who major in sport and recreation management may not earn the minor in sport and recreation management.

Online Degree Option

The Department of Health and Human Physiology offers an online B.S. degree in sport and recreation management. The online program enables students to complete their B.S. degree from anywhere in the world. For more information, see Online B.S. Degree in Sport and Recreation Management on the Department of Health and Human Physiology website, or contact the Department of Health and Human Physiology directly.

Degree Requirements

The B.S. with a major in sport and recreation management requires the following course work.

Code	Title	Hours
Foundation Courses		27
Field Experience		9
Concentration Area Courses		12
Total Hours		48

Foundation Courses

Code	Title	Hours
All of these:		
SRM:1060	Contemporary Issues in Sports	3
SRM:3157	Managerial Operations in Sport and Recreation	3
SRM:3175	Sales in Sport	3
SRM:3178	Communications and Public Relations in Sports	3
Students must have completed 30 s.h. before they enroll in the following:		
SRM:3151	Liability in Sport and Recreation	3
SRM:3152	Design and Management of Sport and Recreation Facilities	3
SRM:3153	Sport Business Practices	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3172	Finance in Sport and Recreation	3

Field Experience

Students are required to complete a total of 9 s.h. of field experience (guided and/or independent) and must obtain prior approval from the director of field experience before performing any independent field experience for academic credit. See Independent Field Experience on the Department of Health and Human Physiology website, or contact the Department of Health and Human Physiology directly.

Field experience includes both guided and independent options. Guided experience sections are led by faculty who set learning objectives and outcomes with partner organizations. Courses have regular meeting times and faculty oversee and evaluate student engagement, participation, and completion.

Independent experience is student initiated with an approved sport or recreation affiliated organization, such as an internship. In consultation with the faculty and organization, a student sets the learning objectives for the duration of the experience. Faculty communicates with each student and site supervisor to evaluate student engagement, participation, and completion of learning objectives.

Students who earn a Certificate in Interscholastic Athletic/Activities Administration may apply a maximum of 3 s.h. of credit from SRM:4197 Sport and Recreation Field Experience from that certificate to the 9 s.h. field experience requirement of the sport and recreation management major.

Both guided and independent field experience credit is based on 45 hours of field experience for each semester hour earned.

Code	Title	Hours
SRM:4197	Sport and Recreation Field Experience	1-9

Concentration Areas

Students must complete 12 s.h. in one of the following concentration areas: business studies; coaching and sport instruction; communications and public relations/journalism; entrepreneurship; event management; interscholastic athletic activities administration; sport and diversity; or the student-designed concentration that allows students to design their own concentration with approval of their advisor and faculty. Some of these courses below have prerequisites; students must complete all of a course's prerequisites before they may register for the course. Prerequisites do not count toward the concentration course work.

Business Studies Concentration

Code	Title	Hours
Business studies concentration students select 12 s.h. from these:		
SRM:1072	Leisure and the Liberal Arts	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3200	Topics in Sport and Recreation Management	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
ARTS:1070	Elements of Graphic Design	3
CCP:1301	Communication for the Workplace	1
CNW:3640	Writing for Business and Industry (when topic is prepare for the "real world")	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3690	Sports Economics	3
FIN:3000	Introductory Financial Management	3
JMC:5240	Digital Strategic Communication	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MGMT:3050	Professional Preparation for Management	1
MSCI:1500	Business Computing Essentials	2
RHET:2085	Speaking Skills	3

Coaching and Sport Instruction Concentration

In addition to the 12 s.h. concentration area requirement, students also may choose to complete the Certificate in Interscholastic Athletic/Activities Administration [p. 587], a 21 s.h. program.

Students who wish to earn the certificate and complete their 12 s.h. concentration area in coaching and sport instruction may count no more than 6 s.h. earned from the concentration area toward the certificate. However, two courses, SRM:3149 Coaching Theory, Body Structure, and Human Development and SRM:3155 Prevention and Care of Athletic Injuries for Coaches, are excluded from the 6 s.h. double-count rule.

Code	Title	Hours
Coaching and sport instruction concentration students select 12 s.h. from these:		
SRM:1045	Diversity and Inclusion in Healthy Living	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3149	Coaching Theory, Body Structure, and Human Development	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
ATEP:1000	First Aid and CPR	2
ATEP:2030	Basic Athletic Training	3
CCP:1301	Communication for the Workplace	1
HHP:1100	Human Anatomy	3
HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:3300	Human Growth and Motor Development	3
HHP:3400	Applied Exercise Physiology	3
EDTL:3114	Parent-Child Relationships	3
EDTL:3131	Movement Education	2
EPLS:4200	Diversity and Inclusion in Athletics	3
RHET:2085	Speaking Skills	3

Coaching Certification Process

University of Iowa students can become authorized to coach K-12 school-sponsored athletics in the state of Iowa by taking the following two courses. These courses prepare students for statewide coaching authorization application only; students must take these courses and can opt to apply for certification as part of their course work.

Code	Title	Hours
SRM:3149	Coaching Theory, Body Structure, and Human Development	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches	3

Interscholastic Athletic/Activities Administration Concentration

In addition to the 12 s.h. concentration area requirement, students also may choose to complete the Certificate in Interscholastic Athletic/Activities Administration [p. 587], a 21 s.h. program.

Students who wish to earn the certificate and complete their 12 s.h. concentration area in interscholastic athletic/activities administration may count no more than 6 s.h. earned from the concentration area toward the certificate.

Code	Title	Hours
All of these (9 s.h.):		
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
EPLS:4200	Diversity and Inclusion in Athletics	3
At least one of these (3 s.h.):		
SRM:1045	Diversity and Inclusion in Healthy Living	3
SRM:2065	The Experience Economy	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3200	Topics in Sport and Recreation Management	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
ARTS:1070	Elements of Graphic Design	3
HHP:2500	Psychological Aspects of Sport and Physical Activity	3
COMM:1819	Organizational Leadership	2-3
EDTL:3114	Parent-Child Relationships	3
EDTL:4940	Characteristics of Disabilities	3

EPLS:4180	Human Relations for the Classroom Teacher	3
EPLS:6201	Foundations of School Administration	3
JMC:2200	Principles of Strategic Communication	3
JMC:5240	Digital Strategic Communication	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4134/ EDTL:4934	Parent-Teacher Communication	3
RHET:2085	Speaking Skills	3

Communications and Public Relations/Journalism Concentration

Code	Title	Hours
Communications and public relations/journalism concentration students select 12 s.h. from these:		
SRM:1072	Leisure and the Liberal Arts	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3200	Topics in Sport and Recreation Management	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
ARTS:1070	Elements of Graphic Design	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
COMM:2064	Media, Advertising, and Society	3
CNW:3640	Writing for Business and Industry (when topic is prepare for the "real world")	3
JMC:1100	Media Uses and Effects	3
JMC:1200	Media History and Culture	3
JMC:1500	Social Media Today	3
JMC:2200	Principles of Strategic Communication	3
JMC:3135/ AMST:3198/ SPST:3198	New Media and the Future of Sport	3
JMC:3181/ SPST:3181	The Business of Sport Communication	3
JMC:3182/ SPST:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
JMC:3190/ SPST:3180	Classics of Sports Journalism: From Jack London to Grantland	3
JMC:3400	Specialized Reporting and Writing	4
JMC:3412	Strategic Communication Writing	4
JMC:3413	Sports Writing	3-4

JMC:5240	Digital Strategic Communication	3
RHET:2085	Speaking Skills	3
SPST:3911	Sport Since 9/11	3

Entrepreneurship Concentration

Students who choose ENTR:1350 Foundations in Entrepreneurship must register for ENTR:2000 Entrepreneurship and Innovation during the same semester if they have not taken ACCT:2100 Introduction to Financial Accounting and MKTG:3000 Introduction to Marketing Strategy.

Code	Title	Hours
Entrepreneurship concentration students select 12 s.h. from these:		
SRM:1085	Introduction to Travel and Tourism	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
ARTS:1070	Elements of Graphic Design	3
CNW:3640	Writing for Business and Industry	3
COMM:1818	Communication Skills for Leadership	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3690	Sports Economics	3
ENTR:1350	Foundations in Entrepreneurship	2
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3300	Legal Aspects of Entrepreneurship	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4400	Managing the Growth Business	3
ENTR:4450	Professional Sports Management	3
MGMT:3050	Professional Preparation for Management	1
MSCI:1500	Business Computing Essentials	2
RHET:2085	Speaking Skills	3

Event Management Concentration

In addition to the 12 s.h. concentration area requirement, students also may choose to complete the Certificate in Event Planning [p. 437], a 21 s.h. program.

Students who wish to earn the certificate and complete their 12 s.h. concentration area in event management may count no more than 6 s.h. earned from the concentration area toward the certificate.

Students who wish to complete the concentration area in event management must take SRM:3154 Foundations of Event Management and cannot substitute EVNT:3154/JMC:3154 Foundations of Event Management, and must take SRM:3147 Sport Event Management and cannot substitute EVNT:3260/JMC:3260 Event Planning Workshop.

Code	Title	Hours
Both of these:		
SRM:3147	Sport Event Management	3
SRM:3154	Foundations of Event Management	3
At least 6 s.h. from these:		
SRM:1072	Leisure and the Liberal Arts	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
ARTS:1070	Elements of Graphic Design	3
BUS:3800	Business Writing	3
COMM:1809	Social Marketing Campaigns	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4450	Professional Sports Management	3
JMC:1500	Social Media Today	3
JMC:2200	Principles of Strategic Communication	3
JMC:3100/FPC:3185	Nonprofit and Fundraising Communication	3
JMC:3181/ SPST:3181	The Business of Sport Communication	3
MKTG:3000	Introduction to Marketing Strategy	3
MKTG:4275	Social Media Marketing	3

Sport and Diversity Concentration

Code	Title	Hours
Sport and diversity concentration students select 12 s.h. from these:		
SRM:1045	Diversity and Inclusion in Healthy Living	3
SRM:1072	Leisure and the Liberal Arts	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3200	Topics in Sport and Recreation Management	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
HHP:2500	Psychological Aspects of Sport and Physical Activity	3
TR:1070	Perspectives on Leisure and Play	3
AFAM:1030	Introduction to African American Society	3
AFAM:3925/ JMC:3165	African Americans and the Media	3
ANTH:1401	Language, Culture, and Communication	3
CLSA:1875	Ancient Sports and Leisure	3
COMM:1174	Media and Society	3
EPLS:4200	Diversity and Inclusion in Athletics	3
HIST:1040	Diversity in History	3
JMC:1200	Media History and Culture	3
JMC:3125	Media and Consumers	3
RELS:2700/ NAIS:2700	Sacred World of Native Americans	3
RHET:2085	Speaking Skills	3
SPAN:2700/ COMM:2800/ IS:2700/LAS:2700/ PORT:2700	Introduction to Latin American Studies	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
SPST:3911	Sport Since 9/11	3

Student-Designed Concentration

If a student wishes to develop a concentration area focused on a specialized area that is not covered by an existing concentration area outlined above, the student must consult with an advisor in the sport and recreation management program. After consultation, the student must submit a written proposal to the sport and recreation management program director for approval. The proposal should provide a rationale for, and description of, the student-designed concentration, including proposed courses. The proposal must be approved before the start of the semester in which the student wishes to use the concentration for graduation.

The concentration requires at least 12 s.h. of course work. Self-designed concentrations may not include course work that was used to complete GE CLAS Core or field experience requirements.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 and a major g.p.a. of at least 3.50 and earn at least a B+(plus) grade in SRM:4195 Honors Problems. During SRM:4195 Honors Problems, the student works on a project under the supervision of a program faculty member. For additional information, visit the Curriculum section of the sport and recreation management program website or contact the sport and recreation management program director.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sport and recreation management major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: four foundation courses, at least 3 s.h. in the concentration area, and 3 s.h. in SRM:4197 Sport and Recreation Field Experience

Before the seventh semester begins: two more foundation courses (total of six), an additional 6 s.h. in the concentration area, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two more foundation courses (total of eight), an additional 3 s.h. of SRM:4197 Sport and Recreation Field Experience, and one remaining concentration area course (3 s.h.)

During the eighth semester: enrollment in final 3 s.h. of SRM:4197 Sport and Recreation Field Experience, all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Sport and Recreation Management, B.S.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
SRM:1060	Contemporary Issues in Sports	3
GE CLAS Core: Social Sciences ^a		3
GE CLAS Core: Values and Culture ^a		3
CSL:1600	Success at Iowa	2
Hours		14-15
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
SRM:3157	Managerial Operations in Sport and Recreation	3
GE CLAS Core: Natural Sciences with Lab ^a		4
Elective course ^b		2
Hours		15-16
Second Year		
Fall		
Elective course ^b		3
SRM:3175	Sales in Sport	3
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
Elective course ^b		3
Hours		16-17
Spring		
Major: concentration course		3
SRM:3178	Communications and Public Relations in Sports	3
SRM:3152	Design and Management of Sport and Recreation Facilities	3
GE CLAS Core: Natural Sciences without Lab ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		16-17
Third Year		
Fall		
Major: concentration course		3
SRM:3158	Sport and Recreation Promotion	3
GE CLAS Core: International and Global Issues ^a		3
SRM:4197	Sport and Recreation Field Experience	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		16-17
Spring		
Major: concentration course		3
Major: foundation course		3
Major: foundation course		3
SRM:3153	Sport Business Practices	3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c	4 - 5
Hours	16-17

Fourth Year

Fall

Major: concentration course		3
SRM:4197	Sport and Recreation Field Experience	3
GE CLAS Core: Literary, Visual, and Performing Arts ^a		3
SRM:3172	Finance in Sport and Recreation	3
Elective course ^b		3
Hours		15

Spring

SRM:4197	Sport and Recreation Field Experience	3
SRM:3151	Liability in Sport and Recreation	3
GE CLAS Core: Historical Perspectives ^a		3
Elective course ^b		3
Elective course ^b		3
Hours		15
Total Hours		123-129

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

Sport and recreation management majors find employment in municipal or campus recreation; interscholastic, high school, or college athletic administration; intramural departments; community private clubs or community parks and recreation departments; nonprofit organizations; armed forces recreation; professional or Olympic sports organizations; commercial fitness businesses; and in firms specializing in sport marketing or sport sponsorship. The sport and recreation management faculty provides individual mentoring to students and offers several opportunities for students to connect with industry professionals throughout the year to learn about internships and jobs.

The Office of Field Experience in the sport and recreation management program in the Department of Health and Human Physiology assists students in finding their specific connection to the industry. The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

Therapeutic Recreation, B.S.

Learning Outcomes

The B.S. degree in therapeutic recreation:

- prepares students to pass professional credentialing examinations;
- exposes students to service and experiential learning with opportunities to apply skills learned in the classroom;
- integrates and exposes students to research in all courses to make them intelligent consumers of research, critical readers of research, and enables them to apply research to professional practice;
- enhances their ability to build therapeutic relationships with patients and clients; and
- teaches students how to include persons with disabilities in usual and customary life activities to the greatest extent possible.

Requirements

The Bachelor of Science with a major in therapeutic recreation requires a minimum of 120 s.h., including 69-70 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The therapeutic recreation program prepares students for professional work with persons who have disabilities, impairments, and illnesses. The major's track emphasizes the use of a systematic process of assessment, planning, implementation, and evaluation to provide recreation, leisure, and play activities to various special populations.

Therapeutic recreation is a health-oriented field that involves providing recreation programs designed to improve or maintain the physical, emotional, mental, and social functioning of patients and consumers. Therapeutic practice involves a continuum of services that use recreational activities to improve functional abilities; leisure education to help individuals acquire skills, knowledge, and attitudes that facilitate an independent lifestyle; and other activities to enhance health, growth, development, and independence through intrinsically rewarding leisure activities. Additionally, inclusive recreation provides opportunities for people with all abilities and disabilities to participate together in meaningful and purposeful therapeutic recreation programs based on choice and common interests.

Admission is selective; students must apply and be admitted. Before students who apply are admitted, they must complete 24 s.h. at the University of Iowa (or 12 s.h. for transfer students), including the courses listed under "Admission Prerequisites" below. Applicants must have a University of Iowa g.p.a. of at least 2.50 and a cumulative g.p.a. of at least 2.50; students with grade-point averages below this standard may apply for exceptional admission.

Applicants for admission should use the application form on the Department of Health and Human Physiology website. Completed applications must be submitted by October 15 for admission the following spring or by March 15 for admission the following fall.

Students who complete the curriculum, including the therapeutic recreation internship, are eligible to sit for the National Council for Therapeutic Recreation certification exam. Successful completion of the exam confers the Certified Therapeutic Recreation Specialist (CTRS) credential.

The B.S. with a major in therapeutic recreation requires the following course work.

Code	Title	Hours
Admission Prerequisites		12-13
Major Requirements		35
Supporting Course Work		9
Internship		13
Total Hours		69-70

Admission Prerequisites

Code	Title	Hours
All of these:		
TR:1070	Perspectives on Leisure and Play	3
HHP:1300	Fundamentals of Human Physiology	3
PSY:1001	Elementary Psychology	3
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4

Major Requirements

Code	Title	Hours
All of these:		
TR:1061	Recreation Leadership and Programming	3
TR:1077	Introduction to Child Life	3
TR:3160	Introduction to Therapeutic Recreation	3
TR:3161	Assessment and Evaluation in Therapeutic Recreation	3
TR:3162	Therapeutic Recreation: Clientele	3
TR:3163	Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3
TR:3164	Therapeutic Recreation: Rehabilitation	3
TR:3261	Inclusive Recreation	3
TR:3262	Therapeutic Recreation Administration	3
CLSA:3750	Medical and Technical Terminology	2
PSY:2930	Abnormal Psychology: Health Professions	3
One of these:		
HHP:2130	Human Development Through the Life Span	3
NURS:1030	Human Development and Behavior	3

Supporting Course Work

Students must complete 9 s.h. in supporting course work in the social sciences, humanities, and human services (aging and longevity studies, disability studies, psychology, sociology, social work, and special education). Students should consult their advisor for specific recommendations.

Internship

Students are required to complete 400 hours of preinternship experience; consult an advisor for more information.

Code	Title	Hours
Both of these:		
TR:4190	Preinternship Seminar	1
TR:4191	Therapeutic Recreation Internship	12

Combined Programs

B.S./M.S. in Health and Human Physiology (Child Life Subprogram)

The Department of Health and Human Physiology offers the combined Bachelor of Science with a major in therapeutic recreation/Master of Science in health and human physiology with a child life subprogram. The program allows qualified students to begin work toward a master's degree while they complete their bachelor's degree. The combined program permits students to count certain courses toward both degrees, completing them in less time than they would need to complete each degree separately.

The program, which is completed in five years, is designed for students who wish to pursue a career providing services to children and their families, primarily in the health care field. Graduates are eligible to be credentialed professionals in both therapeutic recreation (certified therapeutic recreation specialist) and child life (certified child life specialist). They fill positions such as child life specialist, therapeutic recreation specialist, activity director, or administrative positions.

Students enroll in the College of Liberal Arts for their first three years in the program, enroll in the College of Liberal Arts and the Graduate College in their fourth year, and only in the Graduate College in their fifth year. They follow the standard curriculum of their B.S. degree with a major in therapeutic recreation program during the first two years and complete all the prerequisite courses for the M.S. degree in health and human physiology with a child life subprogram during the third year. Successful students receive a B.S. at the end of the fourth year and a M.S. at the end of the fifth year.

Applicants to the combined program must:

- be enrolled as a B.S. student majoring in therapeutic recreation at the University of Iowa;
- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa;
- have completed all GE CLAS Core requirements, all prerequisites, all major therapeutic recreation requirements; and
- have a cumulative University of Iowa g.p.a. of at least 3.25.

Applicants must submit a letter of application to the program that includes a statement of purpose, a résumé, document a minimum of 100 hours of paid or volunteer experience in a child life and/or pediatric health care setting, and three letters of recommendation (with at least one from a certified child life specialist).

Each application is reviewed by the program and requires support from the applicant's undergraduate advisor. Recommendations for approval will be sent to the Office of Graduate Admissions. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

For more information about applying to the combined program, contact the therapeutic recreation and child life programs in the Department of Health and Human Physiology.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major.

In order to graduate with honors, students must successfully complete TR:4194 Honors Readings and TR:4195 Honors Problems, in which they conduct a reading or research project under the supervision of a faculty member in their major and write a paper summarizing the project's results.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the therapeutic recreation major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: all core courses and at least one foundation course

Before the seventh semester begins: two more foundation courses (total of three), 3 s.h. of supporting course work, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two more foundation courses (total of five) and the remaining supporting course work

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Therapeutic Recreation, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Students apply to the Therapeutic Recreation B.S. program through a selective process. Acceptance is not guaranteed. ^a		
Hours		0
First Year		
Fall		
TR:1070	Perspectives on Leisure and Play ^{b, c}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^e		2
CSL:1600	Success at Iowa	2
Hours		14-15
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
PSY:1001	Elementary Psychology ^{b, c}	3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Hours		15-16
Second Year		
Fall		
HHP:1100	Human Anatomy ^{b, c}	3
GE CLAS Core: Values and Culture ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^e		3
Hours		13-14
Spring		
TR:1077	Introduction to Child Life	3
TR:3160	Introduction to Therapeutic Recreation	3
CLSA:3750	Medical and Technical Terminology	2
HHP:1300	Fundamentals of Human Physiology ^{b, c}	3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^e		1
Admission Application: apply to the Therapeutic Recreation B.S. major ^g		
Hours		19-20

Third Year

Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Therapeutic Recreation B.S. program.

Hours		0
Fall		
TR:1061	Recreation Leadership and Programming	3
PSY:2930	Abnormal Psychology: Health Professions	3
Major: inclusive recreation course ^h		3
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		16-17
Spring		
TR:3162	Therapeutic Recreation: Clientele	3
TR:3164	Therapeutic Recreation: Rehabilitation	3
TR:3261	Inclusive Recreation	3
Major: human development course		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Hours		16-17
Fourth Year		
Fall		
TR:3161	Assessment and Evaluation in Therapeutic Recreation	3
TR:3163	Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3
TR:3262	Therapeutic Recreation Administration	3
TR:4190	Preinternship Seminar	1
Major: inclusive recreation course ^h		3
Major: inclusive recreation course ^h		3
Elective course ^e		2
Hours		18
Spring		
TR:4191	Therapeutic Recreation Internship	12
Elective course ^e		3
Exam: National Council for Therapeutic Recreation certification ⁱ		
Hours		15
Total Hours		126-132

- The Academic Advising Center advises Therapeutic Recreation Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- This course is a prerequisite for admission to the Therapeutic Recreation B.S. program.
- Fulfills a major requirement and may fulfill a GE requirement.
- GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Applicants for admission should use the application form on the Department of Health and Human Physiology website. Completed applications typically must be submitted in October for admission the following spring or in March for admission the following fall. For more information see your advisor.
- h Students must complete 9 s.h. in supporting course work in human services (aging and longevity studies, disability studies, psychology, sociology, social work, and special education). Students should consult their advisor for specific recommendations.
- i Students who complete the curriculum, including the therapeutic recreation internship, are eligible to sit for the National Council for Therapeutic Recreation certification exam. Successful completion of the exam confers the Certified Therapeutic Recreation Specialist (CTRS) credential.

Career Advancement

Therapeutic recreation graduates find jobs in a variety of settings. Therapeutic recreation professionals are employed in settings such as skilled nursing facilities, community recreation centers, state and community mental health institutions, general medical hospitals, physical rehabilitation centers, special recreation districts, the Special Olympics, correctional facilities, senior centers, facilities for persons with intellectual disabilities or mental illness, substance abuse programs, and camp programs as inclusion specialists. The majority of children's hospitals and pediatric units in other health care facilities employ child life specialists to address cognitive, social, and psychological issues associated with child illness and hospitalization. Child life specialists also work in rehabilitation centers, private practice and consulting, school systems, special-purpose camps, and hospice.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Human Physiology, Minor

The undergraduate minor in human physiology requires a minimum of 15 s.h. in Department of Health and Human Physiology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Transfer credit does not count toward the minor.

Students who earn a Bachelor of Arts degree with a major in health and human physiology or a Bachelor of Science degree with a major in human physiology may not earn the minor in human physiology.

Students choose courses for the minor from the following list. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Code	Title	Hours
HHP:3105	Anatomy for Human Physiology	3
HHP:3300	Human Growth and Motor Development	3
HHP:3450	Immunology in Health and Disease	3
HHP:3500	Human Physiology	3
HHP:3900	Writing for Health and Human Physiology	3
HHP:4130	Skeletal Muscle Physiology	3
HHP:4150	Clinical Exercise Physiology	3
HHP:4220	Biomechanics of Human Motion	3
HHP:4250	Human Pathophysiology	3
HHP:4260	Respiratory Pathophysiology	3
HHP:4410	Exercise Physiology	3
HHP:4440	Physiology of Nutrition	3
HHP:4450	Genetic Basis of Disease	3
HHP:4460	Cardiovascular Physiology	3
HHP:4465	Environmental Exercise Physiology	3
HHP:4470	Physiology of Aging	3
HHP:4480	Introduction to Human Pharmacology	3
HHP:4510	Energy Metabolism in Health and Disease	3

Physical Activity and Nutrition Science, Minor

The undergraduate minor in physical activity and nutrition science requires a minimum of 15 s.h., including at least 12 s.h. in courses taken at the University of Iowa in courses offered by the Department of Health and Human Physiology. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students who earn a Bachelor of Arts degree with a major in health and human physiology or a Bachelor of Science degree with a major in human physiology may not earn the minor in physical activity and nutrition science.

The minor in physical activity and nutrition science is designed in conjunction with the Obesity Research and Education initiative. The minor provides a specialized group of courses that unify concepts underlying the causes, consequences, treatment, and prevention of obesity, with attention to physical activity, nutrition, physiology, psychology, and human disease. Students who earn the minor will be prepared to apply their knowledge in areas such as clinical health professions, public health policy, personal coaching and fitness, health psychology, and health promotion.

For the minor, students complete three core courses plus two elective courses that focus on various facets of obesity and on its treatment and prevention. Students choose electives in consultation with an undergraduate advisor. Some courses for the minor have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

The minor in physical activity and nutrition science requires the following course work.

Code	Title	Hours
Core Courses		
All of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
Electives		
Two elective courses from the following:		
HHP:2500	Psychological Aspects of Sport and Physical Activity	3
HHP:3440	Physical Activity Interventions	3
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
HHP:4310	Sport and Exercise Nutrition	3
HHP:4320	Nutrition Interventions	3
HHP:4440	Physiology of Nutrition	3

Sport and Recreation Management, Minor

The undergraduate minor in sport and recreation management requires a minimum of 15 s.h. in Department of Health and Human Physiology courses, including at least 12 s.h. in courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. A maximum of 3 s.h. of transfer credit may be accepted toward the minor with the approval of the sport and recreation management program director.

Students who earn a Bachelor of Science degree with a major in sport and recreation management may not earn the minor in sport and recreation management.

Students take 15 s.h., with at least 12 s.h. in course work numbered 3000 or above, from the following.

Code	Title	Hours
SRM:1045	Diversity and Inclusion in Healthy Living	3
SRM:1060	Contemporary Issues in Sports	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3151	Liability in Sport and Recreation	3
SRM:3152	Design and Management of Sport and Recreation Facilities	3
SRM:3153	Sport Business Practices	3
SRM:3154	Foundations of Event Management	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3157	Managerial Operations in Sport and Recreation	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3172	Finance in Sport and Recreation	3

SRM:3175	Sales in Sport	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3178	Communications and Public Relations in Sports	3
SRM:3200	Topics in Sport and Recreation Management (when topic is the politics of sports)	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
SRM:4197	Sport and Recreation Field Experience	arr.
SRM:4198	NCAA Rules Compliance and Enforcement	3

Interscholastic Athletic/ Activities Administration, Certificate

The undergraduate Certificate in Interscholastic Athletic/Activities Administration requires a minimum of 21 s.h. The certificate may be earned by any undergraduate student admitted to the University of Iowa and by all individuals who are not concurrently enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate provides students an opportunity to focus a segment of their studies on extracurricular activities at the interscholastic level. The program provides experiential learning and networking prospects along with academic course work.

The world of interscholastic athletics has become increasingly competitive and commercialized. The certificate will aid marketability for students as they enter the job market. Students will be prepared to enter a school district with preparation to succeed in athletic/activities administration roles.

Completion of the certificate encourages these student outcomes:

- the capability to summarize the history of the position and the development of interscholastic athletics;
- the ability to utilize management techniques to develop and maintain facilities, to plan and oversee financially sustainable events, to transfer practical experience into improved employment opportunities, to carry out effective and appropriate marketing, communication, and fundraising campaigns;
- the proficiency to recognize and establish liability protections in programming; and
- the facility to formulate effective program and coach assessment/evaluation.

Some courses below have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Students who earn the Certificate in Interscholastic Athletic/Activities Administration and the major in sport and recreation management with the interscholastic athletic/activities administration concentration may count no more than 6 s.h. earned from that concentration area toward the certificate.

Students who earn the Certificate in Interscholastic Athletic/Activities Administration and the major in sport and recreation management with a coaching and sport instruction concentration may count no more than 6 s.h. earned from that concentration area toward the certificate. However, two courses, SRM:3149 Coaching Theory, Body Structure, and Human Development and SRM:3155 Prevention and Care of Athletic Injuries for Coaches, are excluded from the 6 s.h. double-count rule.

The Certificate in Interscholastic Athletic/Activities Administration requires the following course work.

Core Courses

Code	Title	Hours
All of these:		
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
EPLS:4200	Diversity and Inclusion in Athletics	3

Field Experience

Field experience is essential to completion of the National Interscholastic Athletic Administrators Association (NIAAA) requirements for first-level certification as a registered athletic administrator (RAA). Students must complete the following course (3 s.h.) with an approved partner and oversight from the Office of Field Experience (sport and recreation management) in the Department of Health and Human Physiology.

Code	Title	Hours
SRM:4197	Sport and Recreation Field Experience	3

Electives

Students select a minimum of 6 s.h. from the following.

Code	Title	Hours
HHP:2500	Psychological Aspects of Sport and Physical Activity	3
SRM:1045	Diversity and Inclusion in Healthy Living	3
SRM:2065	The Experience Economy	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3200	Topics in Sport and Recreation Management (when topic is the politics of sports)	3
ARTS:1070	Elements of Graphic Design	3
COMM:1819	Organizational Leadership	2-3
EDTL:3114	Parent-Child Relationships	3

EDTL:4940	Characteristics of Disabilities	3
EPLS:4180	Human Relations for the Classroom Teacher	3
EPLS:6201	Foundations of School Administration	3
JMC:2200	Principles of Strategic Communication	3
JMC:5240	Digital Strategic Communication	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4134/ EDTL:4934	Parent-Teacher Communication	1-3
RHET:2085	Speaking Skills	3

Leisure Studies, M.A.

Requirements

The department is not admitting students to the M.A. program in leisure studies. Applicants should see the M.A. in sport and recreation management [p. 590].

The Master of Arts program in leisure studies requires a minimum of 33 s.h. of graduate credit with thesis or 36 s.h. of graduate credit without thesis.

The leisure studies program with a leisure and recreational sport management subprogram prepares students for positions in public and private recreation and sport management. Students typically find employment in community or municipal recreation programs, campus recreation programs, or commercial recreation and sport operations.

The M.A. with a major in leisure studies requires the following course work.

Code	Title	Hours
Core Courses		
SRM:5065	The Economy of Experience	3
SRM:5200	Historical and Philosophical Perspectives on Leisure	3
Area Courses		
SRM:6251	Risk Management	3
SRM:6252	Economics and Financing	3
SRM:6253	Sport Administration	3
SRM:6254	Marketing and Sport Promotion	3
Electives		
Additional 18 s.h. of electives		18
Total Hours		36

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Sport and Recreation Management, M.A.

Requirements

The Master of Arts program in sport and recreation management requires a minimum of 30 s.h. Required course work (21 s.h.) includes experiential learning in a field experience course and a capstone course that allows students to perform research in an area of interest that has practical application during the final semester before graduation.

The M.A. with a major in sport and recreation management requires the following course work.

Code	Title	Hours
SRM:4197	Sport and Recreation Field Experience	3
SRM:5065	The Economy of Experience	3
SRM:6251	Risk Management	3
SRM:6252	Economics and Financing	3
SRM:6253	Sport Administration	3
SRM:6254	Marketing and Sport Promotion	3
SRM:6255	Capstone Project	3
Electives (need advisor approval for electives; no more than 3 s.h. in elective credit may be taken in SRM:4197)		9
Total Hours		30

Capstone Project

The capstone project course includes a presentation and submission of written materials in support of the presentation. Projects are evaluated by a panel of three faculty members. Equal weight is given to oral and written work to determine if a student has met the requirements to earn the M.A. degree.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants also must meet sport and recreation management program requirements, which include:

- U.S. bachelor's degree from a regionally accredited college or university or an equivalent degree from another country as determined by the Office of Admissions;
- a minimum g.p.a. of at least 3.00 or the international equivalent as determined by the Office of Admissions;
- a score from either the Graduate Record Examination (GRE) General Test or the Graduate Management Admissions Test (GMAT) taken no more than five years prior to the date the applicant is seeking admission;
- a personal statement;
- three letters of recommendation;
- a résumé; and
- international applicants whose native language is other than English must comply with the Graduate College guidelines for admission, which include submission of a score on the Test of English as a Foreign Language (TOEFL) or the International English Language Testing

System (IELTS), and any other Office of Admission requirements.

Application deadlines are:

Fall semester—February 1

Spring semester—October 1

Summer session—February 1

Applications submitted after the deadline will be considered only if there is available space.

Financial Support

The sport and recreation management program offers a limited number of teaching assistantships. Applicants interested in being considered for a position should indicate their interest when they submit their online application.

Career Advancement

Through academic course work, practical experience, an individualized capstone project, and a network of industry contacts, the program is designed to help students achieve their unique professional and educational goals. Alumni find employment in such settings as professional team front offices, college and high school athletic departments, campus and community recreation programs, agencies serving sport and recreation clients, league offices, coaching, and in a number of other areas.

The faculty provides individual mentoring to students and offers several opportunities for students to connect with industry professionals throughout the year to learn about internships and jobs.

The Office of Field Experience in the sport and recreation management program in the Department of Health and Human Physiology assists students in finding their specific connection to the industry. The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Health and Human Physiology, M.S.

Requirements

The Master of Science program in health and human physiology requires 30-36 s.h. of graduate credit. Required credit varies by subprogram: the child life subprogram requires a minimum of 36 s.h. and is offered without thesis; the clinical exercise physiology subprogram requires a minimum of 32 s.h. and is offered without thesis; the health and human physiology subprogram requires a minimum of 30 s.h. and is offered with thesis.

Students interested in pursuing a Ph.D. after earning a master's degree should choose the M.S. with thesis (health and human physiology subprogram).

Child Life Subprogram

The child life subprogram provides expertise in child development through services to support families and to promote children's mastery of life experiences, particularly children's health care events. Professionals in this area enhance effective coping skills through play, education, communication, and family-centered care. The program prepares students to meet credentialing requirements. For more information about the profession, visit the Association of Child Life Professionals.

In order to be admitted to the subprogram, students must:

- hold a B.S. or B.A. degree with a g.p.a. of at least 3.00;
- have completed one course each in human anatomy, medical terminology, and two courses in child development that focus on children and adolescents;
- have verification of 100 hours of paid or volunteer experience in child life or in a pediatric setting; and
- three letters of recommendation, with at least one from a credentialed child life specialist.

Students who have not completed an introductory course in child life must enroll in TR:1077 Introduction to Child Life during their first semester. For applicants whose first language is not English, applications must be accompanied by Test of English as a Foreign Language (TOEFL) scores.

Students who pursue the child life subprogram must successfully pass comprehensive exams in the last semester prior to their child life internship. The comprehensive exam committee works with each student to develop exam questions.

The Master of Science with the child life subprogram requires the following course work (minimum of 36 s.h.).

Code	Title	Hours
Core Courses		
All of these:		
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span	3
TR:5165	Child Life: Child Development and Healthcare Interventions	3

TR:5166	Child Life: Seminar	3
TR:5167	Child Life Practicum	3
TR:5205	Research Methods and Play Behavior	3
TR:5211	Professional Ethics and Practice in Pediatrics	3
TR:5260	Play and Childhood	3
TR:5261	Family Systems	3

Internship

The supervised internship requires 600 contact hours with a certified child life specialist:

TR:4192	Child Life Internship	9
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Clinical Exercise Physiology Subprogram

The clinical exercise physiology subprogram provides an advanced scientific and clinical education. It prepares students to be allied health professionals who work in the application of physical activity and behavioral interventions for clinical diseases and health conditions including cardiovascular, pulmonary, metabolic, orthopedic, neuromuscular, immunologic, and hematologic diseases.

In order to be admitted to the subprogram, students must:

- hold a B.S. or B.A. degree with a g.p.a. of at least 3.00 and
- have completed anatomy and physiology with laboratories (8 s.h.).

The Master of Science with the clinical exercise physiology subprogram requires the following course work (minimum of 32 s.h.).

Code	Title	Hours
Statistics Core		
One of these (or equivalent):		
BIOS:4120	Introduction to Biostatistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Advanced Statistics		
One of these (or equivalent):		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4
Clinical Exercise Physiology Core		
All of these:		
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6200	Advanced Metabolic Exercise Testing and Prescription	4
HHP:6410	Advanced Exercise Physiology	3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6480	Advanced Human Pharmacology	3
Two enrollments (1 s.h. each) chosen from these:		

HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1

Internship

Students complete an individually arranged internship, usually during their second year, earning 3 s.h. of credit

Electives

Students choose elective courses that enhance their concentration in human and exercise physiology, clinical exercise physiology, prescriptive exercise and training for health and fitness, health maintenance, and understanding human disease; and select at least two courses from the following, with advisor's approval:

HHP:4400	Health Promotion Clinical Practicum	1
HHP:4405	Health Promotion Community and Worksite Practicum	1
HHP:4420	Planning and Evaluating Health Interventions	3
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1-3
HHP:6470	Advanced Physiology of Aging	3
HHP:6510	Advanced Energy Metabolism in Health and Disease	1,3
HHP:7300	Advanced Neural Control of Posture and Movement	1-3
ACB:5203	Gross Human Anatomy for Graduate Students	5
BIOL:3743	Basic Biology of Human Disease	2
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6650	Cardiovascular Disease Epidemiology	3
PSY:3010	Health Psychology	3
PSY:3340	Behavior Modification	3
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

Health and Human Physiology Subprogram

The health and human physiology subprogram requires a thesis. Students who intend to earn a Ph.D. after the master's degree should choose this subprogram.

In order to be admitted to the subprogram, students must hold a B.S. or B.A. degree with a g.p.a. of at least 3.00.

The Master of Science with the health and human physiology subprogram requires the following course work (minimum of 30 s.h.).

Code	Title	Hours
Health Promotion/Physiology Core Courses		
Both of these:		
HHP:3500	Human Physiology	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	3
Introductory Statistics		
One of these:		
BIOS:4120	Introduction to Biostatistics	3
PCOL:5204	Basic Biostatistics and Experimental Design	1
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Advanced Statistics		
One of these:		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4
Research Methods		
This course (consult advisor about 1 or 3 s.h. option):		
HHP:6020	Research Methods and Ethics	1,3
Seminar Courses		
Two enrollments (1 s.h. each) chosen from these:		
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1
Electives		
Students choose elective courses that broaden their knowledge in health and human physiology and related disciplines, and enhance their knowledge in their specific areas of interest, with guidance from their advisor/mentor; electives may include the following:		
HHP:5000	Problems	arr.
HHP:6000	Research	arr.
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1-3
HHP:6150	Advanced Clinical Exercise Physiology	1-3
HHP:6200	Advanced Metabolic Exercise Testing and Prescription	4
HHP:6410	Advanced Exercise Physiology	3
HHP:6460	Advanced Cardiovascular Physiology	1-3
HHP:6470	Advanced Physiology of Aging	3

HHP:6480	Advanced Human Pharmacology	3
HHP:6510	Advanced Energy Metabolism in Health and Disease	1,3
HHP:7300	Advanced Neural Control of Posture and Movement	1-3
ACB:5203	Gross Human Anatomy for Graduate Students	5
BIOC:3110	Biochemistry	3
EPID:4400	Epidemiology I: Principles	3
EPID:6350	Nutritional Epidemiology	2
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6600	Epidemiology of Chronic Diseases	3
MPB:5153	Graduate Physiology	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

Thesis

This course:

HHP:7500	Thesis: M.S.	4
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Admission

Admission to the department's graduate programs is based on grade-point average and score on the Graduate Record Examination (GRE) General Test. Applicants to the M.S. program must have an undergraduate g.p.a. of at least 3.00.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Application deadline is February 1 for admission the following fall.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Health and Human Physiology, Ph.D.

Requirements

The Doctor of Philosophy program in health and human physiology requires a minimum of 72 s.h. of graduate credit.

Doctoral students should have a strong background in the natural sciences and/or health promotion, and a working knowledge of statistics and research methodology. Students may acquire additional knowledge of statistics and research methodology after entering the program.

All Ph.D. students complete a common core of courses, elective courses, and 10 s.h. of independent research in addition to the 12 s.h. dissertation requirement. They must complete a dissertation in their specialization area.

Some courses in the program are offered by other departments. Faculty members from those departments frequently serve on comprehensive examination committees and on dissertation committees for the initial presentation of a candidate's prospectus. They also participate in the final examination.

The Ph.D. with a major in health and human physiology requires the following course work.

Common Core

Code	Title	Hours
All of these:		
HHP:3500	Human Physiology	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	3
HHP:6000	Research	arr.
HHP:6020	Research Methods and Ethics	1,3
HHP:7000	Practicum in College Teaching	arr.
HHP:7900	Thesis: Ph.D.	arr.

Introductory Statistics

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Advanced Statistics

Code	Title	Hours
Two advanced statistics courses, such as the following (consult advisor):		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4

Seminar Courses

Code	Title	Hours
Four enrollments from the following:		
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1

Electives

Students are expected to obtain broad-based knowledge in their specialization area. This normally entails approximately 30 s.h. of course work. Students choose specialization electives with guidance from their advisor/mentor. Electives may include the following.

Code	Title	Hours
HHP:5000	Problems	arr.
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6200	Advanced Metabolic Exercise Testing and Prescription	1,4
HHP:6410	Advanced Exercise Physiology	1,3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6480	Advanced Human Pharmacology	1,3
HHP:6510	Advanced Energy Metabolism in Health and Disease	1,3
HHP:7300	Advanced Neural Control of Posture and Movement	1,3
ACB:5203	Gross Human Anatomy for Graduate Students	5
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:6350	Nutritional Epidemiology	2
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6600	Epidemiology of Chronic Diseases	3
FRRB:7000	Redox Biology and Medicine	4
MPB:5153	Graduate Physiology	4
NSCI:4353/ BIOL:4353	Neurophysiology: Cells and Systems	3-4
NSCI:7235	Neurobiology of Disease	3
OE:4310	Occupational Ergonomics: Principles	3

OE:6310	Occupational Ergonomics: Applications	3
PSY:5210/ NSCI:5210	Fundamentals of Behavioral Neuroscience	3-4
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3
PTRS:7885	Biomechanical Analysis in Rehabilitation	3

Dissertation

Students working on a dissertation register for the following course.

Code	Title	Hours
HHP:7900	Thesis: Ph.D.	arr.

Admission

Admission to the graduate program is based on grade-point average and score on the Graduate Record Examination (GRE) General Test. Applicants to the Ph.D. program must have a g.p.a. of at least 3.00 on undergraduate work and previous graduate work.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Application deadline is February 1 for admission the following fall.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

History

Chair

- Landon Storrs

Director of Graduate Studies

- Michaela Hoenicke-Moore

Undergraduate major: history (B.A.)

Undergraduate minor: history

Graduate degrees: M.A. in history; Ph.D. in history

Faculty: <https://clas.uiowa.edu/history/people/>

Website: <https://clas.uiowa.edu/history/>

History is the heart of a liberal arts education. Students of history develop an understanding of change—how it happens and why it happens the way it does—that enables them to engage the world they inhabit and to participate fully in civic life. Department of History courses engage the diversity of American life and bring a global consciousness that helps students to navigate the streets (and the news) from Iowa City to Berlin to Nairobi.

Faculty and students in the department participate in many of the University's interdisciplinary departments and programs, including American studies, African American studies, Native American and indigenous studies, classics, Asian studies, international studies, Latin American studies, Latina/o studies, and gender, women's, and sexuality studies.

In addition to the undergraduate and graduate programs offered by the Department of History, many history courses are approved for the GE CLAS Core. Look for courses with prefix HIST under Historical Perspectives, International and Global Issues, Social Sciences, Values and Culture, and Diversity and Inclusion areas in the GE CLAS Core [p. 459] section of the Catalog. History courses approved for the GE CLAS Core may not be taken pass/nonpass, even when they are taken as electives.

Programs

Undergraduate Programs of Study

Major

- Major in History (Bachelor of Arts) [p. 609]

Minor

- Minor in History [p. 613]

Graduate Programs of Study

Majors

- Master of Arts in History [p. 614]
- Doctor of Philosophy in History [p. 615]

Facilities

University of Iowa Libraries offer excellent resources for undergraduate study in all fields of history, with distinct strengths in U.S. history. The Main Library houses the Henry A. Wallace papers and related collections, the Iowa Women's Archives, and other unique materials. Special Collections has a vast archive of both printed and digitized materials,

including five decades of papers and work donated by television news correspondent Tom Brokaw. The State Historical Society of Iowa in Iowa City and the Herbert Hoover Presidential Library and Museum in West Branch also hold valuable research materials. The Digital Scholarship & Publishing Studio offers assistance with projects in the digital humanities.

Courses

History majors should take HIST:2151 Introduction to the History Major during their sophomore year or the first semester after they declare the major.

History Courses

HIST:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

HIST:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, PHIL:1001, RELS:1010, THTR:1001.

HIST:1002 Issues in Medieval Society 3 s.h.

GE: Historical Perspectives.

HIST:1004 Issues in Human History: Communities and Society in History 3 s.h.

GE: Historical Perspectives.

HIST:1008 Issues in European Politics and Society 3 s.h.

GE: Historical Perspectives.

HIST:1010 History Matters 3 s.h.

How do we understand the past on its own terms and what is its relevance to the present? Introduction to historical thinking through a variety of topics. GE: Historical Perspectives.

HIST:1014 Issues: Twentieth-Century Crisis 3 s.h.

GE: Historical Perspectives.

HIST:1016 The History That Made Our World 3 s.h.

How does history help to explain our interconnected world? Introduction to international and global thinking through a variety of topics. GE: Historical Perspectives; International and Global Issues.

HIST:1025 Medieval Religion and Culture 3 s.h.

Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as RELS:1225.

HIST:1030 Introduction to Islamic Civilization 3 s.h.

Major areas of Islamic religious tradition: Qur'an, traditions of the Prophet, development and character of Islamic law, theology. GE: International and Global Issues; Values and Culture. Same as RELS:1130.

HIST:1040 Diversity in History 3 s.h.

How did diversity affect past societies? How does history help us to understand diversity today? Introduction to thinking about diversity and inclusion; topics vary. GE: Diversity and Inclusion.

HIST:1049 Introduction to American Indian and Native Studies 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as AMST:1049, NAIS:1049.

HIST:1050 Modern Religion and Culture 3 s.h.

European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as RELS:1250.

HIST:1101 The Modern World 3 s.h.

How did today's globalized world come to be? Which aspects of globalization are new and which are inherited from the past? Taking a long-term perspective, this course traces the development and acceleration of global interdependence since the 14th century; how far-flung parts of the globe have been linked to one another, how long-distance connections affected the societies involved, and how individuals have experienced and contributed to such global networks; students develop an understanding of globalization's long history leading up to the present and of their place in contemporary global networks. GE: Historical Perspectives.

HIST:1115 The History and Science of Oil 3 s.h.

Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Historical Perspectives. Same as EES:1115, ENVS:1115, GEOG:1115.

HIST:1166 Rapid Response History 1 s.h.

Bringing historians' expertise to bear on breaking news.

HIST:1219 Big Ideas: Equality, Opportunity, and Public Policy in America 3 s.h.

Examination of major social issues and challenges faced by nation, state, and communities; what government's role is in a democratic society; how we decide when, where, and how government acts in ways consistent with social goals and values; focus on pressing social issues (i.e., education, inequality, labor standards, health care); historical development of the problem or policy; ways we address social issues; effectiveness of current policies and alternative policies; ways in which social science contributes to policy design and assessment. GE: Social Sciences. Same as SOC:1219.

HIST:1261 American History to 1877 3 s.h.

America before European colonization; encounters between Native Americans, Europeans, and Africans in North America; the rise and decline of European imperial powers; the independence and expansion of the American republic; economic, political, and social change from the American Revolutionary era through Civil War and Reconstruction. GE: Historical Perspectives.

HIST:1262 American History 1877-Present 3 s.h.

America since Civil War and Reconstruction; politics, society, and culture from the post-Civil War decades through the Progressive Era, the Great Depression, and two world wars; the "Cold War" with Soviet communism abroad and at home, social protest movements and their influence on electoral politics, and the evolving economic and political role of U.S. in the world. GE: Historical Perspectives.

HIST:1290 Native American Foods and Foodways 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, GHS:1290, NAIS:1290.

HIST:1401 The West and the World: Ancient 3-4 s.h.

Many consider Greece and Rome important influences for the modern West, but who influenced the Greeks and Romans? Students look to the ancient Near East, home to civilizations such as Egypt and the Babylonians, and investigate the formation of larger communities, study how peoples of the ancient Mediterranean viewed their world, follow the paths of Greeks and Romans, and end with Christianization of the Roman Empire, to not only understand the history of the period, but also learn how to think, read, and write critically. GE: Historical Perspectives.

HIST:1402 The West and the World: Medieval 3-4 s.h.

How have events of European history shaped modern institutions, politics, and culture worldwide, and how have other regions of the world shaped Europe? Students explore this question by tracing European history in a global context from the late Roman Empire to the 18th century to not only understand this history, but also learn how to read, write, and think critically about it. GE: Historical Perspectives.

HIST:1403 The West and the World: Modern 3-4 s.h.

What is "the West" and how does it relate to the rest of the world? Is it the inspiring values of the U.S. and French Revolutions or an exclusive idea that justifies racism and imperialism? Students explore social, cultural, and political developments in modern Europe and its colonies that gave rise to the idea of the West; debates about democracy, industrialization, nationalism, and empire over the last 300 years; how our own ideas about liberty and equality, rights and justice, peace and conflict are shaped by this history; to not only understand this history, but also learn how to read, write, and think critically about it. GE: Historical Perspectives; International and Global Issues.

HIST:1602 Civilizations of Asia: China 3 s.h.

GE: Historical Perspectives; International and Global Issues. Same as ASIA:1602.

HIST:1604 Civilizations of Asia: Japan 3-4 s.h.

GE: Historical Perspectives; International and Global Issues. Same as ASIA:1604.

HIST:1606 Civilizations of Asia: South Asia 3-4 s.h.

Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1606.

HIST:1607 Civilizations of Asia: Korea 3-4 s.h.

Introduction to Korean history and culture; how meanings of "Korea" and "Koreans" changed from ancient times to present; relevant issues of politics, society, and culture; events that shaped ancient Korean states—Koryo state (918-1392), the Choson dynasty (1392-1910), Japanese colonization (1910-1945), and the two Koreas (1945-present); how present perspectives on Korea have influenced understandings of its past. GE: Historical Perspectives; International and Global Issues.

HIST:1609 India Now! A Survey from Bollywood Films to Global Terror 3-4 s.h.

Experience of change on adaptations made by India to global conditions in the last 50 years, and on contemporary Indian contributions to global conditions and culture; India environmentalism, Bollywood films and world music, celebrity culture and Nobel prizes, Gandhian activism, economic performance, the explosion of cricket, the place of English language, social movements among women and Untouchables, the Indian diaspora abroad, internal dissent, and the Indian war on terror. GE: Values and Culture.

HIST:1610 Living Religions of the East 3 s.h.

Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as ASIA:1040, RELS:1404.

HIST:1612 Introduction to Buddhism 3 s.h.

Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as ASIA:1060, RELS:1506.

HIST:1708 Civilizations of Africa 3 s.h.

Introduction to the study of Africa; brief survey of African history; aspects of modern African life, including political and social issues, economic and health problems (including HIV/AIDS); classroom discussion of selected African films and assigned African novels. GE: Values and Culture.

HIST:2120 World History: Stone Age to Feudal Age 3 s.h.

World history from human origins, through classical antiquity, to the 16th century; political, economic, and environmental forces contributing to social transformations. Same as IS:2120.

HIST:2122 World History: Feudal Age to Nuclear Age 3 s.h.

World history from the late 1400s to 1945; colonialism, imperialism, capitalism, and industrialization as forces of global social and cultural transformation. Same as IS:2122.

HIST:2148 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

HIST:2151 Introduction to the History Major 3 s.h.

Requirements: history major.

HIST:2195 Digital History Workshop 3-4 s.h.

Introduction to use of new media in historical research and writing; web-based publishing and blogging; photo, text, and video editing; digital mapping; curation of digital resources; projects may include short documentary videos, web development, mapping projects, or collaborative curation (identifying, digitizing, annotating artifacts or documents from University collections) in collaboration with University of Iowa Libraries Digital Research & Publishing.

HIST:2206 American Monuments 3 s.h.

History of public monuments in America from the inception of first major monuments in the 1820s to the latest incarnations (e.g., counter-monuments such as the 9/11 Memorial, spontaneous and temporary monuments, online memorials); how monuments have depicted Indians, blacks, Southern confederates, women, and other groups; how monuments have commemorated wars, Indian massacres, lynchings, and political movements (e.g., civil rights, women's suffrage); how monuments have been reinterpreted through popular protests and depositing of artifacts; why monuments have attracted so much controversy, culminating in recent events at Charlottesville. Same as AMST:2600.

HIST:2210 Diversity in American Religious History: Experimenting with Gender and Sexuality 3 s.h.

Introduction to select popular, alternative, and communal religious groups from the 19th and 20th centuries that have challenged society's norms for gender and sexuality. Same as GWSS:2110, RELS:2110.

HIST:2250 The History of Social Justice Movements 3 s.h.

History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as GWSS:2250, SJUS:2250.

HIST:2266 Civil War and Emancipation 3 s.h.

150 years later, what can we learn about American history from studying a war that both killed and liberated a remarkable and an unprecedented number of people? Why did it take a war to end slavery? How did emancipation occur and how did enslaved people accelerate the destruction of U.S. slavery during the war? Same as AFAM:2266.

HIST:2267 African American History to 1877: From Slave Cabin to Senate Floor 3 s.h.

Experiences of African and African American people in the American colonies and the states of the new nation; history of Africans and African Americans as early settlers, enslaved and free, in places such as Detroit, Chicago, New York, and New Orleans; interactions with indigenous people; role in the war for American independence; long history of resistance to slavery and racial discrimination; exploration of the rich history of community building, creation of significant black social and cultural institutions, and formation of black political thought and political activism. GE: Diversity and Inclusion. Same as AFAM:2267.

HIST:2280 Introduction to Latina/o Studies 3 s.h.

Introduction to field of Latina/o studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o populations (Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). GE: Diversity and Inclusion. Same as LATS:2280, SPAN:2280.

HIST:2288 Introduction to Mexican American History 3 s.h.

Introduction to major themes in Mexican American history from the 18th century to the present; settlement of Mexico's Far North by Spanish Mexican residents, their incorporation into the United States after a war of conquest, and the growth of Mexican Americans into the nation's largest Latino group.

HIST:2292 Introduction to American Indian History and Policy 3 s.h.

Survey of relationships among American Indian tribes, the United States government, and the American settler society; consequences of contact and colonialism through the study of an individual tribe, the impacts of U.S. federal policy and settler colonialism on tribal communities, and how tribes responded variously to these challenges. Same as NAIS:2292.

HIST:2420 Germany in the World 3-4 s.h.

The Federal Republic of Germany's increasing prominence in post-Cold War international affairs, against backdrop of 20th-century history. Taught in English. GE: International and Global Issues. Same as GRMN:2720.

HIST:2431 Roman Law, Order, and Crime 3 s.h.

Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Same as CLSA:2151.

HIST:2461 Middle East and Mediterranean: Alexander to Suleiman 3 s.h.

GE: Historical Perspectives. Same as CLSA:2461, RELS:2361.

HIST:2462 Middle East and Mediterranean: Saladin to Napoleon 3 s.h.

Complement to HIST:2461; Mediterranean world from the age of Saladin (12th century) to Napoleon (early 19th century); history and imaginaries of the relationship between Europe and the Middle East.

HIST:2465 Europe Since 1945 3 s.h.

Europe since World War II: recovery, cold war, social and economic change, global perspectives.

HIST:2483 History of Britain: Fall of Rome to the Norman Conquest 3 s.h.

History of Britain from fall of Rome (after 410) and through Anglo-Saxon era, until Norman Conquest of 1066; Anglo-Saxon kings and kingdoms, church and society; poetry, historical writings, archaeology.

HIST:2687 Perspectives on Korea 3 s.h.

History of Korea from earliest times to present; changing meanings of Korea and Koreans; relevant issues of politics, society, and culture; events that shaped ancient Korean kingdoms, the Choson dynasty (1392-1910), Japanese occupation, and divided Korean peninsula; how present perspectives on Korea have influenced understandings of its past; placement of Korea within a regional and global context to examine Korea's relationship with the world. Same as ASIA:2887.

HIST:3101 History Internship 3-6 s.h.

Internship involving historical work. Requirements: consent of director of undergraduate studies and Pomerantz Career Center.

HIST:3105 International Events in Historical Context 3 s.h.

Current world events in historical perspective; daily readings of the *New York Times*; selective utilization of other news media, including daily newspapers (*Wall Street Journal*, *Washington Post*), major foreign newspapers and periodicals (*Foreign Affairs*, *Foreign Policy*), and electronic news media including network and cable television news programs; gain understanding of the historical background of world events and how these events shape U.S. party politics.

HIST:3106 World Events in Historical Context: Reading History Through the New York Times 3 s.h.

Examination of current international news stories and their historical background; daily reading of *The New York Times* international news section and online international news stories in U.S. and international news outlets; creating informed world citizens.

HIST:3125 Gender, Race, and Citizenship in North and South America 3 s.h.

Interaction between race, gender, and citizenship throughout the 18th, 19th, and 20th centuries in North and South America; comparative study of how men and women engaged in the practice of citizenship; analysis of primary sources and identification of similarities and differences in gender norms and race; how these factors influence the rights, duties, and obligations of citizenship across time and location. Same as GWSS:3525.

HIST:3126 History of Globalization 3 s.h.

Broad overview of globalization in modern world history; focus on evolution of international business, world economy, interstate system, and cultural interchange in 19th and 20th centuries; long-distance trade and exchange; global economy under British Empire; globalization after 1945 following a 30-year period of nationalism, war, and depression; global market integration in late 20th century under American supremacy.

HIST:3133 Science, Technology, and Society in the Modern World 3 s.h.

Do animals have souls? Are robots really coming to take our jobs? Did humans evolve from apes? Does the universe run like clockwork? Where do we fix the boundaries between animal, human, and machine? How answers to these questions have changed since the 17th century; key topics in the history of science and technology (e.g., origins of experimental science, evolutionary theory, artificial intelligence, the Space Race); ideas and technologies in cultural, social, and economic context; controversies generated by Darwin's theory of evolution; how science and technology play major roles in the modern world.

HIST:3143 International Politics: The History of the Present 3-4 s.h.

Historical approach to international relations; comprehensive overview of key developments and concepts in history of international politics.

HIST:3145 Europe and the United States in the Twentieth Century 3 s.h.

United States-European transatlantic relationship over 20th century in historical perspective; sense of common heritage transformed into program of political purpose; alliances in defense of a shared civilization (the West) challenged by nations and ideologies from Wilhelmine Empire to Nazi Germany and from U.S.S.R. to Islamist groups; reluctant American involvement in Europe, East European claims of inclusion, mutual frustrations and suspicions, differences in interpreting shared tradition; diverging concepts of security, legitimacy, sovereignty, and history lessons underscored by U.S. role as sole superpower and European Union experiment in integration.

HIST:3155 The World Since 1945 3 s.h.**HIST:3157 Gender, Sexuality, and Human Rights 3 s.h.**

History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as GWSS:3157.

HIST:3190 Medieval to Modern: The Birth of Protestantism 3 s.h.

Same as RELS:3190.

HIST:3191 Individual Study: Undergraduate arr.**HIST:3193 Undergraduate History Portfolio 0 s.h.**

Submission of required history portfolio. Requirements: history major and senior standing.

HIST:3211 Native North America I: Precontact-1789 3 s.h.

Same as NAIS:3211.

HIST:3212 Native North America II: 1789-Present 3 s.h.

Same as NAIS:3212.

HIST:3230 American Environmental History 3 s.h.

Introduction to environmental change in American history; human-nature interactions from colonial period to recent past; food and agriculture, industrial technologies and transportation, energy production and consumption, urbanization and sprawl, public lands and public works, environmental politics and law, toxic pollution and health, natural disasters, climate change.

HIST:3232 History of American Inequality 3 s.h.

Survey of causes and consequences of inequality in modern American history.

HIST:3240 U.S. Energy Policy in Global Context 3 s.h.

Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GEOG:3780, GHS:3780.

HIST:3242 The United States in World Affairs 3-4 s.h.

America's emergence as leader in world affairs; imperialism, international collaboration, participation in world wars, the Cold War.

HIST:3251 The Office: Business Life in America 3 s.h.

History of business life in America from birth of Wall Street to rise of Silicon Valley; modes of managing and regulating office workers; changing designs of office buildings, furniture, gadgets; corporate response to rise of class inequalities and growing gender and racial diversity in workforce; portrayal of businessperson in novels, movies, television, art, photography.

HIST:3253 The Civil Rights Movement 3 s.h.

History of the American civil rights movement. Same as AFAM:3053, AMST:3053.

HIST:3259 Making Change, Making History: Iowa's Black Activists and Digital History 3 s.h.

From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as GWSS:3459, SJUS:3459.

HIST:3263 American Ruins 3 s.h.

Emergence and development of American fascination with ruins, from indigenous to urban-industrial remains; actual ruins and depiction of imagined ruins in art, literature, cinema.

HIST:3270 Colonial North America, ca. 1600-1775 3 s.h.

Introduction to major themes in colonial American history prior to the American Revolution; Native American history; colonialism and Native resistance; slavery; material culture; religion and spirituality; immigration; gender and sexuality in cross-cultural perspective. Same as NAIS:3270.

HIST:3271 American Revolutionary Period 3 s.h.

Political and military history of colonies 1754-1776; imperial upheaval; building a new nation; creation of federal system.

HIST:3272 Native Americans in the Age of Empires, ca. 1500-1815 3 s.h.

Overview of major issues in Native American history during the period of European Imperialism; colonialism, diplomacy and alliance building, warfare, captivity, religious and spiritual exchanges, revolution, and the disintegration of Native-European alliances in the early 19th century. Same as NAIS:3272.

HIST:3275 History of Slavery in the U.S.A. 3-4 s.h.

Beginning, expansion, and ending of American slavery; how our national memory of slavery in popular culture (in high school history, in historical landmarks and museums) helps or hinders our understanding of history of slavery in the U.S. Same as AFAM:3275.

HIST:3280 Women and Power in U.S. History Through the Civil War 3 s.h.

Exploration of how women, as political actors, shaped the outcome of familiar events (the American Revolution, the Civil War); how they organized social movements around important issues of their lives such as the abolition of slavery and the right to consent to sexual intimacy; how women's inequality was established in law and social practice; how women thought about and challenged inequality, both as individuals and in social movements. Same as GWSS:3280.

HIST:3282 Women and Power in U.S. History Since the Civil War 3 s.h.

Major events and themes in U.S. women's history from late 19th century to present; how women's experiences have differed from men's; exploration of distinct, but interconnected histories of different groups of women; changing ideals of femininity; women's experience of industrialization, immigration, depression, war, and sexual revolution; women's activism for social reform, women's rights, labor, civil rights, peace, and the New Right. Same as GWSS:3282.

HIST:3289 The Atlantic World c. 1450-1850 3 s.h.

Interactions between peoples of Europe, Africa, and the Americas between the 15th and mid-19th centuries, interconnected system of exchange that defied national and imperial boundaries; encounters between Native Americans, Africans, and Europeans in different parts of the Americas; forced and voluntary resettlement of Africans and Europeans overseas; development of plantation slave societies; biological consequences of transatlantic contact; circulation of people, goods, and ideas; development of creole societies; era of revolutions; abolition of slavery. Same as NAIS:3289.

HIST:3360 American Economic History 3 s.h.

Prerequisites: (ECON:1100 and ECON:1200) or (ECON:1100 and HIST:1261). Same as ECON:3250.

HIST:3409 Medieval Civilization I 3 s.h.

Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as MDVL:3409.

HIST:3410 Medieval Civilization II 3 s.h.

Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. Same as MDVL:3410.

HIST:3412 Medieval Philosophy 3 s.h.

Introduction to St. Thomas Aquinas, William of Ockham, and Duns Scotus, three of the most brilliant philosophers of the high middle ages (11th through 13th centuries); their writing as Christians in (fascinated) reaction to philosophical systems of their pagan predecessors; how medieval philosophers wrestled with problems concerning possibility of free will and responsibility in face of divine omniscience and foreknowledge; existence of abstract universals in a world that is nonabstract and particular; nature and existence of God; skepticism and limits of human knowledge; nature of good and evil. Same as PHIL:3112.

HIST:3413 Early Modern Britain: The Tudor and Stuart Era 3 s.h.

History of Britain during the reigns of the Tudor and Stuart monarchs (1509-1714); focus on political institutions, economic development, civil conflict, religious change, origins of the British Empire, and everyday life.

HIST:3415 Modern Britain: The Victorian Age 3-4 s.h.

History of Great Britain and British Empire from early 19th-century industrial revolution and Romantic movement to the outbreak of World War I; topics include Britain's mid-Victorian imperial and industrial prominence in the world, rapid expansion of British empire, struggle for equality for women, growth of Britain's churches at home and in the empire, struggle between science and religion, and advent of democratic socialism.

HIST:3416 Modern Britain: War and Empire in the Twentieth Century 3 s.h.

Great Britain from the First World War to Tony Blair's political triumph; World War I and the postwar settlement, expansion of the British Empire in the Middle East, rise of the Labour Party, the Depression, appeasement, World War II, Labour Party's triumph after the war, decolonization and emergence of postcolonial independent states around the world, 1960s cultural changes, Margaret Thatcher's political ascendancy, transformation of the Labour Party under Blair, and emergence of a new, multicultural and multiracial Britain.

HIST:3436 Food in Ancient Mediterranean Society 3 s.h.

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as ANTH:3204, CLSA:3836.

HIST:3473 German History 1648-1914 3 s.h.

Introduction to history of German-speaking lands from the devastation of the Thirty-Years War through the trauma of World War I, cutting across the French Revolution, the Revolutions of 1848, and German unification (1871); role of the German nation-state in European politics, not centered on the rise of that state and those politics, instead, an exploration of the vast diversity of German communities that emerged and persisted across this period; students are challenged to think about ways in which German history was part of a global history that extended into Iowa as well as many other places in the world.

HIST:3475 Germany's Twentieth Century 3-4 s.h.

How did Germany come to play such a great role in 20th century history, and how does that legacy shape the 21st century? Students pick up the story with Germany as an upstart new nation-state in the late 19th century and explore cases and consequences of World War I; the promise and crises of the Weimar Republic; Nazism, the Holocaust, and World War II; divided Germany in the Cold War; reunification; what the larger power structures, economic developments, and geopolitics were that shaped this history; how ordinary people experienced and contributed to it, and what Germany's impact is on the larger world.

HIST:3485 Early Modern Catholicism 3 s.h.

Same as RELS:3385.

HIST:3501 Rebel Island: A History of Cuba 3 s.h.

Cuban society and revolutionary movements since the late colonial period, including the years since 1959. Same as LAS:3501.

HIST:3508 Health in Latin America 3 s.h.

Survey of major topics in Latin American history in relation to development of medicine and public health. Same as GHS:3508, LAS:3508.

HIST:3515 Introduction to Modern Latin America 3 s.h.

Introduction to modern history of Latin America from independence movements of the early 19th century to present; topics include race and ethnicity, slave emancipation, gender, labor relations, and foreign interventions; exploration of relationship between economic, social, and political structures over time to explain difference and commonality between Latin American people and societies; focus on topics pertaining to histories of Mexico, Central America, the Caribbean, and South America. Same as LAS:3515.

HIST:3644 Gandhi and His Legacy 3 s.h.

In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as RELS:3644, SOAS:3644.

HIST:3650 Chinese History from 1600 to 1911 3 s.h.

Chinese history from the 17th to early 20th century, history of the Qing dynasty (1644-1911); Qing's role in shaping aspects of today's politics in China and the mentality of Chinese people; foundation of Manchu state in early 17th century, Ming-Qing transition in 1644, politics and society during the high Qing era, decline of the empire under foreign invasion and inner rebellions in the 19th century, collapse of the dynasty in 1911. Same as ASIA:3650.

HIST:3652 Twentieth-Century China 3 s.h.

Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. Same as ASIA:3652.

HIST:3655 Zen Buddhism 3 s.h.

Same as ASIA:3655, RELS:3655.

HIST:3685 Modern Korean History 3 s.h.

Transformation of Choson Korea to North and South Korea; local, regional, and global transformations in Korea from the late 19th century to present; severing of historic ties with China; encounters with the West and Japan; new ideas of civilization and political community; erasure of Choson as a country in 1910; colonial experience; civil war; industrialization; creation of North Korea; democratic movement in South Korea and spread of diasporic communities abroad; Korean peninsula as a laboratory for analyzing compressed communist and capitalist modernities of the 20th century.

HIST:3745 Islam in Africa 4 s.h.

African Islamic history beginning with earliest Muslim migrants from Arabia to Ethiopia in early 7th century C.E. to dawn of 21st century; focus on historical development of Islam on African continent, specific regions, and particular themes; part of Islamic Studies Virtual Curriculum and Committee on Institutional Cooperation (CIC) CourseShare Program. Same as IS:3745, RELS:3845.

HIST:3755 Understanding Health and Disease in Africa 3 s.h.

Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as GHS:3555, IS:3555.

HIST:3758 The Ancient African Past 3 s.h.

Africa to 1880; oral tradition and other sources; political development, ecological change, slavery and slave trade. Same as AFAM:3758.

HIST:3760 The Making of Modern Africa 3 s.h.

Africa in colonial and postcolonial period; economics, political structures of colonialism; social change, political life in the 20th century. Same as AFAM:3760.

HIST:3808 Draw Me History: The Middle East and North Africa Through Comics and Animated Films 3 s.h.

Introduction to contemporary history of the Middle East and North Africa; exploration of comics and animated films as a means of comprehending individual-lived experiences such as the Lebanese civil war, the Iranian Islamic Revolution, and Middle Eastern emigration and exile.

HIST:3810 History of the Modern Middle East 3 s.h.

Survey of major political, socioeconomic, and cultural changes in the Middle East and North Africa after 1900.

HIST:3995 History Honors Research Seminar 0-3 s.h.

Research and method seminar; developing and writing an honors thesis in history. Corequisites: HIST:3996. Requirements: g.p.a. of 3.33.

HIST:3996 Honors Thesis 3 s.h.

Individual research and writing under supervision of faculty member; occasional group sessions with other students in the course.

HIST:4100 Historical Background of Contemporary Issues arr.**HIST:4101 History of Human Rights 3 s.h.**

Introduction to history of human rights in the 20th century; disjuncture between human rights in theory and in practice; provides an international approach to the history of human rights by situating U.S. human rights activism and policy in a global context; focus on human rights following World War II, contradictory impact of the Cold War; emergence of human rights politics in 1970s United States, challenges of post-Cold War human rights activism, and human rights rhetoric of the Global War on Terrorism.

HIST:4115 Workshop for History Educators and Cultural Professionals 1-3 s.h.

Topics vary based on ongoing project work and instructors.

HIST:4125 War and Peace in the Twentieth Century 3 s.h.**HIST:4130 Museum Literacy and Historical Memory 3 s.h.**

Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850. Same as MUSM:4130.

HIST:4131 Origins of Western Science 3 s.h.

Exploration of philosophical, cultural and religious factors behind birth and growth of natural philosophy (science) from prehistory to High Middle Ages. Recommendations: junior or senior standing.

HIST:4132 Science, Medicine, and Race 3 s.h.

Examination of social construction of race in scientific and medical thought; focus on Atlantic world (Europe, Africa, the Americas); construction of race in other parts of world.

HIST:4148 Global History as Local History: European Immigration in Iowa 1,3-4 s.h.

Opportunity to use skills developed in other courses to pursue global history locally; waves of immigration that flowed across Iowa during 19th century; ways in which national and international shifts in economics and geopolitics affected this population and state from mid-19th century through World War II; research project based on a local community of student's choice; capstone course. Recommendations: junior or senior standing.

HIST:4160 History of Public Health 3 s.h.

State-endorsed measures to avert or control disease in society. Same as GHS:4160.

HIST:4162 History of Global Health 3 s.h.

Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as GHS:4162.

HIST:4176 Vietnam War on Film 3-4 s.h.**HIST:4201 History of the American Deaf Community 3-4 s.h.**

Creation of a distinct language and culture of Deaf people in America during the 19th and 20th centuries. Prerequisites: ASL:2002. Same as ASL:4201.

- HIST:4203 Disability in American History** 3 s.h.
HIST:4205 American Cultural History 1820-1920 3 s.h.
 Culture as contested terrain; creation of cultural hierarchy (high and popular culture); struggles over the cultural construction of meaning; competing stories of America; advent and significance of mass culture.
- HIST:4216 Mexican American History** 3 s.h.
 Survey of Chicana/o (Mexican American) history from 18th century to present; Mexican American society's diverse nature, explored through class, ethnic, gender, and regional divisions. Same as LAS:4216.
- HIST:4217 Latina/o Immigration** 3 s.h.
 Immigration experiences of people arriving in the U.S. from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the U.S. and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latino identity in the U.S. Same as LAS:4217, LATS:4217.
- HIST:4221 The Frontier in American History 1840-Present** 3 s.h.
HIST:4228 Cold War America 3 s.h.
 Key historical developments of the Cold War; examination of how the war shaped ideological, political, economic, and cultural aspects of American society.
- HIST:4229 The United States as Empire** 3 s.h.
 The U.S. rise to world power; continental empire-building in the 19th century; industrial, military and colonial power in the early 20th century; global hegemony from the mid-20th century to the present; white settler colonialism; overseas rule of Philippines and Puerto Rico; cultural Americanization; Cold War interventionism; post-9/11 unilateralism; meanings of American exceptionalism, intersections of U.S. nationalism with race and gender, remaking of domestic U.S. society within a changing global and imperial context.
- HIST:4230 The Political Culture of U.S. Foreign Policy** 3 s.h.
 Political culture of U.S. foreign policy in historical perspective; connections and interactions between the domestic scene and international realities, from time of manifest destiny to national security state; domestic foundations of American power and its projection abroad, including constitutional framework, economic developments, rise of the state, role of media, public opinion, civilian-military relations; concepts of race, ethnic identifications, and religious and political beliefs have shaped understandings of patriotism, national interest, international responsibility; great debates in which American national identity and purpose are renegotiated.
- HIST:4231 United States in World Affairs to 1900** 3 s.h.
 Origins of modern diplomatic practices; security, territorial and commercial expansion; legal, constitutional problems.
- HIST:4234 Transnational America 1880-1939** arr.
 The United States as a society increasingly embedded in global history during the late 19th- and early 20th-centuries; approaches for thinking about history in transnational ways; intensification of European, Asian, and Latin American immigration; cross-national dimensions of American reform; emergence of diasporic social movements; international scale of the corporate state; politics of colonialism and world war.
- HIST:4236 Major Topics in U.S. Foreign Policy** 3 s.h.
 Continuation of HIST:4232; select themes in the history of U.S. foreign policy studied in greater detail; examination of major conflicts (i.e., World War Two, the Cold War or the Vietnam War, and recent engagements in the Middle East), drawing from a wide range of primary sources, film material, and secondary material.
- HIST:4241 Varieties of American Religion** 3 s.h.
 Examination of varied 20th- and 21st-century American religious individuals and groups; understand and analyze unique communities. Same as RELS:4741.
- HIST:4245 The Social History of American Baseball** 3 s.h.
 History of baseball in the United States from its beginnings as a working-class recreation through the present; history of the game and the people who have played it, how the history of American society is viewed through the lens of baseball, how the game has contributed to social change; social class, race, urbanization, crime and political corruption, public health, big business and professionalism, spectatorship, entertainment and mass culture, national mythology, the exercise of legitimate authority (umpires!).
- HIST:4249 History of Iowa and the Midwest** 3 s.h.
 People of Iowa and surrounding Midwestern states—a land where people work hard, are practical, down to earth, and honest; the idea of a place in the heartland as real or simply a myth; history of Midwestern states from Native American occupation to present; how reality, ideas, and images are portrayed.
- HIST:4250 Work and Society in Industrializing America** 3 s.h.
 Industrialization, formation of an American working class; changing patterns of labor organization, strike activity, politics; impact of ethnic, racial, gender divisions on working class communities, culture.
- HIST:4252 American Labor in the Twentieth Century** 3-4 s.h.
 Competing philosophies and organizational strategies of workers in a maturing industrial economy; impact of world wars and Great Depression on American workers and their unions; rise of service sector, deindustrialization.
- HIST:4254 Immigrant America 1845-1925** 3 s.h.
 Era of mass immigration in world context; formation, organization of immigrant communities; diverse processes of adaptation, assimilation; rural, urban contrasts; coercive Americanization, immigration restriction.
- HIST:4256 The Progressive Era in America** 3 s.h.
 Protest and reform, imperialism, World War I, from 1890s to 1920.
- HIST:4260 The Sixties in America** 3 s.h.
 The 1960s as a moment in American politics and culture, pivotal and romanticized; major events and conflicts, including the election and assassination of President Kennedy, Lyndon B. Johnson (LBJ) and the Great Society, civil rights movement and black power movement, counterculture and the urban crisis, sexual revolution and second wave feminism, anti-war protest and silent majority; changing conceptions of the sixties and development of a fresh interpretation.
- HIST:4264 U.S.A. in a World at War 1931-1945** 3 s.h.
 Significance of World War II to the United States.

HIST:4266 The New Deal: Political Response to Economic Crisis in the United States, 1920-1940 3 s.h.
United States between the wars; emphasis on New Era system, impact of the Great Depression and response by the Hoover administration, the New Deal.

HIST:4268 The Contemporary U.S. 1940-Present 3 s.h.
United States as a global power; emphasis on World War II and Cold War, recent patterns of social and economic change, politics of 1950s, 1960s.

HIST:4273 War and Violence in Early American Societies and Culture 3 s.h.
Introduction to role of warfare and violence in shaping early American society.

HIST:4286 U.S. Legal History 3 s.h.
History of the law in the United States, as it developed from era of the Revolution to present; interaction of courts and legislatures with social movements; readings on court decisions, social histories, fiction (film and prose).

HIST:4295 African American History 1619-1865 3 s.h.
Race and African American history, from the rise of racial slavery to the Civil War; advanced course. Same as AFAM:4195.

HIST:4296 African American History 1865-Present 3 s.h.
African American history since Reconstruction; survey of African American politics and society from Reconstruction to present. Same as AFAM:4298.

HIST:4334 Topics in American Borderlands History 3 s.h.
Broad historical overview of the American Borderlands, a region that has been the site of conflict, cultural exchange, and economic interdependence.

HIST:4400 The Roman Empire 3 s.h.
History of Roman empire from assassination of Julius Caesar through 5th century A.D.; political, economic, cultural, and social developments from the transition to imperial power to the shift of power from west to east. Same as CLSA:4400.

HIST:4401 Ancient Egypt and the Ancient Near East 3 s.h.
Same as CLSA:4101.

HIST:4403 Alexander the Great 3 s.h.
History of Alexander the Great and the generals who succeeded him in ruling the lands he conquered; military, political, and social history. Same as CLSA:4403.

HIST:4404 The World of Ancient Greece 3 s.h.

HIST:4406 Warfare in Ancient Mediterranean Society 3 s.h.
Same as CLSA:4106.

HIST:4407 The Hellenistic World and Rome 3 s.h.
Social, economic, political, intellectual history of Graeco-Roman world, from fourth century B.C.E. to Justinian's reign.

HIST:4411 Economic and Social History of Medieval Europe 3 s.h.
Changes in western Europe from 300 to 1500 A.D.; feudalism, manorialism, revival of towns, heresy, women, monasticism, agricultural and commercial revolutions, Black Death. Same as MDVL:4411.

HIST:4412 History of the Medieval Church 3 s.h.
Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. Same as MDVL:4412.

HIST:4414 Christianity and Empire (35-450 AD) 2-3 s.h.
Introduction to major topics in history of Europe and the church; relationship between Christian message and political power as evidenced in Christian writings from Paul to St. Augustine; examination of key historical moments.

HIST:4417 Medieval Intellectual History 300-1150 3 s.h.
Philosophy, art, literature, religious culture of Europe from waning of classical intellectual modes of culture in late antiquity, to their recovery in 12th century. Same as MDVL:4417.

HIST:4418 Medieval Intellectual History 1150-1500 3 s.h.
European philosophy, religion, literature, art from 12th-century rise of scholasticism; their transformation in period of Copernicus, Luther. Same as MDVL:4418.

HIST:4419 Ancient and Medieval Science 3 s.h.
Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as MDVL:4419.

HIST:4421 The Middle Ages in Film 3 s.h.
How films that represent medieval events and literature may be analyzed to reveal the culture and times in which the films were made; Middle Ages and European nationalistic mythmaking as represented in film. Same as MDVL:4421.

HIST:4423 Ireland in the Early Middle Ages 3 s.h.
Ireland and the northern British islands 400-1000 C.E., a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as MDVL:4423.

HIST:4426 Women, Power, and Society in Medieval Europe 3 s.h.
Same as MDVL:4426.

HIST:4427 Society and Gender in Europe 1200-1789 3 s.h.
Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. Same as GWSS:4427.

HIST:4428 Nineteenth-Century Europe 3 s.h.
Political, social, economic, and cultural factors.

HIST:4430 Topics in Material Analysis 3 s.h.
Analysis and description of physical book artifacts and their component parts (parchment, paper, bookbinding) and allied specialties (the lettering arts, printing and illustration techniques); reading, writing, presentations. Same as UICB:4930.

HIST:4433 France Under Nazi Occupation, 1940-1944 3-4 s.h.
Political, economic, social, and cultural conditions that prevailed following the Nazi conquest of France in 1940; examination of this period of upheaval through work of prominent historians of France; representations of occupied France in literary works, documentary, and fictional films produced during the war and in the politically fraught culture of collective memorialization that formed in aftermath of this national trauma. Taught in English. Same as FREN:4433.

- HIST:4435 War and Society in Modern Europe** 3 s.h.
Impact of war on European societies since the French Revolution.
- HIST:4438 Modern European Imperialism** 3 s.h.
Introduction to the history of European imperialism since the 18th century; major shifts in the nature of European empire examined through the Haitian Revolution, India, Australia, Congo, Algeria.
- HIST:4440 Artists, Intellectuals, and Politics in 20th-Century Europe** 3 s.h.
Political engagement of European artists and intellectuals from 1870 to present; cultural and intellectual history, rise of social science, artistic avant-gardes, fascist and socialist aesthetics, world war, Cold War, existentialism, feminism, anti-colonialism.
- HIST:4441 Special Topics in European History** arr.
European history topics of current interest (i.e., food, environment, climate, water use). Recommendations: advanced history major or beginning graduate student.
- HIST:4455 Religious Conflict: Early Modern Period** 3 s.h.
Religious conflict among European Christians (Catholics, Lutherans, Calvinists, and Radicals), as well as between Christians and non-Christians from the Late Middle Ages through the Reformation of the 16th century and beyond. Same as RELS:4155.
- HIST:4460 Twentieth-Century Europe: The Nazi Era** 3 s.h.
- HIST:4461 Twentieth-Century Europe: The Cold War and After** 3 s.h.
- HIST:4464 Modern France 1789-1871** 3 s.h.
- HIST:4465 Modern France 1870-Present** 3 s.h.
- HIST:4466 France and Algeria from Pirates to Terrorism** 3 s.h.
Long, complex history of relationship between France and Algeria since 18th century; early modern conflicts over Barbary piracy, French invasion, and colonization of Algeria in 19th century; brutal Algerian War of Independence, postcolonial migration, and ongoing war of memory over shared Franco-Algerian history of colonization and decolonization. Taught in English. Same as FREN:4466.
- HIST:4470 France from 1815-Present** 3 s.h.
- HIST:4477 Napoleon and His Afterlives** 3 s.h.
Life and influence of Napoleon Bonaparte in France; Napoleon's personal background, his career during French Revolution, rise and fall of his European and global empire; examination of Emperor's global legacy, from post-Napoleonic diplomatic settlement to spread of Napoleonic administrative and legal codes; Napoleonic legend that arose after his final defeat in 1815; weekly readings and discussions, individual research project, and participation in events being planned across campus to mark the bicentennial of Napoleon's invasion of Russia.
- HIST:4478 Holocaust in History and Memory** 3 s.h.
Origins and implementation of Holocaust; perpetrators, victims, and bystanders; impact of Holocaust on post-World War II world.
- HIST:4484 Modern Britain: The Eighteenth Century** 3 s.h.
Great Britain from Glorious Revolution of 1688 to end of the Napoleonic Wars in 1815; post-revolution political settlement, political conflict, growth of British empire, religious dissent, evangelical revival, Industrial Revolution, American Revolution, British response to the French Revolution.
- HIST:4493 Soviet Union 1917-1945** 3-4 s.h.
Revolution, foundation of Soviet Union; Leninism; major political, social, ideological developments during Stalinist period—collectivization, industrialization, terror; nationalities, foreign policy; World War II; Cold War; socialist state system.
- HIST:4499 First World War** 3-4 s.h.
Social, economic, political, technological, military aspects of causes, conduct, consequences of war of 1914-1918; fiction, contemporary documents, historical works, films.
- HIST:4502 History of Mexico** 3 s.h.
Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as LAS:4502, NAIS:4502.
- HIST:4504 Latin American Studies Seminar** 3 s.h.
Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, CL:4700, LAS:4700, PORT:4700, SPAN:4900.
- HIST:4505 Topics in Latin American History** 3 s.h.
- HIST:4510 Colonial Latin America** 3 s.h.
Cultural, institutional continuity from 16th century to independence.
- HIST:4520 Latin America and the United States: The Historical Perspective** 3 s.h.
- HIST:4525 Latin American Revolution** 3 s.h.
- HIST:4605 Disease, Politics, and Health in South Asia** 2-4 s.h.
South Asia's long-term success lengthening lives and stopping disease, weighed against its continuing burden of infection, violence, pollution, and class-based suffering. Same as GHS:4605.
- HIST:4610 Japan - Age of the Samurai** 3 s.h.
Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Same as JPNS:4610.
- HIST:4615 Modern Japan** 3 s.h.
Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Same as JPNS:4615.
- HIST:4616 Japanese History and Society: World War II to the Twenty-First Century** 3 s.h.
Transformation of Japan from devastation and unconditional surrender in 1945 to peace and prosperity in late 20th century; defeat and occupation, 1945-1952; peace and high economic growth, mid-1950s to early 1990s; economic, social, and political challenges of 21st century; combination of historical analysis with discussion of contemporary political, cultural, social, economic, ecological, and geopolitical developments through reading of English-language media.
- HIST:4617 History, Memory, and Pacific War** 3 s.h.
Contemporary meanings of the Pacific War in collective memory of Americans and Japanese.

HIST:4620 Japan-U.S. Relations 3 s.h.
Political, social, economic, and cultural developments in Japan mid-19th century to late 20th century. Same as JPNS:4620.

HIST:4640 Imperialism and Modern India 3 s.h.
Introduction to the political, economic, social, and cultural history of India from 1700 to present; historically India included the territories of present-day Pakistan and Bangladesh; at present India extends through diasporic Indian communities to East Africa, North America, Europe, and the Caribbean.

HIST:4653 Law and Society in Late Imperial and Modern China 3 s.h.
Survey of legal system of China and Chinese society from 1400 to 1980s. Same as IS:4653.

HIST:4666 Topics in Asian History 3 s.h.
Same as ASIA:4166.

HIST:4725 Women and Gender in African History 3 s.h.
Importance of female agency in African history; African women's history in historiographical framework of women's history, challenges historians face in exploring African women's past; varied sources (e.g., novels, films, court records) from sub-Saharan Africa, urban and rural settings; current literature on African women, African women's experiences in a comparative context. Same as GWSS:4725.

HIST:4815 Topics in the Modern Middle East 3 s.h.

HIST:4910 The Book in the Middle Ages 3 s.h.
Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as SLIS:4910, UICB:4910.

HIST:4920 The Transition from Manuscript to Print 3 s.h.
History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as SLIS:4920, UICB:4920.

HIST:6001 First-Year Graduate Colloquium 3 s.h.
Introduction to history graduate program.

HIST:6002 History Research Methods 3 s.h.
Introduction to historical research methods. Prerequisites: HIST:6001. Requirements: first-year history graduate standing.

HIST:6003 History Theory and Interpretation 3 s.h.
Introduction to basic theoretical approaches to historical research.

HIST:6101 Proseminar: World History 1-2 s.h.
Preparation for leading undergraduate discussion sections for world and non-specific region history courses (i.e., world history, global health, public health, transnational); specific subject matter preparation similar to that offered in graduate readings courses; for first time and early-in-program graduate teaching assistants.

HIST:6110 Introduction to New Media in the Humanities and Social Sciences arr.
Use of New Media software in research, presentation, and instruction; includes HTML editors (Dreamweaver), wikis (Confluence), blogs (WordPress), collaborative mark-up programs (CommentPress), graphics editors (Illustrator), map editors (MapPoint, ArcView), photographic editors (Photoshop), audio editors (Garage Band, Soundbooth, Audio Hijack Pro), video editors (iMovie, Premiere Pro, Photo-To-Movie), and animation editors (Flash); projects.

HIST:6120 Teaching Seminar: Graduate Instructors 2-3 s.h.
Issues and methods for effective history teaching at the college level.

HIST:6135 Crossing Borders Seminar 2-3 s.h.
Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, IWP:6635, POLI:6635, SPAN:6904.

HIST:6140 Engaged Scholarship in the Humanities 0,3 s.h.
Survey of literature on community-engaged scholarship (CES) in the humanities; exploration of the pioneering work of engaged scholars in Native American, Latino, and African American studies; students write a research prospectus that is consistent with CES methodologies. Same as AMST:6140.

HIST:6158 Approaches to Teaching Global History arr.
Approaching history from a global or international perspective; introduction to issues; preparation for teaching courses at college level; historiographies and methodologies, problems of periodization and area divisions, syllabi on world and global history.

HIST:6203 History and Theories of Planning 3 s.h.
History of urban planning in America as a reflection of social and economic forces; alternative planning philosophies, roles, and ethical choices open to planners. Same as URP:6203.

HIST:6210 Proseminar: American History 1-2 s.h.
Preparation for leading undergraduate discussion sections for American history survey courses (i.e., HIST:1261, HIST:1262); specific subject matter preparation similar to that offered in graduate readings courses; for first time and early-in-program graduate teaching assistants.

HIST:6250 American Religious Histories 3 s.h.
Focused examination of the variety and vagaries of religious experiences in the Americas, 16th to 21st centuries. Same as RELS:6150.

HIST:6410 Teaching Proseminar 1-2 s.h.
Preparation for leading undergraduate discussion sections for HIST:1401, HIST:1402, and HIST:1403; specific subject matter preparation similar to that offered in graduate readings courses; for first-time graduate teaching assistants.

HIST:6475 Seminar: Reformation Culture arr.
Culture and thought of 16th-century Europe. Same as RELS:6475.

HIST:6610 Proseminar - Asian Civilization 1-2 s.h.
Preparation for leading undergraduate discussion sections for civilizations of Asia courses (Japan, China, Korea, South Asia, and India); specific subject matter preparation similar to that offered in graduate readings courses; for first-time and early-in-program graduate teaching assistants.

HIST:7101 Research Seminar arr.
Research for students in all areas of history.

HIST:7120 Feminist Research Seminar arr.
Feminist research methodologies; how to conduct original research, write a research proposal and research paper, and read and criticize others' work. Same as GWSS:7020.

HIST:7122 Readings: History of Gender and Sexuality arr.
Topics in international and transnational history of gender and sexuality. Same as GWSS:7122.

HIST:7126 Readings on the History of Human Rights arr.

Survey of recent literature on history of human rights; development of bibliographies; readings from individual areas of interest (e.g., transitional justice, migration, gender and sexuality, labor).

HIST:7130 Readings on Twentieth-Century Black Internationalism arr.

Complex dynamics of black internationalism during 20th century, focusing on the global visions, transnational activities, and transracial political alliances of people of African descent worldwide; readings will reflect geographical breadth of the African Diaspora including Africa, the Americas, and Europe. Same as AFAM:7130.

HIST:7150 Readings: Comparative Labor History arr.**HIST:7155 Theories of Diaspora, Immigration, and Migration** arr.

Vexed notion of diaspora(s); challenge of understanding and writing histories of immigration and migration during modern era; exploration of central questions including difficulty of tracking things in motion—individuals, families, groups, and ever-elusive cultural traits as they flow through local, national, and international contexts that are themselves in flux.

HIST:7160 Global Medical History: Colonial South Asia, Latin America, and the Caribbean arr.

How relations of power between countries affect responses to disease, delivery of public health, and development of medical understanding; focus on South Asia, Latin America, and the Caribbean; global perspectives; medical colonial interactions, environmental issues and tropical medicine, indigenous systems of health; translation, co-optation, and appropriation of medical knowledge; biomedicine and nationalism.

HIST:7175 Theories of World History arr.

Macrohistorical theories of world history; can a prominent theory or combination of theories explain the social evolution of humankind over hundreds of thousands of years; how to periodize world history; does history have a direction, and if so, what direction; the future of humankind.

HIST:7190 Individual Study: Graduate arr.**HIST:7192 Predissertation Seminar** arr.

Preparing for dissertation work for students in all areas of history; thesis topic, relevant literature in the topic field, potential sources, primary research strategy, sources of research funding, research proposal; preparation for submitting applications for dissertation research fellowships and beginning of completing the thesis prospectus.

HIST:7193 Thesis arr.**HIST:7202 Readings: 20th-Century Native American History** arr.

Examination of the indigenous 20th century through a series of themes including settler colonialism, sovereignty and self-determination, federal Indian policy, and indigenous feminism; readings focus primarily on secondary sources, but attention is given to key primary sources; students are required to carry out specified research tasks. Same as NAIS:7202.

HIST:7205 Gender and Race in Nineteenth-Century U.S. arr.

Same as AFAM:7205, GWSS:7205.

HIST:7208 The American Civil War in History and Memory arr.**HIST:7210 The Long Civil Rights Movement** arr.

Exploration of the history and historiography of the modern black freedom struggle in the United States, with particular attention to how historians in recent years have reconsidered traditional framings of that struggle's chronology, geography, gender politics, political aspirations, and achievements. Same as AFAM:7210.

HIST:7212 Seminar: Research in Race and Ethnicity arr.**HIST:7214 Readings: African American Women's History** arr.

Same as AFAM:7214, GWSS:7214.

HIST:7215 Seminar: History of Disability arr.**HIST:7219 Seminar: Gender in Nineteenth-Century United States** arr.**HIST:7220 Readings: History of Sexuality** arr.

History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as GWSS:7220.

HIST:7227 Readings in American Environmental History arr.

Introduction to historiography—classic texts and recent work—in American environmental history; topics from colonial period to recent past.

HIST:7236 Readings in Borderlands History arr.

Comparative borderlands; articles on diverse topics from borderland regions worldwide (main focus on U.S.-Mexico borderlands, with inclusion of European, Asian, African, and Latin American borderlands); analysis of each article for its thesis, research questions, methodology, primary sources, and weaknesses; seminar.

HIST:7241 Readings in U.S. Social Policy arr.

History and historiography of social welfare policy, chiefly in the United States; proceeds chronologically with analysis of private and public efforts to address problems including poverty, unemployment, sickness, homelessness, and family violence.

HIST:7246 United States in the World arr.

Historiographies that situate modern U.S. history in a global context; how historians study the American past beyond traditional, nation-centered frames; transnational histories of migration, nativism and exclusion; social movements; colonial empire-building; commercial and cultural Americanization; transfer of policy ideas; military occupations; decolonization; Cold War's impact on social reform; post-9/11 moment.

HIST:7253 Seminar: American Social History arr.**HIST:7254 Readings in American Social History** arr.**HIST:7256 Topics in 19th-Century American Legal History** arr.

Exploration of selected focus topics, may include developments in the law of the home and the law of the workplace (free labor, worker immigration, apprenticeship, indentured labor, slavery); women's legal history; land issues and various Homestead Acts; Blackstone in America; Reconstruction of the Constitution after the Civil War; The National Archives—which houses American legal historical documents—displays the phrase, "What is past is prologue;" legal history that explains how we got to the legal present and to understand what is the law, you have to know how something got to be the law. Same as LAW:9656.

HIST:7260 Seminar: American Colonial History arr.**HIST:7261 Readings: Early American History** arr.

HIST:7263 Readings: Contemporary United States arr.
New work in American social, political, and economic history; readings tailored for students seeking background for research or preparing for comprehensive exams.

HIST:7265 Seminar: Contemporary United States arr.

HIST:7271 Seminar: Research in Transnational U.S. History arr.

Experience framing, organizing, and carrying out an original investigation on a theme in U.S. transnational history, followed by review and discussion of drafts; opportunity to explore transnational methodologies while developing professional skills of literature review, source interpretation, and collegial critique.

HIST:7275 Readings in the History of Women and Gender in the U.S.A. arr.
Same as GWSS:7275.

HIST:7287 Seminar: History of Women and Gender arr.
Opportunity to pursue research for a single paper, M.A. thesis, or doctoral dissertation in the history of women and gender in the United States; interdisciplinary and internationally comparative projects; meetings and evaluations with attention to the craft of writing.

HIST:7293 Graduate Readings in Public History arr.
Overview of public history with attention to ways in which historians have engaged various publics; major theoretical constructs (memory, heritage, commemoration); public history methodologies (oral history, material culture, archival documentation); legal ethics; how history is communicated to the public; how public history sites contribute to public memory; how and why controversies emerge in public history settings; relationship between academic history and public history.

HIST:7410 Seminar: Medieval Social and Economic History arr.

HIST:7411 Readings: Medieval Women arr.

HIST:7412 Source Criticism for Medieval Studies arr.

HIST:7415 Graduate Readings: Monastic History arr.
History of Christian monasticism in the medieval west; the developing monastic and religious orders, nuns of those groups; tertiary, beguines, other orthodox penitent movements from the development of Christianity to the Reformation.

HIST:7418 Seminar: Medieval Intellectual History arr.

HIST:7419 Readings: Medieval Intellectual History arr.

HIST:7420 Seminar: History of Science arr.

HIST:7421 Readings: Medieval and Early Modern Universities arr.

HIST:7422 Medieval Latin Paleography arr.

HIST:7428 Seminar: Medieval Philosophy arr.
Investigation of theories of knowledge developed by medieval philosophers including Augustine, Boethius, Duns Scotus, Ockham, and Auriol.

HIST:7435 Readings: Women, Men, and Gender in Modern Europe arr.
Same as GWSS:7435.

HIST:7440 Readings in Modern German History arr.
Major problems in modern German history; historiographic debates organized thematically and proceeds chronologically from the French Revolution to the present; oral presentations and comparative essays.

HIST:7445 Readings: Imperialism and Colonialism 3-4 s.h.

Engagement of Europeans in an immense outward expansion of people, goods, ideas, and more than a few germs since 1492; exploration of some of the implications of this expansion by focusing on a selection of different colonial encounters and some legacies of European empires.

HIST:7455 Seminar: Modern Europe arr.

HIST:7456 Readings: Modern European History arr.

HIST:7458 Readings: War and Society in Modern Europe arr.

Preparation, conduct, and aftermath of war; social-historical examination; conflicts on European territory, colonial wars, and wars of decolonization, from French Revolution through late 20th century.

HIST:7460 Readings in the History of Modern France arr.

HIST:7505 Readings: Latin American History arr.
Same as SPAN:7505.

HIST:7535 Readings in Latina/o History arr.
Introduction to major works and recent scholarship in Latina/Latino history.

HIST:7551 Readings: Globalizing Latin American Science and Medicine arr.
Recent trends in Latin American history of science and medicine.

HIST:7589 Readings: Gender in Latin American History arr.
Same as GWSS:7289.

HIST:7606 Readings in Chinese History arr.
Same as ASIA:7606.

HIST:7622 Readings in Modern Korean History arr.
Introduction to English-language scholarly works on modern Korean history; focus on nationalist discourse, social and cultural history, and complex interactions among Koreans and Japanese within space of empire; major historiographical issues in Korean and East Asian history.

HIST:7630 Readings: Japanese History arr.
Same as JPNS:7630.

HIST:7660 Readings in Modern India arr.

HIST:7691 Topics in East Asian History arr.
Introduction to major works and recent scholarship on border-crossing topics in East Asian history, including transnational/regional exchange, empire, frontiers/borderlands, migration, ethnicity, and historiography.

HIST:7705 Seminar: African History arr.
Themes in African precolonial and modern history.

HIST:7706 Readings in African History arr.

HIST:7710 Seminar: Interpreting Oral Histories arr.
Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as AFAM:7710.

HIST:7805 Readings in Middle East History arr.

History, B.A.

Learning Outcomes

Students of history learn how to assemble, verify, and understand evidence regarding people, events, institutions, and societies of the past. They strengthen their ability to use reason to understand the major ideas and complex problems of the past and the present. As a result, students are better prepared for citizenship in a democratic, pluralistic society.

The undergraduate program is organized around the intertwined skills of research and communication—whether digital, written, or verbal. Students learn about significant events, places, and people of the past; but more importantly, they learn how to engage in factual research about the past, how to understand the context of human actions, and how to identify the factors that brought about the world of the past, and the world we know today. These skills are valuable in a wide range of careers.

- Students of history acquire a broad knowledge of history and historical change, across multiple regions of the globe and a range of historical periods.
- Students gain an awareness of their own place in today's world and of the connections between past and present. This prepares the way for better understanding between individuals and across cultural boundaries.
- Students learn to value the role of evidence in their understanding of the world, and how to assess and verify different types of data, whether written, visual, oral, statistical, or cultural.
- Students learn how to distinguish between primary and secondary sources, and how each kind of source is used. They develop an understanding of the possible impact of authorial bias, social background, or ideology. Students learn to employ differing methods of analysis, and they explore diverse ways of thinking about the past and human society.
- Students develop skills in research, critical thinking, reading, and writing. History writing assignments sharpen students' skills in original research and analysis, while reading assignments develop their abilities to synthesize information and grapple with varying points of view.

Requirements

The Bachelor of Arts with a major in history requires a minimum of 120 s.h., including 36 s.h. of work for the major. Of the 36 s.h., at least 24 s.h. must be numbered 2000 or above. No more than 3 s.h. in courses numbered HIST:1002-HIST:1099 may count toward the major. Courses that count toward the major may not be taken on a pass/nonpass basis. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

College Level Equivalency Program (CLEP) and Advanced Placement Program (APP) credit does not count toward the history major. Transfer work that is equivalent to University of Iowa course work may be accepted toward the major, but at least 18 s.h. of work for the major, including HIST:2151 Introduction to the History Major, must be taken at the University of Iowa.

Major requirements include an introductory course and a history portfolio in addition to a range of course work in history.

Undergraduate courses in history are divided into four areas: American history, European history, non-Western history, and courses that have no specific area designation. Students must earn at least 6 s.h. in each of the designated areas (American, European, non-Western), with at least 3 s.h. in each of those areas taken in courses numbered 3000 or above. Courses numbered 1100-1199, 2100-2199 (including HIST:2151 Introduction to the History Major), 3100-3199, 3995-3996, or 4100-4199 do not fulfill a specific geographical area or the pre-1700 requirement.

Students may count a maximum of 18 s.h. earned in American history courses (numbered 1200-1299, 2200-2299, 3200-3299, and 4200-4299) toward the major.

History majors are encouraged to take courses in other fields that illuminate and expand the meaning of history courses and that introduce information and a variety of approaches to understanding how societies and cultures work.

Students majoring in history are encouraged to complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459] World Languages requirement by choosing a language that fits their interests in history. The department also encourages study abroad programs that complement students' foreign area interests.

The B.A. with a major in history requires the following course work.

Code	Title	Hours
Introductory Course		
HIST:2151	Introduction to the History Major	3
American History Courses		
Two American history courses (numbered 1200-1299, 2200-2299, 3200-3299, or 4200-4299) including at least one numbered 3000 or above		6
European History Courses		
Two European history courses (numbered 1400-1499, 2400-2499, 3400-3499, or 4400-4499) including at least one numbered 3000 or above		6
Non-Western History Courses		
Two non-Western history courses (numbered 1500-1999, 2500-2899, 3500-3899, 4500-4999) including at least one numbered 3000 or above		6
Pre-1700 History Course		
One pre-1700 history course (select from the list below)		3
History Electives		
Additional history courses selected by the student		12
Portfolio Course		
HIST:3193	Undergraduate History Portfolio	0
Total Hours		36

Introductory Course

Students enroll in HIST:2151 Introduction to the History Major as soon as possible after declaring the major in history. Topics vary, but all sections of HIST:2151 instruct students in the

skills they need to succeed in upper-level history courses. Students explore the diverse kinds of sources historians use, including both primary (original) sources and secondary (scholarly) sources. They learn how to frame a historical question, find and interpret relevant sources (in libraries, online, and in archives), and then integrate them into a historical argument, expressed clearly and in accordance with appropriate scholarly conventions. By the end of the semester, students have produced a substantial research paper or project and have a clearer understanding of the historian's craft. Students must include at least one graded paper or project from the course HIST:2151 in their history portfolio (see "Portfolio" below). Introduction to the History Major (HIST:2151) does not count toward the area (American, European, non-Western) or pre-1700 era requirements.

Pre-1700 History Courses

A course taken to fulfill the pre-1700 history course requirement also may be counted toward the requirement in American, European, or non-Western history. These courses fulfill the pre-1700 history requirement.

Code	Title	Hours
HIST:1401	The West and the World: Ancient	3-4
HIST:1402	The West and the World: Medieval	3-4
HIST:1602	Civilizations of Asia: China	3
HIST:1604	Civilizations of Asia: Japan	3-4
HIST:1606	Civilizations of Asia: South Asia	3-4
HIST:2461	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:2483	History of Britain: Fall of Rome to the Norman Conquest	3
HIST:3211	Native North America I: Precontact-1789	3
HIST:3270	Colonial North America, ca. 1600-1775	3
HIST:3289	The Atlantic World c. 1450-1850	3
HIST:3409	Medieval Civilization I	3
HIST:3410	Medieval Civilization II	3
HIST:3413	Early Modern Britain: The Tudor and Stuart Era	3
HIST:3758	The Ancient African Past	3
HIST:4400	The Roman Empire	3
HIST:4401	Ancient Egypt and the Ancient Near East	3
HIST:4404	The World of Ancient Greece	3
HIST:4406	Warfare in Ancient Mediterranean Society	3
HIST:4407	The Hellenistic World and Rome	3
HIST:4411	Economic and Social History of Medieval Europe	3
HIST:4412	History of the Medieval Church	3
HIST:4417	Medieval Intellectual History 300-1150	3

HIST:4418	Medieval Intellectual History 1150-1500	3
HIST:4419	Ancient and Medieval Science	3
HIST:4423	Ireland in the Early Middle Ages	3
HIST:4426	Women, Power, and Society in Medieval Europe	3
HIST:4427	Society and Gender in Europe 1200-1789	3
HIST:4510	Colonial Latin America	3
HIST:4610	Japan - Age of the Samurai	3
HIST:4910	The Book in the Middle Ages	3
HIST:4920	The Transition from Manuscript to Print	3

Portfolio

All history majors must complete a portfolio, enrolling in HIST:3193 Undergraduate History Portfolio during the semester in which they plan to graduate. The portfolio, submitted electronically, includes three graded papers written for history courses (one of the papers should be from HIST:2151 Introduction to the History Major). The portfolio does not affect a student's grade-point average; timely submission fulfills the requirement on a non-graded basis with an assignment of S (satisfactory).

Students should submit their portfolios on the University of Iowa ICON website for HIST:3193 Undergraduate History Portfolio early during the semester in which they plan to graduate.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral. Students should contact the Office of Student Services for details, in addition to the list of required courses.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Normally, students maintain a cumulative g.p.a. of at least 3.33 in history major course work. Students write an honors thesis, which is an extended research paper (25-35 pages). Research for the thesis is done under the supervision of a faculty member who specializes in the field that a student chooses for the research. Students register for 3 s.h. in HIST:3995 History Honors Research Seminar, usually during the spring of their junior year, and HIST:3996 Honors Thesis, usually during the fall of their senior year. The 6 s.h. of credit counts toward the semester hours required for the history major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the history major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: three courses in the major, including HIST:2151 Introduction to the History Major

Before the seventh semester begins: four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: three more courses in the major

During the eighth semester: submission of the portfolio of written work (three graded history papers) to the director of undergraduate studies through the HIST:3193 Undergraduate History Portfolio ICON website (a student must be enrolled in HIST:3193 in order to submit the portfolio), enrollment in all remaining course work in the major (two courses), all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

History, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: history elective course ^{a, b, c, d, e}		3 - 4
GE CLAS Core: Social Sciences ^f		3
Elective course ^g		3
CSI:1600	Success at Iowa	2
Hours		14-16
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: history elective course ^{a, b, c, e}		3 - 4
GE CLAS Core: Diversity and Inclusion ^f		3
GE CLAS Core: Natural Sciences with Lab ^f		4
Elective course ^g		2
Hours		15-17
Second Year		
Fall		
HIST:2151	Introduction to the History Major ^b	3
Major: American history course ^{b, h}		3
GE CLAS Core: Quantitative or Formal Reasoning ^f		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ⁱ		
GE CLAS Core: International and Global Issues ^f		3
Hours		16-17
Spring		
Major: European history course ^b		3
Major: non-Western history course ^b		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ⁱ		
Elective course ^g		3
Elective course ^g		3
Hours		16-17
Third Year		
Fall		
Major: 3000+ American history course ^{b, h}		3
Major: 3000+ European history course ^b		3
GE CLAS Core: Natural Sciences without Lab ^f		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ⁱ		
Elective course ^g		3
Hours		16-17
Spring		
Major: pre-1700 history course ^b		3
Major: 3000+ non-Western history course ^b		3
GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course ⁱ		
Elective course ^g		3
Elective course ^g		3
Hours		16-17

Fourth Year**Fall**

Major: history elective course ^{a, b, c}	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^f	3
Elective course ^g	3
Elective course ^g	3
Elective course ^g	3
Hours	15-16

Spring

HIST:3193 Undergraduate History Portfolio	0
Major: history elective course ^{a, b, c}	3 - 4
GE CLAS Core: Values and Culture ^f	3
Elective course ^g	3
Elective course ^g	3
Elective course ^g	3
Hours	15-16
Total Hours	123-133

- a Students complete at least 12 s.h. in history electives.
- b Students must complete 24 s.h. from courses in prefix HIST numbered 2000 or above.
- c Students may count a maximum of 3 s.h. numbered HIST:1002-1099 toward the major.
- d Consider choosing a course that also fulfills the GE CLAS Core: International and Global Issues requirement.
- e Fulfills a major requirement and may fulfill a GE requirement.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- h Students may count a maximum of 18 s.h. earned in American history courses toward the major.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

Career Advancement

Students of history develop an understanding of change that enables them to function as active, well-informed citizens. Because of the geographical breadth required for the degree, history students develop a global consciousness that helps them to understand developments worldwide.

University of Iowa's history graduates win admission to the best graduate and professional schools in the country. Employers value history students' ability to analyze human and social behavior, to research pressing problems, and to express themselves clearly. Graduates of the department occupy prominent positions in government, business, journalism, law, entertainment, education, the nonprofit sector, library science, social work, and philanthropy, among others. A recent study showed that history graduates with a B.A. earn more than graduates in any other humanities field.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

History, Minor

The undergraduate minor in history requires a minimum of 15 s.h. in history courses, including 12 s.h. earned in courses numbered 2000 or above. At least 12 s.h. must be earned in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor. Course work in the minor may not be taken pass/nonpass.

History, M.A.

The Department of History offers a master's degree program in history. Students interested in graduate work may obtain a copy of the current Guide to Graduate Study from the Department of History website. The guide is revised annually to include the latest faculty listings, research interests of faculty members, detailed regulations on study toward advanced degrees, and other information for students.

Requirements

The Master of Arts program in history requires a minimum of 30 s.h. of graduate credit and is offered with two options: one that emphasizes the development of research capabilities culminating in a research essay that is designed to prepare students for doctoral studies, and one that stresses breadth of learning through course work.

Students that pursue the research option must earn at least 24 s.h. of the minimum of 30 s.h. required for the degree in history or related field courses numbered 3000 or above, including at least two seminars, or one seminar and one readings course numbered 6000 or above. One seminar or readings course must be taken in each of the first two semesters of residence. Students must earn 12 s.h. in a major division of history and at least 6 s.h. in a second division, including either a seminar or a readings course numbered 6000 or above. Students are required to take HIST:6001 First-Year Graduate Colloquium during their first semester in the program and HIST:6002 History Research Methods during their second semester.

The research option requires completion of a research essay. The essay must be based on original research and should be approximately 10,000 to 15,000 words long. It is completed under the guidance of a faculty supervisor and must be defended to a committee of three faculty members. The finished essay should emulate the character of articles in learned journals, just as the Ph.D. dissertation takes the form of a full-length scholarly monograph.

Students who choose the course work option must earn 24 s.h. of the minimum of 30 s.h. required for the degree in history or related field courses numbered 3000 or above. Students are required to take HIST:6001 First-Year Graduate Colloquium during their first semester in the program. They earn 12 s.h. in one major division of history and must include at least one readings or seminar course numbered 6000 or above. Students earn an additional 12 s.h. in history by taking 6 s.h. in each of two other divisions of history, or by taking 6 s.h. in one other division of history plus 6 s.h. in a related department; the additional 12 s.h. in history course work must include at least one readings or seminar course numbered 6000 or above. Students must take an exam in their major division of history, which is defended to a committee of three faculty members.

Combined Programs

Combined M.A./J.D.

The Department of History and the College of Law offer a combined Master of Arts in history/Juris Doctor. The combined degree program allows students to count a limited amount of credit toward both degrees. Separate application to each degree program is required. Applicants must be admitted to

both programs before they may be admitted to the combined degree program.

For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must submit academic transcripts and Graduate Record Examination (GRE) General Test scores. They also must submit examples of original writing to the Department of History, such as a term paper, a seminar paper, or an honors thesis; letters of recommendation from three persons familiar with the student's past academic work; and a one- or two-page personal statement of the applicant's purpose for doing graduate work. Applicants submit their application online; see History (M.A. or Ph.D.) on the University of Iowa Graduate Admissions website.

All application materials are due by January 15 for entry the following August.

Career Advancement

Graduate study in history prepares students for occupations such as high school or college teaching, publishing, commercial research, foundations and nongovernmental organizations, and government or other public service. With additional specialized training, students may become qualified for careers in historical site preparation and display, and archival, library, or museum work.

Some students choose to pursue the combined Master of Arts/Juris Doctor program which leads to degrees in both law and history; see Combined Programs [p. 614] in this section of the Catalog.

The University of Iowa's history graduates who earn an M.A. experience remarkable job placement rates, depending on their area of study. Graduate and Postdoctoral Career Services offers multiple resources to assist students in locating opportunities and preparing for jobs upon completion of the program.

History, Ph.D.

The Department of History offers a doctoral program for students interested in earning a Ph.D. in history. Students interested in graduate work may obtain a copy of the current Guide to Graduate Study from the Department of History website. The guide is revised annually to include the latest faculty listings, research interests of faculty members, detailed regulations on study toward advanced degrees, and other information for students.

Requirements

The Doctor of Philosophy program in history requires at least 72 s.h. of graduate credit. Students who have earned M.A. degrees can apply up to 30 s.h. of credit toward the Ph.D. degree.

Students must complete at least seven graduate-level history or related field courses numbered 6000 or above, earning 3 or 4 s.h. of credit for each course. The courses must be research seminars (minimum of two) and graduate readings courses (minimum of five). At least five of the seven courses must be completed before a student takes the comprehensive examination. Courses taken at the M.A. level may be counted toward this requirement. Students must complete all three required courses: HIST:6001 First-Year Graduate Colloquium, HIST:6002 History Research Methods, and HIST:6003 History Theory and Interpretation. These courses develop an understanding of the philosophy of history, historiography, and methods of historical research.

Students who have not previously earned an M.A. in history or a related field must complete a research essay, typically during their first year in the program. The essay must be based on original research and should be approximately 10,000 to 15,000 words long. It is completed under the guidance of a faculty supervisor and should emulate the character of articles in learned journals, just as the Ph.D. dissertation takes the form of a full-length scholarly monograph. Students defend the completed research essay in a qualifying examination before a committee of three faculty members.

The department has no general language requirement for the Ph.D., but the supervising faculty member may require a student to demonstrate a reading knowledge of one or more world languages and proficiency in the use of other study tools. Students may not complete the comprehensive examination until these requirements have been met.

The comprehensive written and oral examination cover three distinct fields, subject to approval by the comprehensive exam committee. The three fields must cover at least two major divisions of history. The third field may be chosen from a related department outside the Department of History. A student's committee may define and delimit the individual fields for examination. Each student's primary advisor sets the character of the written portion of the comprehensive examination, which may take the form of a syllabus, a critical bibliography, a topical paper, a portfolio, or any other form or combination that the advisor deems suitable. The second and third fields are each fulfilled by the completion of two courses and the submission of course work as defined by the committee. The oral portion of the comprehensive examination focuses on issues and problems arising from the written materials.

The candidate must submit to the dissertation committee a written prospectus for the dissertation no later than the semester following completion of the comprehensive exams. The committee consists of at least five members, including at least one member from outside the department. It considers the prospectus and may approve it, reject it, or require its revision. When the dissertation is completed in final form, the committee administers the final examination for the doctorate, a formal oral defense of the dissertation that usually lasts two hours.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must submit academic transcripts and Graduate Record Examination (GRE) General Test scores. They also must submit examples of original writing to the history department, such as a term paper, a seminar paper, or a master's essay; letters of recommendation from three persons familiar with the student's past academic work; and a one- or two-page personal statement of the applicant's purpose for doing graduate work. Applicants submit their application online; see History (M.A. or Ph.D.) on the University of Iowa Graduate Admissions website.

All application materials are due by January 15 for entry the following August.

Career Advancement

Graduate study in history prepares students for occupations such as secondary or college teaching, publishing, commercial research, foundations and nongovernmental organizations, and government or other public service. With additional specialized training, students may become qualified for careers in historical site preparation and display, or archival, library, or museum work.

The University of Iowa's history graduates who earn a Ph.D. have an excellent history of job placement, depending on their area of study. Graduate and Postdoctoral Career Services offers multiple resources to assist students in preparing for job opportunities upon completion of the program.

Interdepartmental Studies

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Coordinator, Interdepartmental Studies

- Andy Tinkham

Undergraduate major: interdepartmental studies (B.A.)

Faculty: <https://clas.uiowa.edu/interdepartmental-studies/people>

Website: <https://clas.uiowa.edu/interdepartmental-studies/>

The Interdepartmental Studies Program (ISP) provides an alternative to traditional undergraduate majors. It gives students the opportunity to design an individualized plan of study or to choose a preapproved plan in applied human services, business studies, or health science. Each track includes course work from a variety of departments.

Since the major in interdepartmental studies affords opportunities outside the traditional degree pattern, students must create or choose study programs that meet their individual educational and career objectives. Those who plan to seek employment immediately after graduation should familiarize themselves with the educational background and qualifications required by employers and should include appropriate courses in their study programs.

Students preparing for advanced study should become familiar with the admissions requirements of graduate or professional schools that interest them. The earlier students decide to pursue graduate or professional study, the easier it is to complete necessary prerequisites.

The Interdepartmental Studies Program is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

Programs

Undergraduate Program of Study Major

- Major in Interdepartmental Studies (Bachelor of Arts) [p. 618]

Courses

Interdepartmental Studies Courses

INTD:3005 Professional and Creative Business Communication 3 s.h.

Solid foundation for creative and professional communication in today's modern work world; exploration of techniques, strategies, and craft of writing résumés, letters of interest, email and its related etiquette, and organization of ideas into presentable form; semester-long creative project that builds a bridge between office and the world using modern technology and social media; readings and discussions of literature to better understand issues of ethics, leadership, conflict, moral judgment, decision making, and human nature; how to navigate and succeed in business or any professional field. GE: Engineering Be Creative. Same as CW:3005.

INTD:3020 Equity Issues in the Health Sciences 3 s.h.

Examination of equity issues in the health sciences, including a review of the historical challenges that led to Human Subjects Review Boards, FDA oversight of drug development and clinical trials, inclusion of women in research; effect of situational ethics in the workplace; potential danger of making assumptions about clients/patients; importance of developing an inclusive communication style; assessing the effectiveness of family-friendly employment policies in providing equitable opportunities for career advancement for both women and men. Recommendations: junior or senior standing. Same as HHP:3000.

INTD:3027 Nutrition in Health and Performance 3 s.h.

Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as SRM:3020.

INTD:3030 Coaching for Health and Wellness 3 s.h.

Opportunities to expand knowledge and develop skills to help individuals change behavior and meet health-related goals; general health and wellness principles; principles and techniques for change; experience providing health-coaching services to clients. Prerequisites: HHP:2200 and HHP:2310. Same as HHP:3030.

INTD:3107 Creative Writing for the Health Professions 3 s.h.

GE: Engineering Be Creative. Same as CW:3107.

INTD:3200 Creative Writing for New Media 3 s.h.

Prepares creative writers for evolving marketplace of electronic text and media; experience writing in varied media (e.g., internet, e-books, video games, mobile devices, emergent social narratives). GE: Engineering Be Creative. Same as CW:3218.

INTD:3210 Creative Writing and the Natural World 3 s.h.

How humans tether to their environment through stories; students write stories and through writing explore if there is a new tie to sustainable history. GE: Engineering Be Creative. Same as CW:3210.

INTD:3250 Fieldwork in Social Innovation 3 s.h.

Entrepreneurial skills necessary to actualize ideas in the community; students work with local partners to brainstorm, prototype, and build an original community-based venture involving needs assessment, social history of problem, and concept mapping; students learn soft skills such as interviewing, networking, collaboration, and building trust. Requirements: enrollment in engaged social innovation plan of study and membership in UI honors program in good standing. Same as HONR:3250.

INTD:3300 Creative Writing and Popular Culture 3 s.h.

Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. GE: Engineering Be Creative. Same as CW:3215.

INTD:3510 Introduction to Arts Management 3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as DPA:3510, THTR:3510.

INTD:3520 New Ventures in the Arts 3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates ENTR:2000 and MGMT:3100. Corequisites: ENTR:1350 or (ACCT:2100 and MKTG:3000). Same as DPA:3520, ENTR:3520, THTR:3520.

INTD:4098 Independent Study arr.

Individual study of issues or topics related to a specific interdepartmental focus chosen by the student.

INTD:4099 Interdepartmental Studies Practicum arr.

Opportunity to relate a student's chosen area of study to practical application. Requirements: interdepartmental studies student.

INTD:4510 Arts Leadership Seminar 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000 or THTR:3520. Same as DPA:4510, ENTR:4510, THTR:4510.

Interdepartmental Studies, B.A.

Learning Outcomes

After completing any of the three tracks—applied human services, business studies, or health science—in the interdepartmental studies major, students will:

- possess the mathematical skills to present and understand data and to create probability models, or to design, analyze, and interpret research using a correlational design;
- understand how social and/or political issues shape economic behavior, or how key anthropological concepts assist in comprehending global or societal problems; and
- synthesize key concepts or techniques related to the track they are pursuing.

Requirements

The Bachelor of Arts with a major in interdepartmental studies requires a minimum of 120 s.h., including at least 36-41 s.h. of work for the major (total semester hours required depends on the track). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students choose one of four tracks for the major: applied human services, business studies, health science, or an individualized plan of study. The individualized plan of study track is selective; students must apply and be admitted to the track before they may declare it. The other three tracks are open; students may declare them without an application.

Students who choose the individualized plan of study track design their own major. Those who choose the applied human services track, business studies track, or health science track follow a preapproved study plan, which includes foundation courses and a selection of emphasis areas. The applied human services track offers three emphasis areas: aging services, community-based services, and corrections services. The business studies track offers three emphasis areas: organizational practice and perspectives, values and ethics, and arts management. The health science track offers six emphasis areas: multidisciplinary science, entrepreneurial, aging, global health, cultures of healing, and writing for the sciences.

Interdepartmental studies students who earn a second major may count a maximum of two courses from the second major toward the interdepartmental studies major. Students who earn the major in interdepartmental studies may earn the major in global health studies as long as they select an emphasis in interdepartmental studies other than the global health emphasis in the health science track.

Students majoring in interdepartmental studies may earn certificates in other programs, departments, or colleges. No more than 6 s.h. of course work may be applied toward both the major and the certificate.

Interdepartmental studies students who earn minors in other departments or programs may not count courses from the minors toward the interdepartmental studies major.

The B.A. with a major in interdepartmental studies requires the following course work.

- Applied Human Services Track [p. 618]
- Business Studies Track [p. 620]
- Health Science Track [p. 625]
- Individualized Plan of Study Track [p. 630]

Applied Human Services Track

Students in the applied human services track may not earn a minor in human relations. Students in this track may count courses that reside in another college outside the College of Liberal Arts and Sciences (CLAS) toward their residence requirement. For example, Department of Rehabilitation and Counselor Education courses (prefix RCE) offered through the College of Education will be accepted toward the CLAS residence requirement for students in the applied human services track.

The applied human services track requires 36-37 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized psychology background with a choice of three emphasis areas: aging services, community-based services, and corrections services. Students who choose this track also have the option of proposing their own human services-related emphasis area to the faculty advisory committee.

Applied human services track students must complete foundation course work (24-25 s.h.) and one emphasis area (12 s.h.). They must complete a minimum of 15 s.h. of work for the major at the University of Iowa. The Academic Advising Center advises applied human services track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		24-25
Emphasis Area		12
Total Hours		36-37

Foundation Courses

Code	Title	Hours
Psychology core—both of these:		
PSY:1001	Elementary Psychology	3
PSY:2811	Research Methods and Data Analysis in Psychology I	3
Human relations core—all of these:		
CCCC:2220	Foundations of Critical Cultural Competence	3
or RCE:4197	Citizenship in a Multicultural Society	
RCE:4195	Ethics in Human Relations and Counseling	3
RCE:4199	Counseling for Related Professions	3
Psychology electives—three of these:		
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3

PSY:2701	Introduction to Behavioral Neuroscience	4
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Aging Services Emphasis

Students who choose the aging services emphasis area may not earn the Certificate in Aging and Longevity Studies.

Students must earn 12 s.h. in their chosen emphasis area. Students who choose the aging services emphasis must complete the foundation component (3 s.h.), the elective component (9 s.h.), and the internship (0 s.h.).

Foundation Component

Code	Title	Hours
This course:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3

Elective Component

Code	Title	Hours
Select 9 s.h. of electives from these:		
ASP:2000/ ARTS:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3
ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
ASP:3151/ ANTH:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ASP:3152/ ANTH:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:3160	Biology of Aging	3
ASP:3300	Mapping the Creative Legacy	3
ASP:3519/ POLI:3519	Politics of Aging	3
ASP:3610/ GWSS:3610/ RHET:3610	Writing in the Presence of Death: Rhetoric, Narrative, and Hospice	3
ASP:3740/ MED:3740/ NURS:3740/ PHAR:3740	End-of-Life Care for Adults and Families	3
ASP:3786/ SSW:3786	Death/Dying: Issues Across the Life Span	3-4
ASP:4165/CSD:4165	Communication Disorders and Aging	2
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
HHP:4470	Physiology of Aging	3
PSY:2930	Abnormal Psychology: Health Professions	3

Internship

Code	Title	Hours
One of these:		
CCP:1005	Internship in Liberal Arts and Sciences	0
INTD:4099	Interdepartmental Studies Practicum	arr.

Community-Based Services Emphasis

Students must earn 12 s.h. in their chosen emphasis area. Students who choose the community-based services emphasis complete the elective component (12 s.h.) and the internship (0 s.h.).

Elective Component

Code	Title	Hours
Select 12 s.h. of electives from these:		
PSQF:1027	Mindfulness Foundations in the Helping Professions	3
PSY:2930	Abnormal Psychology: Health Professions	3
RCE:4130	Human Sexuality	3
RCE:4132	Introduction to Addictions and Impulse Control Disorders	3
RCE:4140	Foundations of Leadership for Community Agencies	3
RCE:4145/ PSQF:4145	Marriage and Family Interaction	3
RCE:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
RCE:4173	Trauma Across the Lifespan	3
RCE:4174	Positive Psychology	3
RCE:4175	Motivational Interviewing	3
RCE:4177	Life After Service: Veterans in College	3
RCE:4178	Microcounseling	1-3
RCE:4179	Sexuality Within the Helping Professions	3
RCE:4180	Topical Seminar for Helping Professionals	arr.
RCE:4185	Introduction to Substance Abuse	3
RCE:4187/ EDTL:4987	Introduction to Assistive Technology	3
RCE:4190	Group Processes for Related Professions	3
RCE:4191	Advocacy: Awareness, Assertiveness, and Activism	arr.
RCE:4192	Group Leadership in Human Sexuality	0-3
RCE:4193	Individual Instruction - Undergraduate	arr.
RCE:4194	Interpersonal Effectiveness	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	3

Internship

Code	Title	Hours
One of these:		
CCP:1005	Internship in Liberal Arts and Sciences	0
INTD:4099	Interdepartmental Studies Practicum	arr.

Corrections Services Emphasis

Students in the correction services emphasis area may not earn a major or a minor in sociology or criminology, law and justice.

Students must earn 12 s.h. from their chosen emphasis area. Students who choose the corrections services emphasis must complete the foundation component (3-4 s.h.), the elective component (9 s.h.), and the internship (0 s.h.). The elective component must include 6 s.h. earned in courses numbered 3000 or above.

Foundation Component

Code	Title	Hours
One of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1020	Social Problems	3-4

Elective Component

Select 9 s.h. of electives from the following lists of lower level and advanced courses, with a minimum of 6 s.h. from the advanced courses list.

Code	Title	Hours
Lower-level courses—maximum of 3 s.h. from these:		
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2100	Anthropology and Contemporary World Problems	3
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
MGMT:2000	Introduction to Law	3
PSY:2930	Abnormal Psychology: Health Professions	3
SOC:1022/SSW:1022	Social Justice and Social Welfare in the United States	3
SOC:1420	Law and Society	3
SOC:2810	Social Inequality	3
Advanced courses—at least 6 s.h. from these:		
ANTH:3101/GWSS:3101	Anthropology of Sexuality	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3350	Criminals in the Making: A Life Course Approach	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3

CRIM:3425/GWSS:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4470	Communities and Crime	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
GWSS:3005	Gender, Women's, and Sexuality Studies Practicum	3-4
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SSW:3796	Family Violence	2-3

Internship

Code	Title	Hours
One of these:		
CCP:1005	Internship in Liberal Arts and Sciences	0
INTD:4099	Interdepartmental Studies Practicum	arr.

Business Studies Track

Students in the business studies track may not earn a business administration minor.

The business studies track requires a minimum of 36 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized business background with a choice of three emphasis areas: organizational practice and perspectives, values and ethics, and arts management. Students who choose this track also have the option of proposing their own business-related emphasis area to the faculty advisory committee.

Business studies track students must complete foundation course work (at least 11 s.h.), business electives (at least 10 s.h.), and one emphasis area (15 s.h.). They must complete a minimum of 15 s.h. of work for the major at the University of Iowa. The Academic Advising Center advises business studies track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		11-12
Business Electives		10-12
Emphasis Area		15
Total Hours		36-39

Foundation Courses

Code	Title	Hours
Foundational math—one of these:		
MATH:1020	Elementary Functions	4
MATH:1340	Mathematics for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
Foundational statistics—one of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Foundational economics—one of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4

Business Electives

Students complete four electives (at least 10 s.h.) from the following list.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
ECON:2800	Statistics for Strategy Problems	3
ENTR:1350	Foundations in Entrepreneurship	2
FIN:3000	Introductory Financial Management	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MSCI:3000	Operations Management	3
MKTG:3000	Introduction to Marketing Strategy	3
May include one of these:		
CS:1020	Principles of Computing	3
MSCI:1500	Business Computing Essentials	2

Organizational Practice and Perspectives Emphasis

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the organizational practice and perspectives emphasis must complete at least one course from each of four components (speaking and

writing, communication and media, cultural diversity, and entrepreneurship). The required 15 s.h. must include 9 s.h. earned in advanced courses. Advanced courses for each component are listed below.

Speaking and Writing Component

Code	Title	Hours
At least one course from these or from the advanced courses:		
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
COMM:1112	Interpersonal Communication	3
COMM:1117	Theory and Practice of Argument	4
COMM:1130	The Art of Persuading Others	3
COMM:1814	Elements of Debate	3
COMM:1816	Business and Professional Communication	3
COMM:2821/ EDTL:2821	Oral Interpretation	3
CW:1800	Creative Writing Studio Workshop	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
LING:1030/ WRIT:1030	English Words	3
RHET:2055/ GWSS:2055	Persuasion and Advocacy	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2085	Speaking Skills	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
THTR:1140	Basic Acting	3
THTR:2610/ RHET:2610	Acting for Success	3
Advanced Courses		
BUS:3800	Business Writing	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CNW:3600	Issues in Creative Nonfiction	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3632/ WRIT:3632	Prose Style	3
CNW:3633	Personal Writing	3
CNW:3640	Writing for Business and Industry	3
CNW:4642	Team Writing for Business	3
CW:3210/ INTD:3210	Creative Writing and the Natural World	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:3218/ INTD:3200	Creative Writing for New Media	3

CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World	3
INTD:3005/ CW:3005	Professional and Creative Business Communication	3
LING:3001	Introduction to Linguistics	3
RHET:3085	Advanced Speaking Skills	3

Communication and Media Component

Code	Title	Hours
At least one course from these or from the advanced courses:		
ANTH:1040/ LING:1040	Language Rights	3
ANTH:1401	Language, Culture, and Communication	3
COMM:1301	Core Concepts in Communication Studies	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
JMC:1100	Media Uses and Effects	3
JMC:1200	Media History and Culture	3
JMC:1500	Social Media Today	3
JMC:2200	Principles of Strategic Communication	3
JMC:2500	Community Media	3
LS:1020	Introduction to Leadership	3
Advanced Courses		
COMM:1170	Communication Theory in Everyday Life	3
COMM:1174	Media and Society	3
ENGL:3182	Digital Cultures and Literacies	3
JMC:3100/FPC:3185	Nonprofit and Fundraising Communication	3
JMC:3101/FPC:3100	Fundraising Fundamentals	3
JMC:3125	Media and Consumers	3
JMC:3126	Social Media Marketing	3
JMC:3154/ EVNT:3154	Foundations of Event Management	3
JMC:3181/ SPST:3181	The Business of Sport Communication	3
JMC:3260/ EVNT:3260	Event Planning Workshop	3
RCE:4111	Building Leadership and Success at Work	3
SOC:4225	The Social Psychology of Leadership	3

Cultural Diversity Component

Code	Title	Hours
At least one course from these or from the advanced courses:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3

AFAM:1030	Introduction to African American Society	3
AFAM:1250/ RELS:1350	Introduction to African American Religions	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AMST:1010	Understanding American Cultures	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
CCCC:2220	Foundations of Critical Cultural Competence	3
DST:1101	Introduction to Disability Studies	3
ENGL:1350	Literature and Sexualities	3
ENGL:2460/ AFAM:2781/ POLI:2107	Black Literature and Politics: Controversies of National Allegiance	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1002	Diversity and Power in the U.S.	3
HIST:1040	Diversity in History	3
HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
HIST:2280/ LATS:2280/ SPAN:2280	Introduction to Latina/o Studies	3
JMC:2600	Freedom of Expression	3
LING:2900	Language, Gender, and Sexuality	3
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1720	History of Jazz	3
MUS:2014/ AFAM:2014	Giants of Jazz: Miles, Trane, and Duke	3
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to American Indian and Native Studies	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
RELS:1350/ AFAM:1250	Introduction to African American Religions	3
RELS:1810	Happiness in a Difficult World	3
RELS:2700/ NAIS:2700	Sacred World of Native Americans	3
SOC:1310/ GWSS:1310	Gender and Society	3-4
SOC:2810	Social Inequality	3
SPAN:2700/ COMM:2800/ IS:2700/LAS:2700/ PORT:2700	Introduction to Latin American Studies	3

Advanced Courses

ENGL:3455	Jewish American Literature	3
HIST:4201/ ASL:4201	History of the American Deaf Community	3
HIST:4203	Disability in American History	3
HIST:4216/ LAS:4216	Mexican American History	3
JMC:3165/ AFAM:3925	African Americans and the Media	3
RELS:3745/ AFAM:3245	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
SOC:3830	Race and Ethnicity	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3

Entrepreneurship Component

Code	Title	Hours
At least one of these (all are advanced courses):		
ECON:3650	Policy Analysis	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3300	Legal Aspects of Entrepreneurship	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4000	Topics in Entrepreneurship	2-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4450	Professional Sports Management	3
ENTR:4460	Entrepreneurship and Global Trade	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3

Values and Ethics Emphasis

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the values and ethics emphasis must complete at least two courses from each of the two components (values and theories, institutions and policies).

Values and Theories Component

Code	Title	Hours
At least two of these:		
JMC:2600	Freedom of Expression	3
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:2402	Introduction to Ethics	3
PHIL:2435	Philosophy of Law	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:3400	Political Economy	3
POLI:3700	Strategy in Politics	3
SOC:1420	Law and Society	3

Institutions and Policies Component

Code	Title	Hours
At least two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:3450	Criminal Legal System	3
PHIL:1401	Matters of Life and Death	3
PHIL:2432	Introduction to Political Philosophy	3
POLI:3101	American Constitutional Law and Politics	3
POLI:3102	The U.S. Congress	3
POLI:3108	American Political Development	3
POLI:3111	American Public Policy	3
POLI:3116	The Presidency	3
POLI:3117	Bureaucratic Politics and Public Administration	3
POLI:3120	The Criminal Justice System	3
POLI:3121	The Judicial Process	3
POLI:3202	Political Psychology	3
SOC:2810	Social Inequality	3

Arts Management Emphasis

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the arts management emphasis must complete two courses from the administration component, one course from the history component, 3 s.h. from the production component, and 3 s.h. from the elective component.

Administrative Component

Code	Title	Hours
Two of these:		
INTD:4510/ DPA:4510/ ENTR:4510/ THTR:4510	Arts Leadership Seminar	3
THTR:3510/ DPA:3510/ INTD:3510	Introduction to Arts Management	3
May include one of these:		
ENTR:2000	Entrepreneurship and Innovation	3

THTR:3520/ DPA:3520/ ENTR:3520/ INTD:3520	New Ventures in the Arts	3
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History Component

Code	Title	Hours
One of these:		
AMST:1075	American Popular Music: Rock and Roll to 1980	3
ARTH:1010	Art and Visual Culture	3
ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ARTH:1030	Themes in Global Art	3
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070/ CHIN:1070	Asian Art and Culture	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:1095	American Indian Art	3
COMM:1168	Media, Music, and Culture	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:3060	Dance History	3
DPA:1412/ DANC:1412/ THTR:1412	The Arts in Performance	3
ENGL:2160	Introduction to Drama	3
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1066	Introduction to Film Music	3
MUS:1302	Great Musicians	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2014/ AFAM:2014	Giants of Jazz: Miles, Trane, and Duke	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3120	Museum Origins	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1411	Comedy and Society	3
THTR:2410	History of Theatre and Drama I	3

THTR:2411	History of Theatre and Drama II	3
THTR:3440/ ENGL:3440	American Drama Since 1900	3

Production Component

Code	Title	Hours
Select 3 s.h. from these:		
ARTS:1010	Elements of Art	3
ARTS:1020	Elements of 3-D Design	3
ARTS:1030	Elements of Jewelry and Metal Arts	3
ARTS:1050	Elements of Printmaking	3
ARTS:1060	Elements of Digital Photography	3
ARTS:1080	Elements of Sculpture	3
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
DANC:1010	Beginning Tap	2
DANC:1020	Beginning Jazz	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1050	Beginning/Contact Improvisation	2
DANC:1085/ DPA:1085	Introduction to Afro-Caribbean Dance Techniques	2
DANC:1090	Dance Production	3
DANC:1120	Continuing Jazz	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2030	Intermediate Ballet	2
DANC:2040	Intermediate Modern	2
DANC:3030	Major Ballet I	3
DANC:3040	Major Modern Dance I	3
DANC:3080	Music Essentials for Dance	2
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Modern Dance II	1-2
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1020	Performance Instruction for Nonmajors	1
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1166	Large Pep Band	1
MUS:1176	Women's Chorale	1
MUS:1180	All-University String Orchestra	1
MUS:2020	Lower Level Voice	arr.
MUS:2021	Lower Level Piano	arr.
MUS:2022	Lower Level Organ	arr.
MUS:2023	Lower Level Violin	arr.
MUS:2024	Lower Level Viola	arr.
MUS:2025	Lower Level Cello	arr.
MUS:2026	Lower Level String Bass	arr.
MUS:2027	Lower Level Flute	arr.
MUS:2028	Lower Level Oboe	arr.

MUS:2029	Lower Level Clarinet	arr.
MUS:2030	Lower Level Bassoon	arr.
MUS:2031	Lower Level Saxophone	arr.
MUS:2032	Lower Level Horn	arr.
MUS:2033	Lower Level Trumpet	arr.
MUS:2034	Lower Level Trombone	arr.
MUS:2035	Lower Level Euphonium	arr.
MUS:2036	Lower Level Tuba	arr.
MUS:2037	Lower Level Percussion	arr.
MUS:2038	Lower Level Jazz Guitar	2
MUS:3154/ DPA:3154	Introduction to Afro-Cuban Drumming	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3163	Intermediate Steel Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3730	Jazz Band	1
MUSM:3004	Exhibition Planning	3
THTR:1120	Basic Acting for Language Learners	3
THTR:1140	Basic Acting	3
THTR:2140	Acting I	3
THTR:2200	Elements of Design	3
THTR:2215	Theatre Technology	3
THTR:2301	Playwriting I	3
THTR:3221/ DPA:3221	Technology for the Entertainment Industry	3

Elective Component

Code	Title	Hours
One of these:		
ARTH:4081/ MUSM:4081	The Art Museum: Theory and Practice	3
ARTS:3400	Grant Writing in the Arts	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
INTD:3005/ CW:3005	Professional and Creative Business Communication	3
JMC:2600	Freedom of Expression	3
MGMT:2100	Introduction to Management (if not already used to fulfill foundation course work requirement)	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3200/ EES:3200	Collection Care and Management	3

MUSM:3500/ ENTR:3595/ MGMT:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
THTR:2610/ RHET:2610	Acting for Success	3

Health Science Track

The health science track requires 37 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized health background with a varied choice of emphasis areas: multidisciplinary science, entrepreneurial, aging, global health, cultures of healing, and writing for the sciences. Students who choose this track also have the option of proposing their own health science-related emphasis area to the faculty advisory committee.

Health science track students must complete foundation course work (at least 22 s.h.) and one emphasis area (15 s.h.). They must complete a minimum of 15 s.h. for the major at the University of Iowa. The Academic Advising Center advises health science track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		22-25
Emphasis Area		15
Total Hours		37-40

Foundation Courses

Students must complete at least 22 s.h. of foundation courses from the following.

Code	Title	Hours
Foundational chemistry:		
CHEM:1070	General Chemistry I	3
or CHEM:1110	Principles of Chemistry I	
CHEM:1080	General Chemistry II	3-4
or CHEM:1120	Principles of Chemistry II	
Foundational biology—one of these:		
BIOL:1140	Human Biology	4
BIOL:1141	Introductory Animal Biology	4
BIOL:1411	Foundations of Biology	4
Foundational math and statistics—one of these:		
MATH:1020	Elementary Functions	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Foundational social science—one of these:		
ANTH:1101/IS:1101	Cultural Anthropology	3

ANTH:2100	Anthropology and Contemporary World Problems	3
PSY:1001	Elementary Psychology	3
SOC:1010	Introduction to Sociology	3-4
SOC:1020	Social Problems	3-4
Foundational science elective—one of these:		
ACB:3110	Principles of Human Anatomy	3
BIOL:1412	Diversity of Form and Function	4
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3105	Anatomy for Human Physiology	3
Foundational elective—one of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3400	Applied Exercise Physiology	3
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5
HHP:4440	Physiology of Nutrition	3
NURS:1030	Human Development and Behavior	3
PSY:2401	Introduction to Developmental Science	3
PSY:2701	Introduction to Behavioral Neuroscience	4
SRM:1045	Diversity and Inclusion in Healthy Living	3

Multidisciplinary Science Emphasis

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the multidisciplinary science emphasis must complete 15 s.h. from the following list.

Code	Title	Hours
ANTH:2164/ GHS:2164	Culture and Healing for Future Health Professionals	3
ANTH:2320/ GHS:2320	Origins of Human Infectious Disease	3
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3

CPH:1400	Fundamentals of Public Health	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
MED:1100	Introduction to Health Care Professions	3
MICR:2157	General Microbiology	3
SOC:3510	Medical Sociology	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
May include one of these:		
CHEM:2210	Organic Chemistry I	3
CHEM:2230	Organic Chemistry I for Majors	3
May include one of these:		
CHEM:2220	Organic Chemistry II	3
CHEM:2240	Organic Chemistry II for Majors	3
May include one of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors	3
May include one of these:		
MICR:3112	Pharmacy Microbiology	4
MICR:3164	Microbiology and Human Health	4
May include one of these:		
HHP:2310	Nutrition and Health (if not used to fulfill foundation requirement)	3
HHP:4440	Physiology of Nutrition (if not used to fulfill foundation requirement)	3
May include one of these:		
PHYS:1511	College Physics I	4
PHYS:1611	Introductory Physics I	4
May include one of these:		
PHYS:1512	College Physics II	4
PHYS:1612	Introductory Physics II	3-4

Entrepreneurial Emphasis

Students who chose the entrepreneurial emphasis area may not earn the Certificate in Entrepreneurial Management.

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the entrepreneurial emphasis must complete 15 s.h. from the following list.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
BUS:3800	Business Writing	3
CNW:3640	Writing for Business and Industry	3
ECON:3650	Policy Analysis	3
ECON:3760	Health Economics	3
ENTR:1350	Foundations in Entrepreneurship	2
ENTR:2000	Entrepreneurship and Innovation	3

ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3300	Legal Aspects of Entrepreneurship	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3520/ DPA:3520/ INTD:3520/ THTR:3520	New Ventures in the Arts	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4000	Topics in Entrepreneurship	2-3
ENTR:4100	International Entrepreneurship and Culture	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4450	Professional Sports Management	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510/ DPA:4510/ INTD:4510/ THTR:4510	Arts Leadership Seminar	3
MGMT:2100	Introduction to Management	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3
MKTG:3000	Introduction to Marketing Strategy	3

Aging Emphasis

Students who choose the aging emphasis area may not earn the Certificate in Aging and Longevity Studies or the minor in aging and longevity studies.

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the aging emphasis must complete 15 s.h. from the following list.

Code	Title	Hours
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3

ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
ASP:3151/ ANTH:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ASP:3152/ ANTH:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:3160	Biology of Aging	3
ASP:3300	Mapping the Creative Legacy	3
ASP:3519/ POLI:3519	Politics of Aging	3
ASP:3610/ GWSS:3610/ RHET:3610	Writing in the Presence of Death: Rhetoric, Narrative, and Hospice	3
ASP:3740/ MED:3740/ NURS:3740/ PHAR:3740	End-of-Life Care for Adults and Families	3
ASP:3786/ SSW:3786	Death/Dying: Issues Across the Life Span	3
ASP:5750/ HMP:5750	Medicare and Medicaid Policy	3
BIOL:2603	Mechanisms of Aging	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3

Global Health Emphasis

Students who choose the global health emphasis area may not earn the Certificate in Global Health Studies or the minor in global health studies.

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the global health emphasis must complete 15 s.h. from the following list.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
GHS:1100/ CLSA:1100/ GRMN:1100/ GWSS:1100/ WLLC:1100	Contraception Across Time and Cultures	3
GHS:1181/ CLSA:1181	Ancient Medicine	3
GHS:1290/ AMST:1290/ HIST:1290/ NAIS:1290	Native American Foods and Foodways	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2080/ GWSS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2110/ GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2164/ ANTH:2164	Culture and Healing for Future Health Professionals	3

GHS:2181/ ANTH:2181/ ASP:2181	The Anthropology of Aging	3	GHS:3508/ HIST:3508/ LAS:3508	Health in Latin America	3
GHS:2260/ RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3	GHS:3555/ HIST:3755/IS:3555	Understanding Health and Disease in Africa	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3	GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	1
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project (only one enrollment may count toward major)	2-3	GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	2
GHS:3015/ GWSS:3010	Transnational Sexualities	3	GHS:3720	Contemporary Issues in Global Health (only one enrollment may count toward major)	3
GHS:3020	Proseminar in Global Health	1	GHS:3760/ GEOG:3760	Hazards and Society	3
GHS:3030/ CPH:3240	Global Health Conference (only one enrollment may count toward major)	1	GHS:3780/ GEOG:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GHS:3035	Engaging in Global Health	1	GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:3040/ ANTH:3111/ LAS:3111	Health in Mexico	3	GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3	GHS:4100	Topics in Global Health	1-3
GHS:3060	Studies in Complementary and Alternative Medicine	3	GHS:4126/ CEE:4788/ PHAR:8788/ THTR:4265	International Perspectives: Xicotepec	2-3
GHS:3070/ GEOG:3070	Hungry Planet: Global Geographies of Food	3	GHS:4140/ ANTH:4140/ CBH:4140/ GWSS:4140	Feminist Activism and Global Health	3
GHS:3102/ ANTH:3102/ CBH:3102	Medical Anthropology	3	GHS:4150/ GEOG:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GHS:3110/ ANTH:3110/ NAIS:3110	Health of Indigenous Peoples	3	GHS:4160/ HIST:4160	History of Public Health	3
GHS:3111/ GEOG:3110	Geography of Health	3	GHS:4162/ HIST:4162	History of Global Health	3
GHS:3113/ ANTH:3113/ ASIA:3561/ RELS:3580	Religion and Healing	3	GHS:4180	Climate Change and Health	3
GHS:3131/ RUSS:3131	Health Care and Health Reforms in Russia	3	GHS:4230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3150/ CBH:3150/JMC:3150	Media and Health	3	GHS:4340/ HHP:4340	Global Health and Global Food	3
GHS:3151/ ANTH:3151/ ASP:3151	The Anthropology of the Beginnings and Ends of Life	3	GHS:4530/ CPH:4220/ OEH:4530	Global Road Safety	3
GHS:3152/ ANTH:3152/ ASP:3152	Anthropology of Caregiving and Health	3	GHS:4600	Global Health and Human Rights	2-3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3	GHS:4605/ HIST:4605	Disease, Politics, and Health in South Asia	2-4
GHS:3191	Sustainable Development: India and the Global Context	3	GHS:4900	Approaches to Global Health Studies	3
GHS:3192	Environment and Health in Modern India	3	GHS:4990	Independent Project in Global Health (only one enrollment may count toward major)	arr.
GHS:3327/ GWSS:3326	The Politics of Progress: NGOs, Development, and Sexuality	3	SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
GHS:3500/ CPH:3500	Global Public Health	3			

Cultures of Healing Emphasis

Students must earn 15 s.h. in their chosen emphasis area. Students who choose the cultures of healing emphasis must complete the foundation component (3 s.h.) and the elective component (12 s.h.). The elective component must include 6 s.h. earned in advanced courses.

Foundation Component

Code	Title	Hours
One of these:		
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:4181	History of Western Medicine	3

Elective Component

Students complete 12 s.h. of electives from the following lists of lower level and advanced courses, with a minimum of 6 s.h. from the advanced courses list.

Code	Title	Hours
Lower-level courses—maximum of 6 s.h. from these:		
RELS:2700/ NAIS:2700	Sacred World of Native Americans	3
RELS:2771/ GWSS:2771	Sexual Ethics	3
RELS:3976/ NAIS:3276	American Indian Environmentalism	3
Lower-level courses may include one of these:		
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2100	Anthropology and Contemporary World Problems	3
Advanced courses—at least 6 s.h. from these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3101/ GWSS:3101	Anthropology of Sexuality	3
ANTH:3102/ CBH:3102/ GHS:3102	Medical Anthropology	3
ANTH:3103	Environment and Culture	3
ANTH:3110/ GHS:3110/ NAIS:3110	Health of Indigenous Peoples	3
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
ANTH:3300/ GWSS:3300	Mothers and Motherhood	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
CLSA:3440/ RELS:3340	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
CLSA:3750	Medical and Technical Terminology	2
CLSA:4181	History of Western Medicine (if not used to fulfill foundation requirement)	3

HIST:4201/ ASL:4201	History of the American Deaf Community	3
HIST:4203	Disability in American History	3
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	3
INTD:3020/ HHP:3000	Equity Issues in the Health Sciences	3
INTD:3107/ CW:3107	Creative Writing for the Health Professions	3
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3
RELS:3666	The History of a Religious and Spiritual Practice: Yoga in Asia and Beyond	3

Writing for the Science Emphasis

Students must complete 15 s.h. in their emphasis area. Students who choose the writing for the sciences emphasis must complete the foundation component (6 s.h.) and the elective component (9 s.h.).

Foundation Component

Code	Title	Hours
One of these:		
CLSA:1740/ WRIT:1740	Writing Strategies: Word Origins and Word Choice	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
One of these:		
CNW:3632/ WRIT:3632	Prose Style	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
RHET:2095	Fundamental Strategies of Persuasion	3

Elective Component

Code	Title	Hours
Select 9 s.h. from these:		
CNW:2730	The Art and Craft of Science Writing	3
CNW:3664	Writing About Science	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
HHP:3900	Writing for Health and Human Physiology	3
POLI:3107	Writing in Political Science: Writing for "Science" and for "Politics"	arr.
RHET:3140	Nature and Society: Controversies and Images	3
RHET:3610/ ASP:3610/ GWSS:3610	Writing in the Presence of Death: Rhetoric, Narrative, and Hospice	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

Individualized Plan of Study Track

The individualized plan of study track requires a minimum of 36 s.h. of work for the major, all taken at the University of Iowa. Students who choose this track build their own study plan, creating a unique major that speaks to interests across departments and that integrates varied approaches to a particular topic (e.g., aging studies, international business, children's studies, environmental issues, health issues).

Students must submit their study plan for approval. The plan must include an essay that provides a clear statement of the area of intellectual focus; the reasons for preferring the Interdepartmental Studies Program (ISP) to any departmental program; a concrete discussion of how the advanced courses relate to each other, to personal interests, and to the central focus of the study plan; a description of academic goals for the bachelor's degree; a list of advanced-level course work already completed; and a list of advanced-level course work planned for all remaining semesters.

Each study plan is approved by a faculty advisory committee. Reviews are held once a semester. Deadlines are posted on the Interdepartmental Studies Program website.

If the advisory committee does not grant approval, the study plan may be returned to a student for revisions and resubmission at the next committee meeting. In some cases, a student may be referred to an appropriate departmental major.

Once the study plan is approved, a student is required to follow the plan, taking the courses approved for it. A limited number of substitutions may be allowed, but only if they are clearly consistent with the area of intellectual focus in the approved study plan, and only if they are approved in advance by the ISP advisor. Unauthorized substitutions may be designated as elective course work.

Significant changes in the focus of a student's study plan require the submission and approval of a revised study plan. A student's academic advisor determines whether changes warrant a revised plan.

See the Interdepartmental Studies Program website for up-to-date information on the individualized plan of study track and rules for submission of study plans.

Students who choose the individualized plan of study track are advised by the ISP coordinator; they work closely with the Interdepartmental Studies Program office while designing the study plan. Students who intend to submit a study plan should contact the ISP coordinator as early as possible.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major; they usually complete the honors requirements of a particular department or program appropriate to their area of study. Students should initiate inquiries about graduating with honors in the interdepartmental studies major by contacting the Interdepartmental Studies Program (ISP) coordinator; they should inquire early in their junior year to allow time for foundation course work. Students must submit an honors project approval form to the ISP coordinator.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the interdepartmental studies major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is available only to Interdepartmental Studies Program (ISP) students in the individualized plan of study track. Students in the other ISP tracks work with their advisors to develop individual graduation plans.

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major.

Before the seventh semester begins: an approved individualized plan of study, at least six courses in the plan of study, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: a total of at least nine courses in the plan of study

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Interdepartmental Studies, B.A.

- Applied Human Services Track [p. 630]
- Business Studies Track [p. 631]
- Health Science Track [p. 632]

Applied Human Services Track

Community-Based Services Emphasis

Course	Title	Hours
Academic Career		
Any Semester		
Students can declare the major once 60 s.h. have been earned.		
	Hours	0
First Year		
Fall		
PSY:1001	Elementary Psychology ^a	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ^c		

CSI:1600	Success at Iowa	2
Hours		15-17

Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: lower-level psychology course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-18

Second Year**Fall**

PSY:2811	Research Methods and Data Analysis in Psychology I	3
Major: lower-level psychology course		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2 - 3
Hours		15-17

Spring

Major: emphasis area course		3
Major: lower-level psychology course		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-17

Third Year**Fall**

PSY:2701	Introduction to Behavioral Neuroscience	4
Major: emphasis area course		3
RCE:4199	Counseling for Related Professions	3
GE CLAS Core: Values and Culture ^b		3
Elective course ^d		3
Hours		16

Spring

Major: emphasis area course		3
CCCC:2220 or RCE:4197	Foundations of Critical Cultural Competence or Citizenship in a Multicultural Society	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^d		2 - 3
Hours		15-16

Fourth Year**Fall**

Major: emphasis area course		3
GE CLAS Core: Quantitative or Formal Reasoning (if not met by cognate course) ^b		3
Elective course ^d		3
Elective course ^d		3

RCE:4195	Ethics in Human Relations and Counseling	3
Hours		15

Spring

Major: internship or practicum		0 - 6
Elective course ^d		3
Elective course ^d		3
Elective course (if needed) ^d		3
Hours		9-15
Total Hours		117-131

a Fulfills a major requirement and may fulfill a GE requirement.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Business Studies Track**Organizational Practice and Perspectives Emphasis**

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Elective course ^a		3
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: Values and Culture ^b		3
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
ECON:1200 or ECON:1100	Principles of Macroeconomics or Principles of Microeconomics	4
Major: mathematics requirement ^d		4
GE CLAS Core: Natural Sciences with Lab ^b		4
Hours		15-16

Second Year**Fall**

Major: business core course		3
Major: statistics requirement ^d		3 - 4
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ^e		
Hours		13-15

Spring

Major: business core course		3
Major: business core course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ^e		

Elective course ^a	2
Hours	15-16

Third Year**Fall**

Major: business core course	3
Major: emphasis area course	3
GE CLAS Core: Natural Sciences without Lab ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^a	3
Hours	16-17

Spring

Major: emphasis area course	3
Major: emphasis area course ^f	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3

Elective course ^a	3
Hours	16-17

Fourth Year**Fall**

Elective course ^a	3
Major: emphasis area course	3
Major: elective course (recommended)	3
Elective course ^a	3
Hours	12

Spring

Major: emphasis area course	3
Major: elective course (recommended)	3
Elective course ^a	3
Elective course ^a	3
Elective course (if needed) ^a	3

Hours	15
Total Hours	116-123

- a Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students should choose a mathematics or statistics requirement that will also complete the GE: Quantitative or Formal Reasoning requirement.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students must complete at least 3 s.h. in personal leadership courses.

Health Science Track**Multidisciplinary Science Emphasis**

Course	Title	Hours
First Year		
Fall		
CHEM:1070 or CHEM:1110	General Chemistry I or Principles of Chemistry I	3 - 4

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: Diversity and Inclusion ^c		3
Foundational Social Science ^d		3
CSI:1600	Success at Iowa	2
Hours		14-16

Spring

CHEM:1080 or CHEM:1120	General Chemistry II or Principles of Chemistry II	3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: math/statistics requirement ^d		3 - 4
GE CLAS Core: Values and Culture ^c		3
Hours		12-15

Second Year**Fall**

BIOL:1411 or BIOL:1140 or BIOL:1141	Foundations of Biology or Human Biology or Introductory Animal Biology	4
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3
Hours		14-15

Spring

Foundational Science Elective	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^c	3
GE CLAS Core: International and Global Issues ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^f	3
Hours	16-18

Third Year**Fall**

Foundational Elective	3 - 4
Emphasis Area Course	3 - 4
Elective course ^f	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e	4 - 5
Elective course ^f	3
Hours	16-19

Spring

Emphasis Area Course	3 - 4
Elective course ^f	3
Elective course ^f	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Elective course (if needed) ^f	3
Hours	16-18

Fourth Year**Fall**

Emphasis Area Course	3 - 4
Emphasis Area Course	3 - 4
Elective course ^f	3
Elective course ^f	3

Elective course ^f	3
Hours	15-17
Spring	
Emphasis Area Course	3 - 4
Emphasis Area Course	3 - 4
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Hours	15-17
Total Hours	118-135

- a CHEM:1070 not required before CHEM:1080 if student has completed high school chemistry.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

Graduates in the applied human services, business studies, engaged social innovation, health science, and writing for the sciences tracks have career options in a variety of settings, including retirement homes, hospitals, health clubs, government agencies, insurance companies, and performing arts companies.

Students who create individualized plans of study stand out when they apply for jobs because their major emphasizes a unique set of strengths and interests. In addition, employers often are impressed by their enthusiasm and self-directed nature.

Many interdepartmental studies majors go on to graduate school.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

International Relations

Chair, Department of Political Science

- Wenfang Tang

Undergraduate major: international relations (B.A., B.S.)

Undergraduate minor: international relations

Faculty: <https://clas.uiowa.edu/polisci/people/faculty>

Website: <https://clas.uiowa.edu/polisci/>

The undergraduate programs of study in international relations are administered by the Department of Political Science [p. 837].

Programs

Undergraduate Programs of Study

Majors

- Major in International Relations (Bachelor of Arts) [p. 635]
- Major in International Relations (Bachelor of Science) [p. 640]

Minor

- Minor in International Relations [p. 647]

International Relations, B.A.

Learning Outcomes

Graduates will:

- possess a broad understanding of international relations (IR),
- be able to apply a theoretical approach in international relations to understand a specific area of IR,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

Overview

A major in international relations focuses on economic relations between states, a crucial area of study in today's globalized world. Students are introduced to the politics of foreign countries. They develop an understanding of how countries interact and acquire a deep appreciation for the root causes of problems that transcend national boundaries.

Requirements for the major are the same for B.A. and B.S. students, except that the major for the B.S. requires a set of mathematics/statistics courses, while the major for the B.A. does not.

Requirements

The Bachelor of Arts with a major in international relations requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. At least 18 s.h. of course work for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

No more than 12 s.h. of course work used to satisfy the requirements of any other major, minor, or certificate program may be used toward the minimum required course work for the international relations major.

Students choose one of five tracks: conflict and foreign policy, international business and economic relations, regional politics and relationships, transnational issues, or a self-defined track.

The B.A. with a major in international relations requires the following course work.

Code	Title	Hours
	International Relations Core	12-13
	Methods Course	3
	Senior Seminar Courses	4
	Track Courses	18
	Total Hours	37-38

International Relations Core

Code	Title	Hours
All of these:		
POLI:1500	Introduction to International Relations	3
POLI:3512	International Conflict	3

POLI:3516	The Politics of International Economics	3
One of these:		
HIST:1101	The Modern World	3
HIST:1403	The West and the World: Modern	3-4
HIST:3143	International Politics: The History of the Present	3-4
HIST:3155	The World Since 1945	3

Methods Course

Code	Title	Hours
This course:		
POLI:2000	Designing Political Research	3

Senior Seminar Courses

Code	Title	Hours
This course:		
POLI:4802	International Relations Senior Seminar Preparation	1
One of these:		
POLI:4800	Senior Seminar in International Relations	3
POLI:4801	Honors Senior Seminar in International Relations	3

Tracks

International relations students complete one of the following five tracks, each of which requires 18 s.h. of course work. Students who would like to declare the major in international relations before deciding on a track may declare the open track for advising purposes. They should talk with an advisor and decide on a track as soon as possible.

Conflict and Foreign Policy Track

The conflict and foreign policy track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1501	Introduction to American Foreign Policy	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:2416	Revolutions and Political Violence	3
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3419	War in the Muslim World	3
POLI:3420	Southeast Asia: Politics and Development	arr.
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	arr.

POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3500	American Foreign Policies	3
POLI:3503	Politics of Terrorism	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3514	Regional Peace and Security	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3520	National Security Policy	3
POLI:3521	Twenty-first-Century Technology and Warfare	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3523	Non-State Violent Actors	arr.
POLI:3550	Problems of International Politics	3
POLI:3603	War and Film	arr.
POLI:4500	Honors Seminar on International Politics	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3242	The United States in World Affairs	3-4
HIST:4125	War and Peace in the Twentieth Century	3
HIST:4176	Vietnam War on Film	3-4
HIST:4228	Cold War America	3
HIST:4230	The Political Culture of U.S. Foreign Policy	3
HIST:4264	U.S.A. in a World at War 1931-1945	3
HIST:4435	War and Society in Modern Europe	3
HIST:4499	First World War	3-4
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3
HIST:4617	History, Memory, and Pacific War	3
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3

International Business and Economic Relations Track

The international business and economic relations track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
Two of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
GEOG:2910	The Global Economy	3
Four of these, including courses from at least two departments:		

POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3400	Political Economy	3
POLI:3424	Global Development	3
POLI:3504	Globalization	3
POLI:3524	Politics and Multinational Enterprises	3
POLI:4500	Honors Seminar on International Politics	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance (prerequisite required)	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
HIST:3126	History of Globalization	3
IS:3200	Sustainable Development	3
IS:3333/RELS:3333	Economics and Islam	3
MGMT:3450	International Business Environment	3
MKTG:4300	International Marketing (prerequisite required)	3

Regional Politics and Relationships Track

The regional politics and relationships track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1400	Introduction to Comparative Politics	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1410	Introduction to Asian International Relations	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:2415/ LAS:2415	Latin American Politics	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3

POLI:3410	Russian Foreign Policy	3
POLI:3413	Russian Politics	3
POLI:3419	War in the Muslim World	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3450	Problems in Comparative Politics	3
POLI:3514	Regional Peace and Security	3
POLI:4400	Honors Seminar on Comparative Politics	3
HIST:1008	Issues in European Politics and Society	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4
HIST:1607	Civilizations of Asia: Korea	3-4
HIST:1708	Civilizations of Africa	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3
HIST:3685	Modern Korean History	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3810	History of the Modern Middle East	3
HIST:4433/ FREN:4433	France Under Nazi Occupation, 1940-1944	3-4
HIST:4438	Modern European Imperialism	3
HIST:4460	Twentieth-Century Europe: The Nazi Era	3
HIST:4461	Twentieth-Century Europe: The Cold War and After	3
HIST:4464	Modern France 1789-1871	3
HIST:4465	Modern France 1870-Present	3

HIST:4493	Soviet Union 1917-1945	3-4
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3
HIST:4615/ JPNS:4615	Modern Japan	3
HIST:4616	Japanese History and Society: World War II to the Twenty-First Century	3
HIST:4640	Imperialism and Modern India	3
HIST:4666/ ASIA:4166	Topics in Asian History	3
HIST:4815	Topics in the Modern Middle East	3

Transnational Issues Track

The transnational issues track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
Six of these, including at least 3 s.h. in courses from each of three departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3424	Global Development	3
POLI:3501	International Organization and World Order	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3515	Global Communication and Politics	3
CRIM:3415	Global Criminology	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:3760	Health Economics	3
GEOG:1020	The Global Environment	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2410	Environment and Development	3

GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ GHS:4770	Environmental Justice	3
GHS:3030/ CPH:3240	Global Health Conference	1
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3110/ ANTH:3110/ NAIS:3110	Health of Indigenous Peoples	3
GHS:3500/ CPH:3500	Global Public Health	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4160/ HIST:4160	History of Public Health	3
GHS:4162/ HIST:4162	History of Global Health	3
GHS:4180	Climate Change and Health	3
GHS:4340/ HHP:4340	Global Health and Global Food	3
GHS:4600	Global Health and Human Rights	2-3
GWSS:2045	Working for Social Justice	1-3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
HIST:4101	History of Human Rights	3
HIST:4438	Modern European Imperialism	3
HIST:4640	Imperialism and Modern India	3
HIST:4725/ GWSS:4725	Women and Gender in African History	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
IS:2151/ ANTH:2151/ GWSS:2151	Global Migration in the Contemporary World	3
IS:3116/JMC:3116	Media and Global Cultures	3
IS:3200	Sustainable Development	3
IS:4131/ COMM:4131	Globalization and Culture	3

Self-Defined Track

Students may create their own track with permission from the director of undergraduate studies. A self-defined track may not duplicate an existing track or another academic program of study at the University of Iowa. It must consist of at least 18 s.h. of course work, which must include 3 s.h. of credit earned in courses from each of three departments.

Honors

Honors in the Major

Students majoring in international relations have the opportunity to graduate with honors in the major. Honors students must maintain a UI and major g.p.a. of at least 3.50. They must complete POLI:4500 Honors Seminar on International Politics or POLI:4400 Honors Seminar on Comparative Politics in addition to the minimum major requirements. Honors students complete an honors thesis through their enrollment in POLI:4801 Honors Senior Seminar in International Relations.

National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of course work in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international relations major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: POLI:1500 Introduction to International Relations

Before the fifth semester begins: all core courses and the methods course

Before the seventh semester begins: at least 12 s.h. in the track and at least 90 s.h. earned toward the degree

Before the eighth semester begins: all track requirements

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

International Relations, B.A.

International Business and Economic Relations Track

Course	Title	Hours
First Year		
Fall		
POLI:1500	Introduction to International Relations ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
CSL:1600	Success at Iowa	2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: history core course		3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Hours		16-18
Second Year		
Fall		
POLI:2000	Designing Political Research	3
GE CLAS Core: Quantitative or Formal Reasoning ^{d, e}		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Elective course ^c		3
Hours		16-17
Spring		
ECON:1100	Principles of Microeconomics ^a	4
POLI:3512	International Conflict	3
GE CLAS Core: Natural Sciences with Lab ^d		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
Elective course ^c		1
Hours		16-17
Third Year		
Fall		
GEOG:2910 or ECON:1200	The Global Economy or Principles of Macroeconomics	3 - 4
POLI:3516	The Politics of International Economics	3
GE CLAS Core: Values and Culture ^d		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^c		3
Hours		15-16
Spring		
Major: international business and economic relations track course ^f		3

Major: international business and economic relations track course ^f	3
GE CLAS Core: Literary, Visual, and Performing Arts ^d	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Fourth Year	
Fall	
POLI:4802 International Relations Senior Seminar Preparation	1
Major: international business and economic relations track course ^f	3
Major: international business and economic relations track course ^f	3
GE CLAS Core: Historical Perspectives ^d	3
Elective course ^c	3
Elective course ^c	2
Hours	15
Spring	
POLI:4800 Senior Seminar in International Relations	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e STAT:1010 or STAT:1020 recommended.
- f Students complete four approved international business and economic relations track elective courses, including courses from at least two different departments.

Career Advancement

A major in international relations is an excellent choice for any student considering a career in either the public or private sector, including the diplomatic service, intelligence organizations, multinational corporations, nongovernmental organizations, international organizations, think tanks, public health agencies, the media, and numerous other professions. The international relations major also prepares students to pursue postbaccalaureate degrees such as the J.D., M.A., or Ph.D.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

International Relations, B.S.

Learning Outcomes

Graduates will:

- possess a broad understanding of international relations (IR),
- be able to apply a theoretical approach in international relations to understand a specific area of IR,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

Overview

A major in international relations focuses on economic relations between states, a crucial area of study in today's globalized world. Students are introduced to the politics of foreign countries. They develop an understanding of how countries interact and acquire a deep appreciation for the root causes of problems that transcend national boundaries.

Requirements for the major are the same for B.S. and B.A. students, except that the major for the B.S. requires a set of mathematics/statistics courses, while the major for the B.A. does not.

Requirements

The Bachelor of Science with a major in international relations requires a minimum of 120 s.h., including at least 48 s.h. of work for the major. At least 18 s.h. of course work for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

No more than 12 s.h. of course work used to satisfy the requirements of any other major, minor, or certificate program may be used toward the minimum required course work for the international relations major.

Students choose one of five tracks: conflict and foreign policy, international business and economic relations, regional politics and relationships, transnational issues, or a self-defined track.

The B.S. with a major in international relations requires the following course work.

Code	Title	Hours
	International Relations Core	12-13
	Methods Course	3
	Senior Seminar Courses	4
	Mathematics/Statistics Courses	11
	Track Courses	18
	Total Hours	48-49

International Relations Core

Code	Title	Hours
All of these:		
POLI:1500	Introduction to International Relations	3

POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3

One of these:

HIST:1101	The Modern World	3
HIST:1403	The West and the World: Modern	3-4
HIST:3143	International Politics: The History of the Present	3-4
HIST:3155	The World Since 1945	3

Methods Course

Code	Title	Hours
This course:		
POLI:2000	Designing Political Research	3

Senior Seminar Courses

Code	Title	Hours
This course:		
POLI:4802	International Relations Senior Seminar Preparation	1
One of these:		
POLI:4800	Senior Seminar in International Relations	3
POLI:4801	Honors Senior Seminar in International Relations	3

Mathematics/Statistics Courses

Students must complete one of the following approved sets of mathematics/statistics courses (11 s.h.) with a g.p.a. of at least 2.00. Substitutions must be approved by the director of undergraduate studies.

Code	Title	Hours
Set 1		
MATH:1380	Calculus and Matrix Algebra for Business (or equivalent or higher level calculus course)	4
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4
Set 2		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Tracks

International relations students complete one of the following five tracks, each of which requires 18 s.h. of course work. Students who would like to declare the major in international relations before deciding on a track may declare the open track for advising purposes. They should talk with an advisor and decide on a track as soon as possible.

Conflict and Foreign Policy Track

The conflict and foreign policy track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1501	Introduction to American Foreign Policy	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:2416	Revolutions and Political Violence	3
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3419	War in the Muslim World	3
POLI:3420	Southeast Asia: Politics and Development	arr.
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	arr.
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3500	American Foreign Policies	3
POLI:3503	Politics of Terrorism	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3514	Regional Peace and Security	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3520	National Security Policy	3
POLI:3521	Twenty-first-Century Technology and Warfare	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3523	Non-State Violent Actors	arr.
POLI:3550	Problems of International Politics	3
POLI:3603	War and Film	arr.
POLI:4500	Honors Seminar on International Politics	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3242	The United States in World Affairs	3-4
HIST:4125	War and Peace in the Twentieth Century	3
HIST:4176	Vietnam War on Film	3-4
HIST:4228	Cold War America	3
HIST:4230	The Political Culture of U.S. Foreign Policy	3
HIST:4264	U.S.A. in a World at War 1931-1945	3
HIST:4435	War and Society in Modern Europe	3

HIST:4499	First World War	3-4
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3
HIST:4617	History, Memory, and Pacific War	3
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3

International Business and Economic Relations Track

The international business and economic relations track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
Two of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
GEOG:2910	The Global Economy	3
Four of these, including courses from at least two departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3400	Political Economy	3
POLI:3424	Global Development	3
POLI:3504	Globalization	3
POLI:3524	Politics and Multinational Enterprises	3
POLI:4500	Honors Seminar on International Politics	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance (prerequisite required)	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
HIST:3126	History of Globalization	3
IS:3200	Sustainable Development	3
IS:3333/RELS:3333	Economics and Islam	3
MGMT:3450	International Business Environment	3
MKTG:4300	International Marketing (prerequisite required)	3

Regional Politics and Relationships Track

The regional politics and relationships track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1400	Introduction to Comparative Politics	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1410	Introduction to Asian International Relations	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:2415/ LAS:2415	Latin American Politics	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3
POLI:3410	Russian Foreign Policy	3
POLI:3413	Russian Politics	3
POLI:3419	War in the Muslim World	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3450	Problems in Comparative Politics	3
POLI:3514	Regional Peace and Security	3
POLI:4400	Honors Seminar on Comparative Politics	3
HIST:1008	Issues in European Politics and Society	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4
HIST:1607	Civilizations of Asia: Korea	3-4
HIST:1708	Civilizations of Africa	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3

HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3
HIST:3685	Modern Korean History	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3810	History of the Modern Middle East	3
HIST:4433/ FREN:4433	France Under Nazi Occupation, 1940-1944	3-4
HIST:4438	Modern European Imperialism	3
HIST:4460	Twentieth-Century Europe: The Nazi Era	3
HIST:4461	Twentieth-Century Europe: The Cold War and After	3
HIST:4464	Modern France 1789-1871	3
HIST:4465	Modern France 1870-Present	3
HIST:4493	Soviet Union 1917-1945	3-4
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3
HIST:4615/ JPNS:4615	Modern Japan	3
HIST:4616	Japanese History and Society: World War II to the Twenty-First Century	3
HIST:4640	Imperialism and Modern India	3
HIST:4666/ ASIA:4166	Topics in Asian History	3
HIST:4815	Topics in the Modern Middle East	3

Transnational Issues Track

The transnational issues track requires the following course work (minimum of 18 s.h.).

Code	Title	Hours
Six of these, including at least 3 s.h. in courses from each of three departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3421	Southern Africa: Development and Governance	3

POLI:3422	Horn of Africa: Politics and Transnational Issues	3	GWSS:3010/ GHS:3015	Transnational Sexualities	3
POLI:3424	Global Development	3	GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
POLI:3501	International Organization and World Order	3	HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
POLI:3509	International Courts: The Intersection of Law and Politics	3	HIST:4101	History of Human Rights	3
POLI:3515	Global Communication and Politics	3	HIST:4438	Modern European Imperialism	3
CRIM:3415	Global Criminology	3	HIST:4640	Imperialism and Modern India	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3	HIST:4725/ GWSS:4725	Women and Gender in African History	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3	HRTS:3905/IS:3905	Topics in Human Rights	1-3
ECON:3760	Health Economics	3	HRTS:3906	Global Crises and Human Rights	3
GEOG:1020	The Global Environment	3	HRTS:3910/IS:3910	Human Rights Advocacy	3
GEOG:1070	Contemporary Environmental Issues	3	IS:2151/ ANTH:2151/ GWSS:2151	Global Migration in the Contemporary World	3
GEOG:1090	Globalization and Geographic Diversity	3	IS:3116/JMC:3116	Media and Global Cultures	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3	IS:3200	Sustainable Development	3
GEOG:2410	Environment and Development	3	IS:4131/ COMM:4131	Globalization and Culture	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3			
GEOG:3110/ GHS:3111	Geography of Health	3			
GEOG:3331	Human Dimensions of Climate	3			
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3			
GEOG:4770/ GHS:4770	Environmental Justice	3			
GHS:3030/ CPH:3240	Global Health Conference	1			
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3			
GHS:3110/ ANTH:3110/ NAIS:3110	Health of Indigenous Peoples	3			
GHS:3500/ CPH:3500	Global Public Health	3			
GHS:3720	Contemporary Issues in Global Health	3			
GHS:3850/ HHP:3850	Promoting Health Globally	3			
GHS:4160/ HIST:4160	History of Public Health	3			
GHS:4162/ HIST:4162	History of Global Health	3			
GHS:4180	Climate Change and Health	3			
GHS:4340/ HHP:4340	Global Health and Global Food	3			
GHS:4600	Global Health and Human Rights	2-3			
GWSS:2045	Working for Social Justice	1-3			

Self-Defined Track

Students may create their own track with permission from the director of undergraduate studies. A self-defined track may not duplicate an existing track or another academic program of study at the University of Iowa. It must consist of at least 18 s.h. of course work, which must include 3 s.h. of credit earned in courses from each of three departments.

Honors

Honors in the Major

Students majoring in international relations have the opportunity to graduate with honors in the major. Honors students must maintain a UI and major g.p.a. of at least 3.50. They must complete POLI:4500 Honors Seminar on International Politics or POLI:4400 Honors Seminar on Comparative Politics in addition to the minimum major requirements. Honors students complete an honors thesis through their enrollment in POLI:4801 Honors Senior Seminar in International Relations.

National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of course work in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international relations major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: POLI:1500 Introduction to International Relations

Before the fifth semester begins: all core courses and the methods course

Before the seventh semester begins: at least two of the mathematics/statistics courses, at least 12 s.h. in the track, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: all core courses, the methods course, the remaining mathematics/statistics course, and all track requirements

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

International Relations, B.S.

- Conflict and Foreign Policy Track [p. 644]
- Transnational Issues Track [p. 645]

Conflict and Foreign Policy Track

Course	Title	Hours
First Year		
Fall		
POLI:1500	Introduction to International Relations ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: history core course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^c		3
Hours		16-18

Second Year

Fall

POLI:1501	Introduction to American Foreign Policy ^{a, e}	3
Major: calculus course ^{a, f, g}		4 - 5
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
POLI:2000	Designing Political Research	3
Elective course ^c		2 - 3
Hours		16-19

Spring

POLI:3512	International Conflict	3
Major: calculus or statistics course ^f		3 - 5
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Elective course ^c		3
Hours		16-19

Third Year

Fall

Major: conflict and foreign policy track course numbered POLI:XXXX ^e		3
Major: statistics course ^f		3 - 4
GE CLAS Core: Values and Culture ^d		3
POLI:3516	The Politics of International Economics	3
Elective course ^c		3
Hours		15-16

Spring

Major: conflict and foreign policy track course numbered HIST:XXXX ^e		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Fourth Year

Fall

POLI:4802	International Relations Senior Seminar Preparation	1
Major: conflict and foreign policy track course numbered POLI:XXXX ^e		3
Major: conflict and foreign policy track course numbered POLI:XXXX or HIST:XXXX ^e		3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Natural Sciences without Lab		3
Elective course ^c		2
Hours		15

Spring

POLI:4800	Senior Seminar in International Relations	3
Major: conflict and foreign policy track course numbered HIST:XXXX ^e		3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^c		3

Elective course ^c	2 - 3
Hours	15-16
Total Hours	123-135

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e The conflict and foreign policy track requires POLI:1501 and at least five additional approved courses (18 s.h. total).
- f Students must complete one of the approved sets of mathematics/statistics courses.
- g Enrollment in math courses requires completion of a placement exam.

Transnational Issues Track

Course	Title	Hours
First Year		
Fall		
POLI:1500	Introduction to International Relations ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: history core course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-18

Second Year

Fall		
Major: transnational issues track course ^e		3
Major: calculus course ^{a, f, g}		4 - 5
POLI:2000	Designing Political Research	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2 - 3
Hours		16-19

Spring

POLI:3512	International Conflict	3
Major: calculus course or statistics course ^f		3 - 5
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-19

Third Year

Fall

Major: transnational issues track course ^e	3
Major: statistics course ^f	3 - 4
GE CLAS Core: Values and Culture ^b	3
GE CLAS Core: Social Sciences ^b	3
Elective course ^d	3
Hours	15-16

Spring

Major: transnational issues track course ^e	3
Major: transnational issues track course ^e	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Fourth Year

Fall

POLI:3516	The Politics of International Economics	3
POLI:4802	International Relations Senior Seminar Preparation	1
Major: transnational issues track course ^e		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^d		3
Hours		16

Spring

POLI:4800	Senior Seminar in International Relations	3
Major: transnational issues track course ^e		3
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^d		3
Elective course ^d		2 - 3
Hours		15-16
Total Hours		124-136

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e The transnational issues track requires at least six approved track courses (18 s.h. total).
- f Students must complete one of the approved sets of mathematics/statistics courses.
- g Enrollment in math courses requires completion of a placement exam.

Career Advancement

Because international relations and the international community are so important, a major in international relations is an excellent choice for any student considering a career in either the public or private sector, including the diplomatic service, intelligence organizations, multinational corporations, nongovernmental organizations, international organizations,

think tanks, public health agencies, the media, and numerous other professions. The international relations major also prepares students to pursue postbaccalaureate degrees such as the J.D., M.A., or Ph.D.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

International Relations, Minor

The undergraduate minor in international relations requires a minimum of 15 s.h. in course work approved for the international relations major, including at least 9 s.h. in courses numbered 3000 or above and at least 12 s.h. taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 9 s.h. earned in course work from one department toward the minor. To view the selection of courses available, see the B.A. in international relations [p. 635] or the B.S. in international relations [p. 640] in the Catalog.

Courses for the minor in international relations must include the following.

Code	Title	Hours
This course:		
POLI:1500	Introduction to International Relations	3
One of these:		
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3

International Studies

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, International Studies

- Emily A. Wentzell (Anthropology)

Associate Director, International Studies

- Karmen R. Berger

Undergraduate major: international studies (B.A.)

Undergraduate minor: international studies

Faculty: <https://clas.uiowa.edu/international-studies/tracksfaculty>

Website: <https://clas.uiowa.edu/international-studies/>

The International Studies Program provides students with multidisciplinary knowledge and skills that they can use to ethically engage with diverse people, and to effectively navigate the challenges and opportunities of an increasingly interconnected world.

International Studies is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

Programs

Undergraduate Programs of Study

Major

- Major in International Studies (Bachelor of Arts) [p. 651]

Minor

- Minor in International Studies [p. 669]

Courses

International Studies Courses

IS:1000 Designing Your International Studies Major 1 s.h.

Importance of interdisciplinarity, global perspectives, and world language study for 21st-century liberal education; intentional planning of courses and other out-of-class experiences to prepare students for life and career after college.

IS:1030 International Events Attendance 1 s.h.

Attendance at internationally oriented academic, artistic, or cultural events taking place in Iowa City.

IS:1101 Cultural Anthropology 3 s.h.

Comparative study of culture, social organization. GE: Social Sciences; Values and Culture. Same as ANTH:1101.

IS:2000 Introduction to International Studies 3 s.h.

Introduction to the interdisciplinary field of international studies; globalization, migration, and inequality. GE: International and Global Issues.

IS:2009 World Travel: Cross-Cultural Skills for International Business, Education, and Service 1-3 s.h.

Cross-cultural skills and ethics for international business, education, and service.

IS:2012 Issues in International Studies 1 s.h.

Modules focusing on varied topics, taught by international studies faculty members.

IS:2013 Issues in International Studies 1-3 s.h.

Modules focusing on varied topics, taught by international studies faculty members.

IS:2014 Germany and the Amanas 1 s.h.

Contemporary issues of Germany, patterns of immigration to Amana, Iowa.

IS:2020 World Events Today! 3 s.h.

Current events that introduce students to political and cultural developments throughout the world. GE: Diversity and Inclusion.

IS:2041 Understanding "The Muslim World" 3 s.h.

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as ASIA:2041, RELS:2041.

IS:2042 Intercultural Communication 3 s.h.

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as COMM:2042, SSW:2042.

IS:2111 Developed and Developing Places 3 s.h.

Geography and the world distribution of key cultural factors —population, religion, and per capita income; economic and demographic differences between developed and developing countries.

IS:2112 The European Union 3 s.h.

Brief history and rationale for the European Union; environmental, economic, social, and political aspects of this potential superpower.

IS:2115 Introduction to Human Rights 3 s.h.

Analysis and evaluation of the international human rights program; relationship between human rights and international law. Same as HRTS:2115.

IS:2120 World History: Stone Age to Feudal Age 3 s.h.

World history from human origins, through classical antiquity, to the 16th century; political, economic, and environmental forces contributing to social transformations. Same as HIST:2120.

IS:2122 World History: Feudal Age to Nuclear Age 3 s.h.

World history from the late 1400s to 1945; colonialism, imperialism, capitalism, and industrialization as forces of global social and cultural transformation. Same as HIST:2122.

IS:2151 Global Migration in the Contemporary World 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as ANTH:2151, GWSS:2151.

IS:2190 Love Rules: Law and the Family Across Cultures**3 s.h.**

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept; it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as ANTH:2190, GWSS:2190.

IS:2248 The Invention of Writing: From Cuneiform to Computers**3 s.h.**

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, LING:2248, TRNS:2248, WLLC:2248.

IS:2500 Working Internationally**1 s.h.**

Information on international job sectors; presentations by experts in the field; advice on what is required to work internationally.

IS:2570 Introduction to Islamic Psychology**3 s.h.**

Psychology in Islamic civilization; the nature of the human being; pathology, illness, healing, and therapies in the Islamic tradition; Islamic models compared with Euro-American frameworks. Recommendations: basic knowledge of psychology and Islam. Same as GHS:2570, RELS:2570.

IS:2600 Muslim Minorities in the West**3-4 s.h.**

Introduction to lives of Muslim immigrants in the USA, France, Germany, and England; examination of various theories on multiculturalism. Taught in English. GE: Values and Culture. Same as GRMN:2655.

IS:2700 Introduction to Latin American Studies**3 s.h.**

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as COMM:2800, LAS:2700, PORT:2700, SPAN:2700.

IS:3009 International Perspectives: Xicotepec**2-3 s.h.**

Introduction to provision of service to a community in a less-developed country; development of discipline-specific projects aimed at improving community life in Xicotepec, Mexico in collaboration with Rotary International; cultural and professional preparation for teamwork in an international environment; service-learning course requiring travel to Xicotepec, Mexico during spring break.

IS:3010 Creating a Proposal for International Research**2 s.h.**

Major components of research process; development of intellectually challenging and personally engaging topics of international research. Requirements: junior or higher standing.

IS:3011 Library Strategies for International Research**1 s.h.**

Skill development in international research; academic projects; work with research librarian; activity-based introduction to article, statistical, and governmental databases; research and popular materials; information discovery process (tools and search strategies); enhancement of critical thinking skills. Same as ULIB:3011.

IS:3020 Writing Projects in International Studies**0-3 s.h.**

Writing project completed with the supervision of an approved faculty mentor.

IS:3116 Media and Global Cultures**3 s.h.**

Communication as a vital component for any effort to create social change; necessary communication to reach out to target audiences—people and communities in need—from campaigns persuading communities to change knowledge, attitudes, and practices to aiding other development efforts in areas of health, education, rural development, or sustainable agricultural practices; importance of communication as an integral part to any effort aimed at creating large-scale social change. Same as JMC:3116.

IS:3199 Global Environmental Politics**3 s.h.**

Survey of major environmental crises and conflict between environmental groups and their detractors; climate change, global warming, loss of biodiversity, pollution, toxins, nuclear power, deforestation.

IS:3200 Sustainable Development**3 s.h.**

Overview of development theory and debate; increasing role of China and other new players in development funding and projects; development-oriented projects, career paths.

IS:3333 Economics and Islam**3 s.h.**

Origins, functions, and impact of Islamic and related religions' ideas and practices in the realms of economic development, financial services and products, business models, and matters of social justice. Same as RELS:3333.

IS:3350 Transnational Feminism**3 s.h.**

Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as ANTH:3125, GWSS:3350.

IS:3550 Special Topics in International Studies**1-3 s.h.**

Special topics related to international studies.

IS:3555 Understanding Health and Disease in Africa**3 s.h.**

Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as GHS:3555, HIST:3755.

IS:3560 Global Food Migrations**3 s.h.**

Understanding how food influences, and is influenced by, social, political, and cultural factors.

IS:3565 Global Perspectives on Negotiation, Persuasion, and Communication**3 s.h.**

Cross-cultural approach to preparation for negotiation; exploration of how culture simultaneously enhances and complicates persuasive interactions at the individual, organizational, and global levels; evaluation and improvement of negotiation and cross-cultural communication skills through experiential in-class exercises.

IS:3600 Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment 1 s.h.

Students work with a UI faculty mentor to articulate an international development project and apply to an international development organization for an internship; students are matched to an organization/project and begin preparation for their internship by communicating with onsite mentor/supervisor.

IS:3700 Development in a Global Context II: Reflections on Real World Interventions 2 s.h.

Students produce a research paper analyzing their personal internship in an international development program.

IS:3745 Islam in Africa 4 s.h.

African Islamic history beginning with earliest Muslim migrants from Arabia to Ethiopia in early 7th century C.E. to dawn of 21st century; focus on historical development of Islam on African continent, specific regions, and particular themes; part of Islamic Studies Virtual Curriculum and Committee on Institutional Cooperation (CIC) CourseShare Program. Same as HIST:3745, RELS:3845.

IS:3834 Arab Spring in Context: Media, Religion, and Geopolitics 3 s.h.

Protest movements that started in Tunisia in 2011 and swept across North Africa and the Middle East transforming Arab and Islamic societies in radically different ways; function of social media, satellite television, communication technology; influence of religious leaders and groups on some protest outcomes; impact of wealth and geopolitics on social fabric of Islamic societies within and outside Arab countries. Same as JMC:3146, RELS:3834, WLLC:3834.

IS:3855 Human Rights and Islam 3 s.h.

Human rights in religious and secular discourse, seventh century to present; Islamic law, human rights law, religion, politics. GE: International and Global Issues. Same as RELS:3855.

IS:3905 Topics in Human Rights 1-3 s.h.

Examination of emerging human rights issues from an interdisciplinary and international perspective. Same as HRTS:3905.

IS:3910 Human Rights Advocacy 3 s.h.

Theoretical foundations and critical issues for international human rights advocacy and international humanitarian movements. Same as HRTS:3910.

IS:3990 Independent Study in International Studies arr.

Research on a topic of international significance. Requirements: international studies major.

IS:4131 Globalization and Culture 3 s.h.

How context for everyday experience has increasingly become globally determined (e.g., ever-increasing transnational migration of people, spread of American culture, growth of international corporations and trade, rise of international conflict and transnational activism); range of theoretical and critical readings on globalization; various phenomena and perspectives regarding topic; themes directly relevant to lives of modern youth; how globalization affects opportunities and risks, identities and relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1301, COMM:1305) and (2 of the following are required: COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2064, COMM:2065, AFAM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as COMM:4131.

IS:4653 Law and Society in Late Imperial and Modern China 3 s.h.

Survey of legal system of China and Chinese society from 1400 to 1980s. Same as HIST:4653.

IS:4990 International Studies Senior Project 3 s.h.

Prerequisites: IS:3010. Requirements: international studies major.

IS:4991 Honors Thesis in International Studies 3 s.h.

Prerequisites: IS:3010. Requirements: international studies major.

International Studies, B.A.

Learning Outcomes

Students will be able to:

- recognize that the complexity of current world conditions requires a multidisciplinary approach to problem solving,
- analyze and synthesize information about key topics related to their chosen major track,
- demonstrate intellectual open-mindedness when addressing global issues, and
- apply cross-cultural skills when engaging respectfully with people from other countries and diverse communities in the United States.

Overview

International studies students learn that the complexity of current world conditions requires a multidisciplinary approach to problem solving. Engaged faculty members help students tailor the major to their unique interests and goals in order to develop global perspectives and skills required for life and careers in the 21st century. Students choose a track, a world language, and a capstone program option. The tracks combine courses from the social sciences, humanities, and arts that focus on a world region or an important global issue. As a second major, international studies can add cross-cultural skills and perspectives to degrees in business, health sciences, journalism, and the arts.

International studies students also are encouraged to develop real-world intercultural skills by studying abroad, engaging locally with international communities, completing internships, participating in service learning, and conducting research. Through academic and cocurricular experiences, students become prepared to positively contribute to the world.

Requirements

The Bachelor of Arts with a major in international studies requires a minimum of 120 s.h., including at least 42 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major in international studies is flexible, drawing on courses across the humanities, social sciences, and the arts. Students work closely with an academic advisor to plan their program of study.

Work for the major includes two introductory courses, three foundation courses, language study beyond that required by the GE CLAS Core, requirements for one of the major's three program options (A, B, or C), and required course work in one of the major's tracks.

International studies students must complete course work from at least four different departments and/or programs; they may count a maximum of 12 s.h. from any department or program toward the major. Students may apply up to 12 s.h. of course work from each additional major, minor, or certificate they earn toward the international studies major. Transfer credit approved by the International Studies Program

may be applied to the major. Students must complete at least 15 s.h. of work for the major at the University of Iowa.

Students who earn the major in international studies and want to earn a major in global health studies can do so as long as they select a track in international studies other than the global health studies track.

The B.A. with a major in international studies requires the following course work.

Code	Title	Hours
Introductory Courses		4
Foundation Courses		9
Language Requirement		6
Track Courses		18
Program Option A, B, or C		5-7
Total Hours		42-44

Introductory Courses

Code	Title	Hours
Both of these:		
IS:1000	Designing Your International Studies Major	1
IS:2000	Introduction to International Studies	3

Foundation Courses

Students earn a minimum of 9 s.h. in foundation courses chosen from the following lists. Foundation courses provide an overview of global issues and introduce a disciplinary approach to global topics, laying the groundwork for continuing study.

Code	Title	Hours
ANTH:1101/IS:1101	Cultural Anthropology	3
ARTH:1030	Themes in Global Art	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
ENGL:2505	Introduction to Postcolonial Studies	3
IS:2020	World Events Today!	3
POLI:1400	Introduction to Comparative Politics	3
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs	3

May include one of these:

HIST:1101	The Modern World	3
HIST:3155	The World Since 1945	3

May include one of these:

GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2910	The Global Economy	3

May include one of these:

CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3
CL:1241	Major Texts of World Literature, 1700 to the Present	3

Language Requirement

All students must complete a minimum of two semesters of language study beyond that required by the GE CLAS Core [p. 459]. This additional language requirement may be met either by completing two semesters of upper-level study in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two semesters, or the equivalent, of a second world language at any level.

In fulfilling the language requirement, most students are eligible to receive an additional 4 s.h. of ungraded credit under the Furthering Language Incentive Program (FLIP). This credit may be applied to the minimum 120 s.h. required for graduation, but it does not count toward requirements for the international studies major.

Tracks

Students complete their choice of one of the major's tracks. Each track requires a minimum of 18 s.h. of course work, including at least 12 s.h. earned in courses numbered 3000 or above. Students may not count their foundation courses toward track requirements.

Students may petition the International Studies Program for permission to include a course that is not on the list of courses approved for their track; they must submit their petition by the semester's specified deadline date.

With the International Studies Program's approval, students may develop other tracks for which sufficient courses exist. Students interested in developing a unique track should discuss their ideas with the international studies advisor as soon as possible.

International studies majors completing the Certificate in Global Health Studies, International Business, or Latin American Studies or the minor in global health studies, Latin American studies, or Russian and Eastern European studies may not choose an international studies track that corresponds with those certificate(s) or minor(s).

Tracks are listed under "Tracks and Approved Courses" below.

Program Options

International studies students complete all of the requirements for one of the major's three program options: A, B, or C. Program option requirements are not interchangeable.

Program Option A

Students complete an additional 6 s.h. in courses numbered 2000-4999 chosen from a second international studies track.

Program Option B

Students complete a senior project and must take the following two courses.

Code	Title	Hours
IS:3010	Creating a Proposal for International Research	2
IS:4990	International Studies Senior Project	3

Students prepare for the senior project by completing IS:3010 Creating a Proposal for International Research, in which they learn research methodologies and prepare a project proposal. During their last year of study, they enroll in IS:4990 International Studies Senior Project and complete a semester-long individual research project that culminates in a

substantial written or creative work focusing on a topic related to course work in their track. They complete the course and project under the supervision of a faculty mentor.

Program Option C

Students complete an approved experiential learning activity (credit or noncredit), such as study abroad or related volunteer work, along with two required courses and a writing course listed below. They also submit an international studies essay during their last year. Students interested in choosing program option C should speak with the international studies advisor about procedures for the option.

Code	Title	Hours
Both of these:		
IS:2009	World Travel: Cross-Cultural Skills for International Business, Education, and Service	2
IS:2500	Working Internationally	1
One of these:		
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2690	The Art and Craft of Writing About Business	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2710	The Art and Craft of Food Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2760	The Art and Craft of Writing for Social Change	3
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2800	The Art and Craft of Writing Across Genres	3
CNW:2810	The Art and Craft of Writing with Emotion	3
CNW:2820	The Art and Craft of the Literary Essay	3
CNW:2830	The Art and Craft of Immersion Journalism	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:2850	The Art and Craft of Writing About Politics	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:4631	Advanced Essay Workshop	3
SPAN:2000	Spanish Language Skills: Writing	4
SPAN:3020/ LATS:3020	Journalistic Writing in Spanish	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3

TRNS:2000	Translation and Global Society	3
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Tracks and Approved Courses

- African Studies Track [p. 653]
- Caribbean Studies Track [p. 653]
- Development Track [p. 653]
- East Asian Studies Track [p. 654]
- European Studies Track [p. 655]
- Global Health Studies Track [p. 658]
- Global Resources and the Environment Track [p. 659]
- Global South and Diasporic Studies Track [p. 660]
- International Business Track [p. 661]
- International Communication and Information Track [p. 662]
- International Human Rights Track [p. 663]
- Islamic and Middle Eastern Studies Track [p. 663]
- Latin American Studies Track [p. 664]
- Russian, East European, and Eurasian Studies Track [p. 665]
- South Asian Studies Track [p. 666]

African Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:2136	Urban Anthropology	3
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
ARTH:1040	Arts of Africa	3
ARTH:3150	Art of West Africa	3
ARTH:3160	Themes in African Art	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
ENGL:3550/ AFAM:3550	African Literature	3
ENGL:3555/ AFAM:3555	Topics in African Cinema	3
FREN:1006	Global Sports and National Cultures	3
FREN:3130	French-Speaking Cultures	3
FREN:4015	Francophone Cinema	3-4
FREN:4080/CL:4368	Post-Colonial Literature in France	3
FREN:4110	Francophone Literature of the African Diaspora	3
HIST:1708	Civilizations of Africa	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
HIST:3745/IS:3745/ RELS:3845	Islam in Africa	4
HIST:3758/ AFAM:3758	The Ancient African Past	3

HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:4401/ CLSA:4101	Ancient Egypt and the Ancient Near East	3
HIST:4725/ GWSS:4725	Women and Gender in African History	3
IS:3200	Sustainable Development	3
IS:3555/GHS:3555/ HIST:3755	Understanding Health and Disease in Africa	3
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	arr.
POLI:3423	The Middle East: Policy and Diplomacy	3
RELS:1350/ AFAM:1250	Introduction to African American Religions	3
RELS:3808/ AFAM:3500	Malcolm X, King, and Human Rights	3

Caribbean Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3530	Caribbean Literature and Culture	3
FREN:4015	Francophone Cinema	3-4
FREN:4110	Francophone Literature of the African Diaspora	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:3758/ AFAM:3758	The Ancient African Past	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:4525	Latin American Revolution	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3163	Intermediate Steel Band	1
SPAN:4350	Twentieth-Century Spanish American Theater and Performance	3
SPAN:4390	Topics in Spanish American Literature	3

Development Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3

ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Urban Anthropology	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
CL:3222	City as Text/Text as City	3
ECON:3620	Economic Growth and Development	3
ECON:4110	International Economics	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2410	Environment and Development	3
GEOG:2910	The Global Economy	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GHS:3060	Studies in Complementary and Alternative Medicine	3
GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4230	Health Experience of Immigrants, Migrants, and Refugees	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3126	History of Globalization	3
HIST:3242	The United States in World Affairs	3-4
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	2-4
HRTS:3910/IS:3910	Human Rights Advocacy	3
IS:3199	Global Environmental Politics	3
IS:3200	Sustainable Development	3
IS:3555/GHS:3555/ HIST:3755	Understanding Health and Disease in Africa	3
JMC:3116/IS:3116	Media and Global Cultures	3
POLI:3420	Southeast Asia: Politics and Development	3

POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3424	Global Development	3
POLI:3504	Globalization	3
POLI:3516	The Politics of International Economics	3
RELS:3333/IS:3333	Economics and Islam	3
RHET:3140	Nature and Society: Controversies and Images	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

East Asian Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:3170	Peoples and Cultures of Southeast Asia	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ARTH:1070/ CHIN:1070	Asian Art and Culture	3
ARTH:2220/ ASIA:2231	Introduction to the Art of China	3
ARTH:2250/ JPNS:2250	Introduction to the Art of Japan	3
ARTH:3220/ ASIA:3219	Chinese Art and Culture	3
ARTH:3230/ ASIA:3220	Chinese Painting I: Pagodas and Palaces	3
ARTH:3260/ JPNS:3260	Japanese Painting	3
ARTH:3270/ ASIA:3270	Themes in Asian Art History	3
ARTH:3280	The Materialization of Sexuality in China and Beyond	3
CHIN:1504	Asian Humanities: China	3
CHIN:1702	Chinese Popular Culture	3
CHIN:3202	Chinese Literature: Prose	3
CHIN:3341/CL:3341	Chinese Literature: Poetry	3
CHIN:4203/CL:4203	Modern Chinese Writers	3
CHIN:4206	Transnational Chinese Cinemas	3
CL:1510/ASIA:1510	Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature	3
CL:2222/ASIA:2222/ GWSS:2222	Women in Premodern East Asian Literature	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1607	Civilizations of Asia: Korea	3-4

HIST:3650/ ASIA:3650	Chinese History from 1600 to 1911	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3
HIST:3685	Modern Korean History	3
HIST:4176	Vietnam War on Film	3-4
HIST:4610/ JPNS:4610	Japan - Age of the Samurai	3
HIST:4615/ JPNS:4615	Modern Japan	3
HIST:4617	History, Memory, and Pacific War	3
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3
HIST:4653/IS:4653	Law and Society in Late Imperial and Modern China	3
HIST:4666/ ASIA:4166	Topics in Asian History	3
IS:3200	Sustainable Development	3
JPNS:1506	Asian Humanities: Japan	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3202/CL:3204	Traditional Japanese Literature in Translation	3
JPNS:3203/CL:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3208	Japanese Film	3
JPNS:3210	Japanese Theater	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
JPNS:3601	Contemporary Japanese Culture	3
JPNS:4201/CL:4201	The Tale of Genji	3
KORE:1135	Korean Language in Culture and Society	3
KORE:1500	Asian Humanities: Korea	3
PHIL:3845/ RELS:3645	Buddhist Philosophy	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:3408	Chinese Politics and Society	3
POLI:3420	Southeast Asia: Politics and Development	3
RELS:1404/ ASIA:1040	Living Religions of the East	3
RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
RELS:3575/ ASIA:3775	East Meets West: The Western Reception of Eastern Religion	3
RELS:3655/ ASIA:3655/ HIST:3655	Zen Buddhism	3

RELS:3666	The History of a Religious and Spiritual Practice: Yoga in Asia and Beyond	3
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European Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ARTH:2340/ CLSA:2340	Introduction to Greek and Roman Art	3
ANTH:3238	Archaeology of the Iberian Peninsula	3
ANTH:3239	The Archaeology of the First Europeans	3
ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:2020	Introduction to Western Architecture	3
ARTH:2320/ CLSA:2226	Introduction to Ancient Art	3
ARTH:2420	Introduction to Medieval Art	3
ARTH:2520	Introduction to Italian Renaissance Art	3
ARTH:2740	Introduction to Northern Renaissance Art	3
ARTH:2820	Introduction to Twentieth-Century Art	3
ARTH:3197	Themes in Modern and Contemporary Art	3
ARTH:3310	Celtic and Viking Art	3
ARTH:3330/ CLSA:3227	Classical Greek Art	3
ARTH:3350/ CLSA:3232	Art of Early Rome: Patrons and Politics	3
ARTH:3360/ CLSA:3233	Art of the Ancient Roman Empire	3
ARTH:3370/ CLSA:3234	Houses, Brothels, and Tombs: Life and Death in Ancient Pompeii	3
ARTH:3390	Early Medieval Art	3
ARTH:3391	Themes in Medieval Art	3
ARTH:3400	Romanesque and Gothic Art	3
ARTH:3420	Gothic Architecture	3
ARTH:3650	Painting in the Dutch Golden Age	3
ARTH:3720	The Romantic Revolution	3
ARTH:3820	Modern Art	3
ARTH:3830	Late Modern Art	3
ARTH:3864	Nazi and Stalinist Art: Aesthetics of Power	3
ARTH:3870	History of Photography	3
CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3

CL:1241	Major Texts of World Literature, 1700 to the Present	3	ENGL:2236	Selected Early Authors	3
CL:1500/RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3	ENGL:2309	Selected British Authors Before 1900	3
CL:1600/ GWSS:1600	Wonder Woman Unleashed: A Hero for Our Times	3	ENGL:2310	Selected British Authors After 1900	3
CLSA:1010	Hero, God, Mortal: Literature of Greece	3	ENGL:2329	Topics in Modern British Literature Before 1900	3
CLSA:1020	Love and Glory: The Literature of Rome	3	ENGL:2330	Topics in Modern British Literature After 1900	3
CLSA:1117	Intrigue and Command in Ancient Rome: From Julius Caesar to Nero	3	ENGL:2338	Eighteenth-Century British Literature	3
CLSA:1181/ GHS:1181	Ancient Medicine	3	ENGL:2348	British Romanticism	3
CLSA:1340	Magic in the Ancient World	3	ENGL:2359	Victorian Literature	3
CLSA:1809	Classics and Cinema	3	ENGL:2360	Twentieth-Century British Literature	3
CLSA:1830	Greek Civilization	3	ENGL:2361	Twenty-first-Century British Literature	3
CLSA:1840	Roman Civilization	3	ENGL:2369	Topics in British Culture and Identity	3
CLSA:1875	Ancient Sports and Leisure	3	ENGL:3010	Children's Literature	3
CLSA:1883/ HONR:1883	War	3	ENGL:3216	Topics in Medieval and Renaissance Literature	3
CLSA:2016	Classical Mythology	3	ENGL:3226/ MDVL:3226	Literature and Culture of the Middle Ages	3
CLSA:2151/ HIST:2431	Roman Law, Order, and Crime	3	ENGL:3228	Literature and Culture of the Restoration	3
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3	ENGL:3236	Literature and the Culture of the Renaissance	3
CLSA:2913	Leadership in Greco-Roman Antiquity	3	ENGL:3237	Literature and Culture of Seventeenth-Century England	3
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3	ENGL:3246	16th- and 17th-Century Poetry	3
CLSA:3240/ ANTH:3277	Roman Archaeology	3	ENGL:3257	Old English Beowulf	3
CLSA:3288/ ENGL:3288	Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage	arr.	ENGL:3266	Medieval Celtic Literature	3
CLSA:3416/ RELS:3716	Greek Religion and Society	3	ENGL:3267	Medieval Norse Literature	3
CLSA:3445/ RELS:3245	Mythology of Otherworldly Journeys	3	ENGL:3276/ THTR:3276	Medieval Drama	3
CLSG:3001	Archaic and Classical Periods I	3	ENGL:3277/ THTR:3277	English Renaissance Drama	3
CLSG:3002	Archaic and Classical Periods II	3	ENGL:3286	Chaucer	3
CLSG:3003/ RELS:3003	Classical and Hellenistic Periods I	3	ENGL:3287	Shakespeare	3
CLSL:3001	Latin Literature of the Republic I	3	ENGL:3296	Milton	3
CLSL:3002	Latin Literature of the Republic II	3	ENGL:3320	Modern British Drama	3
CLSL:3003	Latin Literature of the Empire I	3	ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3
CLSL:3004	Latin Literature of the Empire II	3	ENGL:3338	Literature and Culture of the Romantic Period	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3	ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3
ENGL:2216	Selected Works of the Middle Ages	3	ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3
			ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
			ENGL:3355	British Poetry	3
			ENGL:3360	British Fiction	3
			FREN:1005	Texts and Contexts: French-Speaking World	3
			FREN:1006	Global Sports and National Cultures	3

FREN:1007	Nature/Ecology French Philosophy and Fiction	3	HIST:1025/ RELS:1225	Medieval Religion and Culture	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3	HIST:2465	Europe Since 1945	3
FREN:3030/ ARTH:3020	Paris and the Art of Urban Life	3	HIST:2483	History of Britain: Fall of Rome to the Norman Conquest	3
FREN:3120	French Civilization	3	HIST:3143	International Politics: The History of the Present	3-4
FREN:3225	Studies in Modern France	3	HIST:3190/ RELS:3190	Medieval to Modern: The Birth of Protestantism	3
FREN:3250	Topics in French Studies I	3	HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
FREN:4030	Aspects of Poetry	3-4	HIST:3409/ MDVL:3409	Medieval Civilization I	3
FREN:4080/CL:4368	Post-Colonial Literature in France	3	HIST:3410/ MDVL:3410	Medieval Civilization II	3
FREN:4100	French Cinema	3-4	HIST:3413	Early Modern Britain: The Tudor and Stuart Era	3
FREN:4433/ HIST:4433	France Under Nazi Occupation, 1940-1944	3-4	HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
FREN:4520	Versailles Under the Sun King	3-4	HIST:3475	Germany's Twentieth Century	3-4
FREN:4540/ GWSS:4540	Gender and Sexuality in French Cinema	3-4	HIST:4148	Global History as Local History: European Immigration in Iowa	1,3-4
FREN:4750	Topics in French Studies II	3	HIST:4406/ CLSA:4106	Warfare in Ancient Mediterranean Society	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4	HIST:4407	The Hellenistic World and Rome	3
GRMN:2618/ CL:2618	The Third Reich and Literature	3-4	HIST:4411/ MDVL:4411	Economic and Social History of Medieval Europe	3
GRMN:2620	Anne Frank and Her Story	3-4	HIST:4412/ MDVL:4412	History of the Medieval Church	3
GRMN:2630	German Cinema: Greatest Hits	3-4	HIST:4419/ MDVL:4419	Ancient and Medieval Science	3
GRMN:2650	German Nationalism After WWII	3-4	HIST:4421/ MDVL:4421	The Middle Ages in Film	3
GRMN:2655/IS:2600	Muslim Minorities in the West	3	HIST:4423/ MDVL:4423	Ireland in the Early Middle Ages	3
GRMN:2666/ CL:2666	Pact with the Devil	3-4	HIST:4438	Modern European Imperialism	3
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4	HIST:4441	Special Topics in European History	arr.
GRMN:2720/ HIST:2420	Germany in the World	3	HIST:4461	Twentieth-Century Europe: The Cold War and After	3
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	3-4	HIST:4466/ FREN:4466	France and Algeria from Pirates to Terrorism	3
GRMN:2775	Scandinavian Crime Fiction	3	HIST:4478	Holocaust in History and Memory	3
GRMN:2785	Cyborgs, Monsters, and the Uncanny	3	HIST:4499	First World War	3-4
GRMN:3236	German Film	3	ITAL:2550	Images of Modern Italy	3-4
GRMN:3250	Brief Texts About Big Events	3	ITAL:4350	Studies in Italian Language	3
GRMN:3405	German Cultural History	3	ITAL:4633	Dante's Inferno	3
GRMN:3501	German Writers Engaged	3	ITAL:4634	The Italian Renaissance	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3	ITAL:4667	Modern Italian Fiction	3
GRMN:3865	History of the German Language	3	ITAL:4668	Modern Italian Poetry and Theater	3
GRMN:4315	Contemporary German Civilization	3	LING:3080/ WRIT:3080	History of the English Language	3
GWSS:2651/ CLSA:2651	Gender and Sexuality in the Ancient World	3			
GWSS:4427/ HIST:4427	Society and Gender in Europe 1200-1789	3			

MUS:1800/ DPA:1800	World of the Beatles	3
PHIL:2111	Ancient Philosophy	3
PHIL:2214	Seventeenth-Century Philosophy	3
PHIL:2215	Modern Philosophy	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:3112/ HIST:3412	Medieval Philosophy	3
PHIL:3143	Existentialism and Freedom	3
PHIL:3318	Twentieth-Century Philosophy	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
PHIL:4258	Descartes	3
PHIL:4260	Spinoza and Leibniz	3
PHIL:4346	Frege and Russell	3
PHIL:4377	Wittgenstein	3
PHIL:4482	History of Ethics	3
POLI:1449	Introduction to European Politics	3
PORT:4100	Topics in Luso-Brazilian Culture	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:2775	The Bible and the Holocaust	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3340/ CLSA:3440	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
RELS:4155/ HIST:4455	Religious Conflict: Early Modern Period	3
SPAN:2400	Readings in Spanish Literature	3
SPAN:3500	Topics in Culture of the Hispanic World	3
SPAN:3600	Cultures of Spain	3
SPAN:3620	Madrid	3
SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:3840	Contemporary Spanish Short Story	3
SPAN:4650	Don Quijote	3
SPAN:4690	Topics in Spanish Literature	3
UICB:4910/ HIST:4910/ SLIS:4910	The Book in the Middle Ages	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3

Global Health Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:2164/ GHS:2164	Culture and Healing for Future Health Professionals	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ANTH:2320/ GHS:2320	Origins of Human Infectious Disease	3
ANTH:3102/ CBH:3102/ GHS:3102	Medical Anthropology	3
ANTH:3110/ GHS:3110/ NAIS:3110	Health of Indigenous Peoples	3
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:3500/ GHS:3500	Global Public Health	3
ECON:3760	Health Economics	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

GEOG:4750/ URP:4750	Environmental Impact Analysis	4	NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3	OEH:4260/ GHS:4260	Global Water and Health	3
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project	2-3	PHIL:2415/ GHS:2415	Bioethics	3
GHS:3030/ CPH:3240	Global Health Conference	1	RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
GHS:3035	Engaging in Global Health	1	RELS:2265/ GHS:2265	Hard Cases in Healthcare at the End of Life	3
GHS:3036	Ethics, Politics, and Global Health	3	RELS:2570/ GHS:2570/IS:2570	Introduction to Islamic Psychology	3
GHS:3060	Studies in Complementary and Alternative Medicine	3	RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3	RUSS:3131/ GHS:3131	Health Care and Health Reforms in Russia	3
GHS:3560	Global Garbage and Global Health	3	SOC:3510	Medical Sociology	3
GHS:3720	Contemporary Issues in Global Health	3	WLLC:1100/ CLSA:1100/ GHS:1100/ GRMN:1100/ GWSS:1100	Contraception Across Time and Cultures	3
GHS:3850/ HHP:3850	Promoting Health Globally	3	WLLC:1200/ DST:1200/ GHS:1200/ GRMN:1200	Disability and Inclusion in Film and Writing Around the World	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4	Global Resources and the Environment Track		
GHS:4001	Social Entrepreneurship and Global Health	3	Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.		
GHS:4002	Working in Global Health	3	Code	Title	Hours
GHS:4100	Topics in Global Health	1-3	ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
GHS:4120	Global Maternal and Child Health	3	ANTH:2136	Urban Anthropology	3
GHS:4230	Health Experience of Immigrants, Migrants, and Refugees	3	ANTH:2261	Human Impacts on the Environment	3
GHS:4340/ HHP:4340	Global Health and Global Food	3	ANTH:3103	Environment and Culture	3
GHS:4600	Global Health and Human Rights	2-3	ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3	ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3	ARTH:1090	Earthly Paradises: A Global History of Gardens	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3	ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
HIST:4160/ GHS:4160	History of Public Health	3	EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
HIST:4162/ GHS:4162	History of Global Health	3	GEOG:1020	The Global Environment	3
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	2-4			
HRTS:3910/IS:3910	Human Rights Advocacy	3			
IS:3555/GHS:3555/ HIST:3755	Understanding Health and Disease in Africa	3			
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3			

GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4
GEOG:4770/ GHS:4770	Environmental Justice	3
GHS:3560	Global Garbage and Global Health	3
GHS:4340/ HHP:4340	Global Health and Global Food	3
IS:3199	Global Environmental Politics	3
IS:3200	Sustainable Development	3
IS:3555/GHS:3555/ HIST:3755	Understanding Health and Disease in Africa	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
NAIS:3554	Native Histories and Endurance in the Greater Midwest	3
OEH:4260/ GHS:4260	Global Water and Health	3
POLI:2417	Comparative Environmental Policy	3
POLI:3518	Water Wars: Conflict and Cooperation	3
RELS:3976/ NAIS:3276	American Indian Environmentalism	3
RHET:3140	Nature and Society: Controversies and Images	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

Global South and Diasporic Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2136	Urban Anthropology	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3237/ MUSM:3237	Politics of the Archaeological Past	3
CL:3222	City as Text/Text as City	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2510	Selected Transnational Authors	3
ENGL:2570/ GWSS:2500/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3
ENGL:3510	Topics in Transnational Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Inter-American Studies	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3570/ CL:3570/ GWSS:3570	Transnational and Postcolonial Writing by Women	3
FREN:3130	French-Speaking Cultures	3
FREN:4015	Francophone Cinema	3-4
FREN:4080/CL:4368	Post-Colonial Literature in France	3
FREN:4090	Quebecois Literature	3
FREN:4110	Francophone Literature of the African Diaspora	3
GRMN:2650	German Nationalism After WWII	3-4
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3155	The World Since 1945	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3

HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
HIST:4438	Modern European Imperialism	3
HIST:4466/ FREN:4466	France and Algeria from Pirates to Terrorism	3
HIST:4640	Imperialism and Modern India	3
HIST:4815	Topics in the Modern Middle East	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
NAIS:3554	Native Histories and Endurance in the Greater Midwest	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
PORT:4100	Topics in Luso-Brazilian Culture	3
RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3
RELS:3808/ AFAM:3500	Malcolm X, King, and Human Rights	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:4360	The Orient in Contemporary Latin American Literature and Culture	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3

International Business Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
AMST:3051	The Office: Business Life in America	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
CHIN:3103	Business Chinese I	3
CHIN:3104	Business Chinese II	3
CLSA:2913	Leadership in Greco-Roman Antiquity	3
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3
COMM:4131/ IS:4131	Globalization and Culture	3
ECON:3345	Global Economics and Business	3

ECON:3620	Economic Growth and Development	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:4110	International Economics	3
ENTR:4100	International Entrepreneurship and Culture	1-3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
FREN:3410	Business French	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2410	Environment and Development	3
GEOG:2910	The Global Economy	3
GHS:4001	Social Entrepreneurship and Global Health	3
GRMN:2720/ HIST:2420	Germany in the World	3-4
GRMN:3214	Business German	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3242	The United States in World Affairs	3-4
HIST:4411/ MDVL:4411	Economic and Social History of Medieval Europe	3
IS:3200	Sustainable Development	3
IS:3565	Global Perspectives on Negotiation, Persuasion, and Communication	3
JPNS:3500	Japanese for Professional Purposes I	3
JPNS:3501	Japanese for Professional Purposes II	3
MGMT:3450	International Business Environment	3
MKTG:4300	International Marketing	3
POLI:2417	Comparative Environmental Policy	3
POLI:3424	Global Development	3
POLI:3504	Globalization	3
POLI:3516	The Politics of International Economics	3
RELS:3333/IS:3333	Economics and Islam	3
SPAN:3040	Business Spanish	3
SPAN:3080	Spanish for International Business	3
SPAN:3550	Doing Business in Latin America	3
SPST:3500	The Olympics	3

International Communication and Information Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:1401	Language, Culture, and Communication	3
CHIN:4206	Transnational Chinese Cinemas	3
CL:1500/RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
CL:1510/ASIA:1510	Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature	3
CL:2248/ ANTH:2248/ ASIA:2248/ CLSA:2048/ COMM:2248/ GRMN:2248/ HIST:2148/IS:2248/ LING:2248/ TRNS:2248/ WLLC:2248	The Invention of Writing: From Cuneiform to Computers	3
CL:3222	City as Text/Text as City	3
COMM:1174	Media and Society	3
COMM:1898/ LAS:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3
COMM:2052/ LAS:2052	Latin American Media	3
COMM:2086	Global Media Studies	3
COMM:4131/ IS:4131	Globalization and Culture	3
COMM:4173	Social Media, Culture, and Politics	3
COMM:4174	Communication, Technology, and National Security	3
ENGL:3182	Digital Cultures and Literacies	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
FREN:3190/ LING:3190/ SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
FREN:4890/ TRNS:4497	Techniques of Translation	3
GRMN:3200/ TRNS:3200	Literary Translation from German	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
GRMN:3865	History of the German Language	3

HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3242	The United States in World Affairs	3-4
IS:3565	Global Perspectives on Negotiation, Persuasion, and Communication	3
ITAL:4350	Studies in Italian Language	3
IWP:3191/ ENGL:3595/ WLLC:3191	International Literature Today	1,3
JMC:3116/IS:3116	Media and Global Cultures	3
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
KORE:1135	Korean Language in Culture and Society	3
LING:1010	Language and Society	3
LING:1040/ ANTH:1040	Language Rights	3
LING:1060	Languages of the World	3
LING:2900	Language, Gender, and Sexuality	3
POLI:1600	Introduction to Political Communication	3
POLI:3515	Global Communication and Politics	3
RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
SPAN:2005/ LATS:2005	Writing Global Spanish	3
SPAN:2030	Study of Language: Myths and Concepts	3
SPAN:2050/ LATS:2050	Spanish in the U.S.	3
SPAN:3020/ LATS:3020	Journalistic Writing in Spanish	3
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:3100	Structures of Spanish: Words and Sentences	3
SPAN:3130	Introduction to Bilingualism	3
SPAN:3150	Spanish Applied Linguistics	3
SPAN:3210	Cultural Storytelling	3
SPAN:4980	Advanced Translation: Spanish to English	3
SWAH:4050	Kiswahili in Cyberspace	3

TRNS:2000	Translation and Global Society	3
TRNS:3179/ CL:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
TRNS:4480	Literature and Translation	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3

International Human Rights Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3125/ GWSS:3350/IS:3350	Transnational Feminism	3
CL:1500/RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:3415	Global Criminology	3
ENGL:2570/ GWSS:2500/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3
GEOG:4770/ GHS:4770	Environmental Justice	3
GHS:4600	Global Health and Human Rights	2-3
GRMN:2620	Anne Frank and Her Story	3-4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
HIST:3106	World Events in Historical Context: Reading History Through the New York Times	3
HIST:3242	The United States in World Affairs	3-4
HIST:3644/ RELS:3644/ SOAS:3644	Gandhi and His Legacy	3
HIST:4101	History of Human Rights	3
HIST:4617	History, Memory, and Pacific War	3

HRTS:2115/IS:2115	Introduction to Human Rights	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
LAW:8570	Human Rights in the World Community	1-3
LAW:8698	Law in the Muslim World	2-3
LING:1040/ ANTH:1040	Language Rights	3
NAIS:3554	Native Histories and Endurance in the Greater Midwest	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:3430	Philosophy of Human Rights	3
PHIL:4482	History of Ethics	3
POLI:3405	Authoritarian Politics	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
RELS:2775	The Bible and the Holocaust	3
RELS:3808/ AFAM:3500	Malcolm X, King, and Human Rights	3
RELS:3855/IS:3855	Human Rights and Islam	3
SPAN:4160	Language, Justice, and the Law	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3

Islamic and Middle Eastern Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ARAB:1050	Topics in Middle East/Muslim World Studies I	3
ARAB:2025	Study Abroad: Culture and Society	1
ARAB:2050	Topics in Middle East/Muslim World Studies II	3
ARAB:3005	Culture and Resistance: The Modern Middle East	3-4
ARAB:3050	Arab Culture Through Dialects	3
ARTH:3320/ RELS:3704	Egyptian Art	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3
ARTH:3375/ RELS:3375	Birth of the Holy Land: Art and Architecture in the Ancient Middle East	3
CLSA:1181/ GHS:1181	Ancient Medicine	3

CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3
CLSA:3443/ RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSA:3445/ RELS:3245	Mythology of Otherworldly Journeys	3
GRMN:2650	German Nationalism After WWII	3-4
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:2462	Middle East and Mediterranean: Saladin to Napoleon	3
HIST:3745/IS:3745/ RELS:3845	Islam in Africa	4
HIST:3810	History of the Modern Middle East	3
HIST:4401/ CLSA:4101	Ancient Egypt and the Ancient Near East	3
HIST:4419/ MDVL:4419	Ancient and Medieval Science	3
HIST:4466/ FREN:4466	France and Algeria from Pirates to Terrorism	3
HIST:4815	Topics in the Modern Middle East	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3
RELS:2289/ CLSA:2489	Jerusalem: The Holy City	3
RELS:2570/ GHS:2570/IS:2570	Introduction to Islamic Psychology	3
RELS:2730/ AFAM:2730	African American Islam	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:3020	Religion and Politics	3
RELS:3105	The World of the Old Testament	3
RELS:3333/IS:3333	Economics and Islam	3
RELS:3340/ CLSA:3440	Recovering Eden: The Afterlife in Early Judaism and Christianity	3

RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:3855/IS:3855	Human Rights and Islam	3
RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3
RUSS:3100	West and East: Women in the Slavic World	3

Latin American Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
ARTH:3120/ LAS:3120	The Art of Ancient Mexico	3
CINE:4678/ LAS:4678/ SPAN:4810	Topics in Latin American Cinema	3
COMM:1898/ LAS:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2052/ LAS:2052	Latin American Media	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Inter-American Studies	3
FREN:1006	Global Sports and National Cultures	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
HIST:4334	Topics in American Borderlands History	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4505	Topics in Latin American History	3
HIST:4510	Colonial Latin America	3
HIST:4525	Latin American Revolution	3

LAS:2700/ COMM:2800/ IS:2700/PORT:2700/ SPAN:2700	Introduction to Latin American Studies	3
LAS:4700/ ANTH:4700/ CL:4700/HIST:4504/ PORT:4700/ SPAN:4900	Latin American Studies Seminar	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
LATS:3550	Topics in Latina/o Studies: History and Culture	1-3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
POLI:2415/ LAS:2415	Latin American Politics	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850/ SPAN:3850	Topics in Cultural Studies	3
PORT:4000	Topics in Luso-Brazilian Literature	3
PORT:4100	Topics in Luso-Brazilian Culture	3
RELS:1765/ LAS:1765/ LATS:1765	U.S. Latino Religions	3
SPAN:1700/ LATS:1700	Latino/a Literature in the U.S.	3
SPAN:1800	Contemporary Spanish American Narrative	3
SPAN:2050/ LATS:2050	Spanish in the U.S.	3
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:2500	Readings in Spanish American Literature	3
SPAN:2800	Screening Latin America	3
SPAN:2900	Music of the Hispanic World	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215	Medellin	3
SPAN:3230	Modern Mexico	3
SPAN:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:3550	Doing Business in Latin America	3
SPAN:4330	Colonial Spanish American Literature	3

SPAN:4350	Twentieth-Century Spanish American Theater and Performance	3
SPAN:4360	The Orient in Contemporary Latin American Literature and Culture	3
SPAN:4390	Topics in Spanish American Literature	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3

Russian, East European, and Eurasian Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ARTH:3864	Nazi and Stalinist Art: Aesthetics of Power	3
CL:1500/RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
CL:2700/RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
HIST:4493	Soviet Union 1917-1945	3-4
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:3410	Russian Foreign Policy	3
POLI:3413	Russian Politics	3
RUSS:1082	Youth Subcultures After Socialism	3
RUSS:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Religion and Culture of Slavs	3
RUSS:1600	The Cult of Power in Russian History	3
RUSS:2122	Cult Films of the Last Soviet Generation	3
RUSS:2131	Women in Russian Society	3
RUSS:2531/CL:2531	Topics in Russian, East European, and Eurasian Studies	arr.
RUSS:2600/CL:2600	Issues in Russian Identity: Nationalism	3
RUSS:3100	West and East: Women in the Slavic World	3
RUSS:3122/CL:3122	Tolstoy and Dostoevsky	3-4
RUSS:3124/CL:3124	Invitation to Nabokov	3-4
RUSS:3131/ GHS:3131	Health Care and Health Reforms in Russia	3

RUSS:3202/CL:3302	Russian Literature in Translation 1860-1917	3
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South Asian Studies Track

Students must complete a minimum of 18 s.h. for the track, chosen from the following list. They must include at least 12 s.h. in courses numbered 3000 or above.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2108/ GWSS:2108	Gendering India	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:3121/ GWSS:3121	Love, Marriage, and Family in India	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
ASIA:4606/ CINE:4606	Topics in Asian Cinema	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3570/ CL:3570/ GWSS:3570	Transnational and Postcolonial Writing by Women	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4
HIST:1609	India Now! A Survey from Bollywood Films to Global Terror	3-4
HIST:3644/ RELS:3644/ SOAS:3644	Gandhi and His Legacy	3
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	2-4
HIST:4640	Imperialism and Modern India	3
PHIL:3845/ RELS:3645	Buddhist Philosophy	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
RELS:1410	Introduction to Indian Religions	3
RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
RELS:3572/ ASIA:3890	Comparative Ritual	3
RELS:3575/ ASIA:3775	East Meets West: The Western Reception of Eastern Religion	3

RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3
SOAS:1502/ RELS:1502	Asian Humanities: India	3
SOAS:1620/ RELS:1620/ TRNS:1620	Bhagavad Gita: Essential Teachings of Indian Religion	3

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. International studies honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all course work for the major and in all course work that may be applied to the major.

To graduate with honors in the major, students must complete a minimum of 45 s.h. for the major (an additional 3 s.h.), including at least 15 s.h. in courses numbered 3000 or above and at least 6 s.h. in courses designated as honors courses. Students may meet this requirement in one of two ways. They may complete 21 s.h. in a single track, with at least 15 s.h. in courses numbered 3000 or above. Alternatively, students may select courses from two tracks, completing at least 12 s.h. in the first track, including 9 s.h. in courses numbered 3000 or above; and completing at least 9 s.h. in the second track, including 6 s.h. in courses numbered 3000 or above.

Honors students completing the Certificate in Global Health Studies, International Business, or Latin American Studies or the minor in global health studies, Latin American studies, or Russian and Eastern European studies may not choose an international studies track that corresponds with those certificate(s) or minor(s). Those who choose the two-track option may not choose a first track that corresponds with those certificate(s) or minor(s).

Honors students must choose program option B for the major. Instead of taking IS:4990 International Studies Senior Project, they take IS:4991 Honors Thesis in International Studies and present their research in a poster session.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

Students who intend to study abroad during their junior year should schedule an appointment during their fourth semester to meet with an advisor from International Programs Study Abroad; those who intend to study abroad during their senior

year should schedule an appointment during their sixth semester.

Before the fifth semester begins: at least the two introductory courses and one foundation course

Before the seventh semester begins: at least nine courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least 12 courses in the major, including the required research preparation course for program option B students or the first writing course for program option C students

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

International Studies, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
The International Studies Program encourages students to develop cross-cultural skills through study abroad and/or involvement with internationally-focused U.S.-based organizations. ^a		
IS:2500	Working Internationally ^b	1
Honors: thesis ^c		
Hours		1
First Year		
Fall		
ANTH:1101	Cultural Anthropology ^{d, e}	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency ^f		4 - 5
First-year seminar course with international content encouraged		1
CSI:1600	Success at Iowa	2

Major: international studies foundation course (may choose course that also satisfies GE requirements) ^{d, e} 3

Hours		16-18
Spring		
IS:1000	Designing Your International Studies Major	1
IS:2000	Introduction to International Studies ^e	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
Major: international studies foundation course (may choose course that also satisfies GE requirements) ^{d, e}		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		14-16

Second Year

Fall

Major: international studies track course	3
GE CLAS Core: Diversity and Inclusion ^g	3
GE CLAS Core: Natural Sciences without Lab ^g	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
Elective course ^h	3

Hours		16-17
Spring		
Major: upper-level international studies track course (numbered 3000 or above)		3
GE CLAS Core: Literary, Visual, and Performing Arts ^g		3
GE CLAS Core: Quantitative or Formal Reasoning ^g		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Elective course ^h		3
Hours		16-17

Third Year

Fall

Major: upper-level international studies track course (numbered 3000 or above)	3
GE CLAS Core: Historical Perspectives ^g	3
GE CLAS Core: Natural Sciences with Lab ^g	4
Major: additional World Language course ⁱ	3 - 5
Elective course ^h	2 - 3

Hours		15-18
Spring		
Major: international studies track course		3
Major: additional World Language course ⁱ		3 - 5
Elective course ^h		3
Elective course ^h		3
Elective course ^h		3
Hours		15-17

Fourth Year

Fall

Major: upper-level international studies track course (numbered 3000 or above)	3
Major: international studies program option A, B, or C course	3
GE CLAS Core: Social Sciences ^g	3

Elective course ^h	3
Elective course ^h	3
Hours	15
Spring	
Major: upper-level international studies track course (numbered 3000 or above)	3
Major: international studies program option A, B, or C course	3
Elective course ^h	3
Elective course ^h	3
Elective course ^h	3
Hours	15
Total Hours	123-134

- a Students meet regularly with the International Studies academic advisor for help in identifying experiential learning activities and integrating them into their International Studies academic plans.
- b International Studies students are encouraged to enroll in this course to explore a variety of international career opportunities. This course is required for program option C.
- c Students completing Honors in the International Studies major work with a faculty mentor to produce an honors thesis and also present their research at the spring International Studies honors poster session and graduation reception.
- d Students earn a minimum of 9 s.h. in foundation courses chosen from approved course lists.
- e Fulfills a major requirement and may fulfill a GE requirement.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i Students complete a minimum of two semesters of language study beyond that required by the General Education Program. This additional language requirement may be met either by completing two semesters of upper-level study in the same language used to fulfill the General Education Program's World Languages requirement or by completing two semesters, or the equivalent, of a second world language at any level.

Career Advancement

The flexible structure of the international studies major allows students to tailor the degree to fit a wide range of academic interests and career goals. International studies also is an ideal complement to a variety of academic degree programs and many students combine the international studies major with another major such as world languages, business, journalism, health sciences, or the arts.

International studies alumni find employment in a range of career sectors such as education, nonprofit/nongovernmental organizations (NGOs), business, government, and translation/interpreting.

Specific examples of organizations where recent graduates have found post-graduation opportunities include the International Visitor Leadership Program/U.S. Department of State (Washington, DC); Coyote Logistics (Chicago, Illinois); Peace Corps (Indonesia); International Center for Journalists (Washington, DC); English First/English Language Education (China); International Rescue Committee (Abilene, Texas); CET Study Abroad Programs (Greece); PYXERA Global (Washington, DC); Education for the Children (Guatemala);

and the Fulbright English Teaching Assistant Program (Turkey, Brazil, Malaysia, Russia).

International studies graduates also have used their cross-cultural, interdisciplinary education to win prestigious awards such as the Fulbright English Teaching Assistantship, the Gilman Scholarship, the Stanley Undergraduate Award for International Research, the Princeton in Latin America Fellowship, and the Critical Language Scholarship.

Additionally, the international studies major is excellent preparation for graduate and professional programs in law, international development, medicine, nonprofit management, higher education, public health, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

International Studies, Minor

The undergraduate minor in international studies requires a minimum of 15 s.h. in courses approved for the international studies major (see Requirements [p. 651] for the B.A. in international studies), including 12 s.h. in courses numbered 2000-4999 taken at the University of Iowa. The minor must include IS:2000 Introduction to International Studies or one of the courses listed under "Foundation Courses" below.

Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 6 s.h. from a single department or program, from the Tippie College of Business, or from a major, another minor, or a certificate toward the minor in international studies.

Foundation Courses

Code	Title	Hours
ANTH:1101/IS:1101	Cultural Anthropology	3
ARTH:1030	Themes in Global Art	3
CL:1240/CLSA:1040	Major Texts of World Literature, Antiquity to 1700	3
CL:1241	Major Texts of World Literature, 1700 to the Present	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
ENGL:2505	Introduction to Postcolonial Studies	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2910	The Global Economy	3
HIST:1101	The Modern World	3
HIST:3155	The World Since 1945	3
IS:2020	World Events Today!	3
POLI:1400	Introduction to Comparative Politics	3
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs	3

Journalism and Mass Communication

Director

- David Ryfe

Undergraduate major: journalism and mass communication (B.A.)

Undergraduate minor: mass communication

Graduate degrees: M.A. in journalism; M.A. in strategic communication; Ph.D. in mass communications

Faculty: <https://clas.uiowa.edu/sjmc/people/faculty>

Website: <https://clas.uiowa.edu/sjmc/>

The School of Journalism and Mass Communication offers an undergraduate major and minor as well as graduate degree programs. Undergraduate students in all majors may use approved journalism and mass communication courses to satisfy the Diversity and Inclusion, Historical Perspectives, Social Sciences, and Values and Culture requirements of the College of Liberal Arts and Sciences GE CLAS Core [p. 459], and the school's First-Year Seminar is designed specifically for entering undergraduate students. The School of Journalism and Mass Communication also administers the three undergraduate certificates listed below.

The school is accredited by the Accrediting Council on Education in Journalism and Mass Communications.

Certificates

The School of Journalism and Mass Communication administers the following three undergraduate certificates.

Event Planning

See the Certificate in Event Planning [p. 437] in the Catalog.

Fundraising and Philanthropy Communication

See the Certificate in Fundraising and Philanthropy Communication [p. 458] in the Catalog.

Media Entrepreneurialism

See the Certificate in Media Entrepreneurialism [p. 742] in the Catalog.

Professional Enrichment

Internships

The school encourages undergraduate majors to complete at least one internship. The school's internship coordinator helps students find appropriate positions.

Undergraduate students may earn up to a total of 4 s.h. of internship credit, but not more than 3 s.h. from one single internship, registering with appropriate faculty sponsorship for JMC:2100 Journalism Internship (1-3 s.h.). Internships do not fulfill requirements for the major, but internship credit counts toward the total journalism and mass communication credit that students may apply toward a B.A. degree (maximum of 48 s.h.). Students may take internships for no credit through CCP:1201 Academic Internship.

Students also are encouraged to pursue opportunities for journalism experience on campus through student-operated

media, including The Daily Iowan, Daily Iowan TV, and KRUI-FM radio.

Activities

The school engages in a variety of activities for the enrichment of students, faculty, and the entire campus. Speakers visit campus each year under lectureships funded by the Li Chen Fund and the M. Holly McGranahan Lecture. In addition, guest speakers are funded through the Hearst Visiting Professionals Program. Campus organizations for students include Kappa Tau Alpha (KTA), a national society honoring scholarship in journalism, the National Association of Black Journalists (NABJ), the Public Relations Student Society of America (PRSSA), and Ed on Campus (EOC).

Financial Support

More than \$200,000 in scholarships and awards is disbursed to journalism and mass communication students each year. Scholarship information and applications are available each fall. Visit Scholarships and Awards on the School of Journalism and Mass Communication website or contact the school.

Additionally, the school has a limited number of annual awards to encourage and support journalism and mass communication majors who seek an international experience or an immersive internship experience.

The school offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Journalism and mass communication students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

Programs

Undergraduate Programs of Study

Major

- Major in Journalism and Mass Communication (Bachelor of Arts) [p. 677]

Minor

- Minor in Mass Communication [p. 682]

Graduate Programs of Study

Majors

- Master of Arts in Journalism [p. 683]
- Master of Arts in Strategic Communication [p. 684]
- Doctor of Philosophy in Mass Communications [p. 685]

Facilities

The School of Journalism and Mass Communication is housed in the Philip D. Adler Journalism and Mass Communication Building. The 65,000-square-foot building has computer laboratories for audio, video, design, writing and web publishing, a resource center, and the Moeller Media Research Lab. The building also is home to offices of the Iowa High School Press Association; the Quill and Scroll Society, an international honor society for high school journalists; the University's award-winning student newspaper, The Daily

Iowan; Daily Iowan TV, a student-run newscast; and the Journal of Communication Inquiry.

Courses

Journalism and Mass Communication Courses

JMC:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

JMC:1100 Media Uses and Effects 3 s.h.

Introduction to mass communication theory as it relates to practical applications in the media industry and American society. GE: Social Sciences.

JMC:1200 Media History and Culture 3 s.h.

Historical development of journalism in the United States; cultural, historical content. GE: Historical Perspectives.

JMC:1500 Social Media Today 3 s.h.

Prehistory of social media and identification of ideas, events, and elements in ancient and historical times; earliest days of online posting and interacting; first instances of social engagement on the Web; how social media (journalism, politics, health care, romance and lifestyle, entertainment, war and terrorism, professions and jobs) affects individual areas of life, culture, and society; what's next and how social media changes lives in the future and affects the fate of humanity. GE: Values and Culture.

JMC:1600 Writing Fundamentals 1 s.h.

The importance of grammar; recognition of common errors in the student's own writing, with a focus on fixing these problems.

JMC:2010 Journalistic Reporting and Writing 4 s.h.

Fundamental skills of journalistic reporting and writing. Prerequisites: JMC:1200 with a minimum grade of C- and JMC:1100 with a minimum grade of C- and JMC:1600 and (JMC:2200 with a minimum grade of C- or JMC:2300 with a minimum grade of C-). Corequisites: JMC:2020. Requirements: journalism major.

JMC:2020 Introduction to Multimedia Storytelling 4 s.h.

Fundamental skills of multimedia storytelling, including visual and digital. Prerequisites: JMC:1200 with a minimum grade of C- and JMC:1100 with a minimum grade of C- and JMC:1600 and (JMC:2200 with a minimum grade of C- or JMC:2300 with a minimum grade of C-). Corequisites: JMC:2010. Requirements: journalism major.

JMC:2100 Journalism Internship 1-3 s.h.

Faculty-supervised professional work experience in journalism and mass communication. Prerequisites: JMC:2020 and JMC:2010. Requirements: journalism major.

JMC:2110 Internship in Event Planning 3 s.h.

Internship for event planning certificate. Prerequisites: (EVNT:3154 or JMC:3154 or SRM:3154) and (EVNT:3260 or JMC:3260 or SRM:3147). Same as EVNT:2110.

JMC:2200 Principles of Strategic Communication 3 s.h.

Theory and practice of public relations; cultural, social, organizational roles of public relations, opportunities, problems, and solutions.

JMC:2300 Principles of Journalism 3 s.h.

Understanding changes in American journalism; including factors driving this change, orientation to the contemporary landscape of journalism, and making educated guesses about the near-term future of journalism; reflection on distinctive public service mission of journalism and its adaptation to the digital age.

JMC:2500 Community Media 3 s.h.

Students learn to construct audio and visual stories in collaboration with communities; use simple smartphone tools to record and edit stories about communities in the Iowa City area; engage with examples of journalism and other forms of storytelling rooted in communities to hone narrative skills; develop an understanding of how different communities are defined—by neighborhood, by age or ethnic group, by interests, by profession, or by advocacy; and practice techniques such as active listening and perspective taking that help in developing empathy and understanding of diverse viewpoints. GE: Diversity and Inclusion.

JMC:2600 Freedom of Expression 3 s.h.

Philosophy, history, political science, and legal studies blended into a semester-long meditation on the meaning of freedom of expression, especially in the United States, and specifically on the U.S. Supreme Court; special attention given to the way in which freedom of expression enters into societal debates about benefits and challenges of diversity, and whether and how to rectify structural relationships of inequality; as students learn the history and tradition of how Americans have understood this concept, they reflect on their own perspectives and engage with others who may have different ideas from their own. GE: Diversity and Inclusion.

JMC:3100 Nonprofit and Fundraising Communication 3 s.h.

Practical experience planning and writing fundraising materials; how yearly fundraising helps approximately 1.5 million nonprofit organizations receive more than \$3 billion from individuals, foundations, and corporations to help people in need, advocate for causes, support research/arts/culture, and enhance opportunities for public and/or their members. Prerequisites: FPC:3100 or MGMT:3500. Same as FPC:3185.

JMC:3101 Fundraising Fundamentals 3 s.h.

Nonprofit organization reliance on raised funds to survive and thrive; basic concepts of fundraising for successful nonprofit organization; work with a nonprofit organization to explore basic fundraising techniques that nonprofits typically use including donor research, annual fund campaigns (phone, mail, email), capital campaigns, events, cause-related marketing, grants, planned giving, and donor stewardship; when and how to use different fundraising strategies to meet an organization's goals. Same as FPC:3100.

JMC:3110 Visual Communication 3 s.h.

History of modern visual communication from a cultural perspective; visual form, composition, spatial representation, color and other topics; in-depth study of selected artists, designers, photographers.

JMC:3115 Audience Engagement: Marketing Research in the Digital Age 3 s.h.

Solutions to problems related to communication channels, content, users, and audiences sought daily by media and communication professionals to understand what the public thinks, feels, and does about ideas, events, and trends; learn about audience needs; ways to improve or change content; systematic and methodical ways to investigate problems and figure out how best to tackle communication problems related to media content, audiences, media practice, and media institutions.

JMC:3116 Media and Global Cultures 3 s.h.

Communication as a vital component for any effort to create social change; necessary communication to reach out to target audiences—people and communities in need—from campaigns persuading communities to change knowledge, attitudes, and practices to aiding other development efforts in areas of health, education, rural development, or sustainable agricultural practices; importance of communication as an integral part to any effort aimed at creating large-scale social change. Same as IS:3116.

JMC:3121 Business of Media: Profits, People, and Power 3 s.h.

How U.S. media is managed; decision making in a current highly charged, rapidly changing media culture; how major company decision makers seek competitive advantage, and their consequent successes and failures in doing so.

JMC:3122 Digital and Gaming Culture 3 s.h.

Examination of three of the most powerful and profitable areas of today's popular media culture—sports media, video games, and digital publishing; case studies of Rockstar Games (the company that produces the Grand Theft Auto video games), formation of ESPN's sports media empire, and digital publishers' race for mobile audiences and revenue despite the rising use of ad-blocking technology.

JMC:3123 Advocacy Communication 3 s.h.

Explore how organizations, businesses, nonprofits, and grassroots groups attempt to shape public policy through use of traditional and new media, direct communication, and lobbying.

JMC:3124 Entertainment Media 3 s.h.

Explore the technological revolution as it has profoundly shaped entertainment media, analyzing the parallels and differences among a variety of digitized media (movies, music, television, books, even video games); everything has changed, from the distribution to consumption to creation.

JMC:3125 Media and Consumers 3 s.h.

Communications media in historical, political, economic contexts and their relationships with audiences; criteria for evaluating media content in relation to nature and consequences of news, entertainment, advertising.

JMC:3126 Social Media Marketing 3 s.h.

Social media marketing as an ever-changing area that seems to only grow in importance for everyone from academic institutions to nonprofits to businesses big and small; each of these entities and more has an online brand and goals that social media can help them meet.

JMC:3135 New Media and the Future of Sport 3 s.h.

Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as AMST:3198, SPST:3198.

JMC:3140 News-Editorial Problems 3 s.h.

Current issues in journalism, editing strategies; emphasis on press performance and practical problems journalists confront in their work.

JMC:3146 Arab Spring in Context: Media, Religion, and Geopolitics 3 s.h.

Protest movements that started in Tunisia in 2011 and swept across North Africa and the Middle East transforming Arab and Islamic societies in radically different ways; function of social media, satellite television, communication technology; influence of religious leaders and groups on some protest outcomes; impact of wealth and geopolitics on social fabric of Islamic societies within and outside Arab countries. Same as IS:3834, RELS:3834, WLLC:3834.

JMC:3150 Media and Health 3 s.h.

Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as CBH:3150, GHS:3150.

JMC:3154 Foundations of Event Management 3 s.h.

Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures. Same as EVNT:3154.

JMC:3165 African Americans and the Media 3 s.h.

Same as AFAM:3925.

JMC:3175 Gender and Mass Media 3 s.h.

Media images and representations of the body in terms of gender; impact on people, society; media and body image, sexuality, gender roles, gender and power, race, ethnicity, class, age; critical analysis of mediated images.

JMC:3180 Media Ethics and Diversity 3 s.h.

Application of ethical principles in journalistic decision making; consideration of potentially conflicting values, loyalties, and goals that force professional journalists to make difficult choices.

JMC:3181 The Business of Sport Communication 3 s.h.

Critical and practical approach to understanding contemporary sports media and business practices that mark it; focus on sports media industries and institutions; branding, marketing, demographic, public relations, and promotional factors that shape content. Same as SPST:3181.

JMC:3182 Sport, Scandal, and Strategic Communication in Media Culture 3 s.h.

Use of sport scandal to consider relationship between sport and media in American and global popular culture; broad range of case studies used to consider what constitutes a sport scandal, how this definition shifts in different circumstances; crucial roles media play in creating, communicating, and diffusing these crises; how phenomenon of sports scandal has intensified along with emergence of cable television, internet, and social media. Same as SPST:3182.

JMC:3183 Sport and the Media 3 s.h.

Examination of sport and media's intimate relationship; aesthetic, cultural, political, economic, and industrial factors that shape it. Same as SPST:3175.

JMC:3185 Topics in Mass Communication 2-3 s.h.

Focus on particular area, issue, approach, or body of knowledge; may include international media, media criticism, new technologies, history of documentary photography, literary journalism, media management.

JMC:3190 Classics of Sports Journalism: From Jack London to Grantland 3 s.h.

Historical examples of celebrated works of sports journalism; focus on long-form texts. Same as SPST:3180.

JMC:3210 Workshop for Secondary School Journalism/Communication Teachers 1-3 s.h.

Workshops on journalism/mass media curriculum, audio/video production, photojournalism, publication design, journalistic writing techniques, advising student publications. Same as EDTL:3026.

JMC:3260 Event Planning Workshop 3 s.h.

Hands-on experience in event planning; working with clients, conceptualizing events, lining up small and large details, promoting events via social media and other means, carrying out events, and reflecting on outcomes; meet with event planning professionals; complete individual and group projects. Same as EVNT:3260.

JMC:3270 Event Planning and the Arts 3 s.h.

Development, planning, and implementation of events with relation to the arts. Same as EVNT:3270.

JMC:3350 Journalism Topics for Nonmajors 3 s.h.

Varied journalism topics. Requirements: non-journalism major.

JMC:3360 Journalism Writing for Nonmajors 3 s.h.

Intensive writing on varied journalism topics. Requirements: non-journalism major.

JMC:3400 Specialized Reporting and Writing 3-4 s.h.

Topics may include public affairs, law, science, business, medicine, intercultural affairs, education, computer-assisted reporting. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3405 Investigative Reporting and Writing 3-4 s.h.

Enterprise reporting; emphasis on reporter as researcher, organizer, writer of complex stories in a variety of contexts. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3410 Magazine Reporting and Writing 3-4 s.h.

Finding ideas, researching, interviewing; problems of organization and style; identification of audiences and markets; development of writing skills. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3411 Radio and Television Storytelling 3-4 s.h.

Principles; gathering, writing, editing, reporting the news; techniques and concepts as a foundation for understanding, successfully writing, and delivering broadcast news. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Corequisites: JMC:3603. Requirements: journalism major.

JMC:3412 Strategic Communication Writing 3-4 s.h.

Principles and practices of persuasive writing; focus on public relations; may include editorials, op-ed pieces, magazine essays, reviews. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3413 Sports Writing 3-4 s.h.

Introduction to the history, culture, industry, and practice of sports writing. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-.

JMC:3414 Basic Elements of Book Writing: Fiction and Nonfiction 3-4 s.h.

Basic elements involved in writing a novel or a nonfiction book; students will research, write, and workshop either a nonfiction book or novel proposal; they will complete a chapter outline and one chapter from their manuscript, and constructively edit and evaluate the work of fellow classmates through individual workshop sessions; course will culminate in an author's pavilion where students will select five minutes from their chapter to read to an audience. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3415 Writing Across Cultures 3-4 s.h.

Forms of travel writing and other types of cross-cultural reporting; skills, knowledge, understandings vital to writing well about an increasingly multicultural and diverse world. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3420 Content Marketing 3-4 s.h.

Tools for creating great content, as well as tactics for getting that content in front of the right audiences with the right message at the right time. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism and mass communication major.

JMC:3460 Arts and Culture Reporting and Writing 3-4 s.h.

Writing about arts and culture in a range of formats (e.g., news, profiles, features, criticism, essays); emphasis on original reporting that draws on resources, issues, people, and events on campus and in the community, especially in visual and performing arts. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.

JMC:3470 Narrative Journalism 3-4 s.h.

Process of writing the true story; development of skills in researching, interviewing, information gathering, organization, story-telling techniques, writing final story; story publication in magazines, newspapers, journals, online. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3490 Feature Reporting and Writing 3-4 s.h.

Storytelling techniques for magazine, newspaper, website features; stylistic flair; human elements in stories; research, interviewing, and reporting. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3600 Topics in Media Production 3-4 s.h.

Analysis and solution of problems with communication strategies and/or media products; public relations, newsletter production, radio, media research, web basics, global media, interviewing, PR fund-raising. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3603 TV News Production 3-4 s.h.

Electronic news gathering (ENG); conceptualization, shooting, editing basic news packages. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Corequisites: JMC:3411. Requirements: journalism major.

JMC:3605 Editing the News 3-4 s.h.

Principles and process of editing content for publication; micro- and macroediting, headline writing, other aspects of editing. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.

JMC:3610 Graphic Design 3-4 s.h.

Problems of design, layout and production; practical and aesthetic considerations; digital techniques; creative projects. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.

JMC:3611 Web Design Basics 3-4 s.h.

Web development from the ground up; students will choose topics and build personal sites for original pieces of journalism. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.

JMC:3615 Strategic Communication Campaigns 3-4 s.h.

Development and presentation of public relations campaigns for client organizations; communication theory and research techniques applied to analyzing and solving public relations problems through objective-based strategic planning. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:3620 Applied Digital and Social Media 3-4 s.h.

Creation of original journalistic websites incorporating writing, design, and structure; contemporary online media issues. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.

JMC:3630 Photo Storytelling: Making Powerful Images 3-4 s.h.

Techniques; basic craft, location shooting, editing photographs; group critiques of assignments. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-.

JMC:3633 Philanthropy Communication in a Digital World 3-4 s.h.

World of philanthropy and nonprofit work that changes rapidly with and in response to developments in digital communications; campaigns and fundraisers driven by free agents on social networking sites as an example of how philanthropists and nonprofit workers operate in digital environment; overview of trends in areas of philanthropy and nonprofit work; practical skills to help communicate, create, and disseminate messages using multiple digital tools and social media; analysis of communication/media strategies; media production. Prerequisites: (JMC:2010 and JMC:2020) or FPC:3100 or MGMT:3500. Same as FPC:3633.

JMC:3635 Political Public Relations 3-4 s.h.

How strategic communication goals, objectives, strategies, and tactics can influence public debate on policy issues; students apply this knowledge for the benefit of a real-world client, producing a portfolio of work by the end of the semester. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism and mass communication major.

JMC:3640 Data Journalism 3-4 s.h.

How to find and tell stories using data; hands-on introduction to data visualization, data analysis and data literacy for journalists and communications professionals. Prerequisites: (JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-) or CS:2110 or IGPI:5110.

JMC:3645 Digital Storytelling 3-4 s.h.

Builds on skills learned in JMC:2020 to develop compelling multipart digital stories; focus on a range of storytelling techniques and tools to create in-depth stories that incorporate visual, audio, text, and data; students strengthen their digital storytelling skills by producing various multimedia projects, such as podcasts and digital long-form stories; project-based with opportunities to produce individual and collaborative work. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

JMC:4100 Advanced Reporting and Writing 3-4 s.h.

Project journalism; extended magazine pieces, explanatory/investigative journalism, series for newspapers, or task-force projects by entire class on a major issue, with goal of publication. Prerequisites: JMC:3490 or JMC:3412 or JMC:3400 or JMC:3410 or JMC:3405 or JMC:3411 or JMC:3460 or JMC:3415 or JMC:3470 or JMC:3413 or JMC:3611. Requirements: journalism major.

JMC:4110 Advanced Magazine Reporting and Writing: Iowa Journalist 3-4 s.h.

Development of research, writing, editing, and design skills necessary to produce an engaging *Iowa Journalist* alumni magazine; students generate effective, strategy-based copy delivered through a variety of formats including print, online, and social media; critical thinking about magazine content and design and how they relate to public relations practice. Prerequisites: JMC:3400 or JMC:3405 or JMC:3410 or JMC:3411 or JMC:3412 or JMC:3413 or JMC:3414 or JMC:3415 or JMC:3420 or JMC:3460 or JMC:3470 or JMC:3490. Requirements: journalism and mass communication major.

JMC:4130 Advanced Public Relations Writing 3-4 s.h.

Case-based study of corporate public relations practice; globalization issues, branding and integrated communication, crisis management. Prerequisites: JMC:3412. Requirements: journalism major.

JMC:4300 Advanced Photo Storytelling 3-4 s.h.

Photojournalism skills; may include documentary photography, advanced photojournalism methods and techniques. Prerequisites: JMC:3630.

JMC:4310 Advanced Media Workshop 3-4 s.h.

Journalism and mass communication skills; may include editing, broadcasting, design, multimedia. Prerequisites: JMC:3600 or JMC:3610 or JMC:3605 or JMC:3415 or JMC:3412 or JMC:3405 or FPC:3633 or JMC:3630 or JMC:3490 or JMC:3410 or JMC:3470 or JMC:3400 or JMC:3411 or JMC:3603 or JMC:3460 or JMC:3620 or JMC:3615 or JMC:3413 or JMC:3611. Requirements: journalism major.

JMC:4315 Advanced Strategic Communication 3-4 s.h.

Development and presentation of public relations campaigns for client organizations; communication theory and research techniques applied to analyzing and solving public relations problems through objective-based strategic planning. Prerequisites: JMC:3412 or JMC:3615. Requirements: journalism and mass communication major.

- JMC:4320 Advanced Television News** 3-4 s.h.
Advanced training and experience in producing, writing, and reporting television news packages and newscasts; emphasis on meeting professional standards. Prerequisites: JMC:3411 and JMC:3603. Requirements: journalism major.
- JMC:4350 Advanced Graphic Design** 3-4 s.h.
Advanced design, layout, and production; practical and aesthetic considerations; digital techniques; creative projects. Prerequisites: JMC:3610. Requirements: journalism major.
- JMC:4360 Advanced Web Design** 3-4 s.h.
Course builds upon techniques learned in JMC:3611. Prerequisites: JMC:3611. Requirements: journalism major.
- JMC:4600 Nonprofit Ethics and Governance** 3 s.h.
Tools to help identify, understand, and resolve ethical issues in nonprofit sectors; how individual beliefs and societal standards shape ethical decision making; application of ethical frameworks to classic and contemporary ethical dilemmas; how various forms of governance shape ethical behavior in organizations; case studies, readings, lectures, and guest speakers. Same as MGMT:4600.
- JMC:4900 Special Projects in Mass Communication** arr.
Research and readings to fit needs, interests of students.
- JMC:4910 Readings in Communication and Mass Communication** 1-3 s.h.
Focus on a problem or issue.
- JMC:4955 Honors Project** 3 s.h.
Independent research or project for honors students. Requirements: honors standing.
- JMC:5100 Masters Seminar** 1 s.h.
Theoretical or methodological problems in mass communication.
- JMC:5200 Topics in Strategic Communication** 3 s.h.
Various topics relevant to strategic communication.
- JMC:5235 Strategic Communications Research** 3 s.h.
Methodology of social science inquiry, the process and instruments of data gathering, evaluation of evidence, and the usefulness and appropriateness of various information sources in the service of strategic communication research; blends theory and practice.
- JMC:5237 Financial and Budget Fundamentals for Communicators** 3 s.h.
How a company operates as a business; rapid changes in international economy; important SEC documents and other sources of information on public companies; a public company's financial statements; comparison of public companies financial conditions; analysis and informed conclusions about a public company's financial condition.
- JMC:5238 Strategic Communication Campaigns** 3 s.h.
Practice of strategic communication through traditional and new media for purpose of benefiting nonprofit organizations or bringing about social change; examples and strategies from corporate, nonprofit, and social marketing campaigns; application of knowledge for benefit of real-world clients; principles and strategies applied to professional projects.
- JMC:5239 Strategic Web Video Communication** 3 s.h.
Production of video content and releasing visual stories online; tools needed to capture compelling images and edit meaningful stories; strengths and weaknesses of video storytelling using portable video cameras and affordable editing software; for graduate students who are working professionals.
- JMC:5240 Digital Strategic Communication** 3 s.h.
Exploration of information industry growth; creative processes involved in developing a blog and utilizing multimedia tools to enhance strategic messages; focus on characteristics and spread of new communication technologies and their social, economic, and political effects.
- JMC:5243 Copywriting for Strategic Communication** 3 s.h.
Focusing copy to a targeted audience to move them to action; multiple platforms where copywriting can appear; learn how professional copywriters craft motivational, persuasive messages and continuously refine their skills; build copywriting skills through weekly exercises, peer reviews, and a final portfolio.
- JMC:5248 Strategic Political Communication** 3 s.h.
Study of political communication; topics range from classic issues (agenda setting) to current debates and emerging topics associated with new media; readings address political communication in the United States.
- JMC:5266 Risk Communication** 3 s.h.
Examination of risk as a central concept in communication process; risk as intrinsically an interdisciplinary concept; literature from a wide range of disciplines and perspectives (communication, psychology, sociology, formal risk analysis); case studies drawn from issues and cultural contexts (environmental, technological or health risks, food safety risks; international military crisis or threats of terrorism, natural disasters); emphasis on comparison of European and American contexts.
- JMC:5267 Strategic Health Care Communication** 3 s.h.
Breaking down health care to basics; writing and communicating about health care in an understandable way so that hospitals, medical groups, and health care businesses can be better understood when doing business with each other as well as the public and consumers at large; health care writing and communication so consumers can understand, avoid injuries and even death from medical errors shown by studies on health literacy; how doctors and insurance companies can convey their messages in easy-to-understand way to lessen public frustration with the system.
- JMC:5269 Media Management for Strategic Communicators** 3 s.h.
Looking at media in a completely new way; focus on economics and management of competitive businesses; how modern-day businesses in the media sector succeed or fail and why; decision making, competition, and outcomes; emphasis on news media companies that operate in public glare and offer rich opportunities for critical observation.
- JMC:5270 Leadership Communication** 3 s.h.
Using communications skills effectively for leadership in the modern workplace; how technological, global, and demographic developments have combined to transform the field of strategic communications; skills necessary to be effective in an environment of collaboration, teamwork, and self-management across a variety of platforms.
- JMC:5285 Strategic Communication Externship** 3 s.h.
Externship to allow connection between academic program and professional world; enhancement of skill and knowledge.
- JMC:5300 Foundations of Strategic Communication** 3 s.h.
Introduction to the field of strategic communication.
- JMC:5400 Strategic Communication Writing** 3 s.h.
Writing workshop for M.A. strategic communication students.

- JMC:5910 Masters Tutorial** **arr.**
Topics in communication and mass communication inquiry.
- JMC:5950 Capstone Project in Strategic Communication** **3 s.h.**
Workshop of capstone projects required for graduation; for students nearing completion of M.A. in strategic communication. Requirements: M.A. in strategic communication program enrollment.
- JMC:5955 Masters Research** **arr.**
Independent research for projects, theses.
- JMC:6100 Ph.D. Seminar** **1 s.h.**
Forum on theoretical or methodological problems in mass communication.
- JMC:6210 Media Theory** **3 s.h.**
Introduction to social science theory used by communication scholars to study media and communication; use of theory to explain media and communication phenomena.
- JMC:6310 Media Methods** **3 s.h.**
Journalism and media communication research methods that involve collection and analysis of quantifiable data; surveys, content analyses, and experiments.
- JMC:6330 Reading Group** **1-3 s.h.**
Analysis and discussion of important texts.
- JMC:6333 Seminar in Media Communication** **3 s.h.**
Topics vary.
- JMC:6700 Approaches to Media Communication** **3 s.h.**
Institutional and disciplinary issues that influence media communication.
- JMC:6910 Ph.D. Tutorial** **arr.**
Communication and mass communication inquiry.
- JMC:6920 Ph.D. Research Practicum** **arr.**
Conceptualization and execution of research projects.
- JMC:6999 Dissertation** **arr.**

Journalism and Mass Communication, B.A.

Learning Outcomes

- Law and Ethics Learning Goal

Students will understand and be able to apply the principles and laws of freedom of speech and press in real space and cyberspace, and demonstrate an understanding of professional ethical principles and their historical development.

- Media Literacy Learning Goal

Students will understand the principles of media literacy and develop the skills necessary to access, analyze, evaluate, and create media messages across multiple media domains.

- Writing and Storytelling Learning Goal

Students will understand that clear, concise, and correct writing is at the heart of journalistic expression, and that reporting and communicating it effectively requires a knowledge and achievement of the highest, professionally accepted standards in all work.

- Multiculturalism Learning Goal

Students will be able to demonstrate an understanding of the diversity of groups (including communities defined by gender, race, ethnicity, age, religion, and sexual orientation) in a global society in relationship to communications.

- Media History Learning Goal

Students will understand the history of media in the context of industries and identify transformations in audiences, engagement, and business practice over time. They will grasp the significance of advances in mass communication technology for cultural production in domestic and global media markets from the printing press to the latest digital platforms. Students will trace the production of cultural meanings across historical periods as well as connections between business models and news consumption.

Overview

Media writing and visual storytelling form the core of the undergraduate major in journalism and mass communication. Students are required to take both professional and conceptual courses offered by the school; they develop professional skills while studying the historical, legal, cultural, and institutional roles of media in society. They also complete extensive academic work outside the school, consistent with the University's commitment to the liberal arts and sciences.

First-year students completing a major in journalism and mass communication are advised at the Academic Advising Center. Students who have earned 24 s.h. or more and have declared the journalism and mass communication major are advised in the School of Journalism and Mass Communication by one of the journalism and mass communication academic advisors.

Transfer Students

The School of Journalism and Mass Communication may accept transfer credit in journalism earned at institutions accredited by the Accrediting Council on Education in

Journalism and Mass Communications. A maximum of 9 s.h. of approved transfer credit may be applied to the major in journalism and mass communication. Some journalism course work taken at other schools may be used to fulfill the GE CLAS Core [p. 459] and/or second area of concentration requirements.

Students who wish to apply transfer credit toward School of Journalism and Mass Communication requirements must discuss the proposed transfer credit with a journalism advisor and must have approval from the head of undergraduate studies.

Requirements

The Bachelor of Arts with a major in journalism and mass communication requires a minimum of 120 s.h., including at least 38-39 s.h. in journalism and mass communication courses, plus a second major, certificate, or minor from the school's approved list. See "Second Major or Concentration Area" below for specific requirements. Reasonable accommodations may be made for students who wish to develop their own secondary area of concentration, which must consist of a minimum of 24 s.h., and at least 15 of the 24 s.h. must be earned in advanced courses numbered 3000 or above.

Students must maintain a g.p.a. of at least 2.00 in the major. All students must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students may count a maximum of 48 s.h. earned in School of Journalism and Mass Communication courses (prefix JMC) toward the 120 s.h. required for the degree.

Each student works with an assigned educational advisor and/or faculty advisor to develop a study plan that meets the major's requirements. Requirements for the major are consistent with the program's accreditation requirements; the school cannot make exceptions.

The B.A. with a major in journalism and mass communication requires the following course work.

Code	Title	Hours
Foundation Courses		9
	Grammar Requirement	0-1
Professional Skills Courses		8
	Reporting and Writing Courses	6
	Workshop	3
	Advanced Writing or Workshop Course	3
Conceptual Courses		9
Second Major or Concentration Area		
Total Hours		38-39

Foundation Courses

Code	Title	Hours
Both of these (completed with a grade of C-minus or higher before enrollment in the professional skills courses):		
JMC:1100	Media Uses and Effects	3
JMC:1200	Media History and Culture	3

And one of these (completed with a grade of C-minus or higher before enrollment in the professional skills courses):

JMC:2200	Principles of Strategic Communication	3
JMC:2300	Principles of Journalism	3

Grammar Requirement

Before enrollment in professional skills courses, JMC:2010 Journalistic Reporting and Writing and JMC:2020 Introduction to Multimedia Storytelling, students are required to complete one of the following:

- enroll in and successfully complete (with a grade of C-minus or higher) JMC:1600 Writing Fundamentals (1 s.h.), a five-week course covering grammar and usage rules; or
- take and successfully complete an online grammar and usage test prepared by the School of Journalism and Mass Communication. Successfully completing the test entails correctly answering 80 percent of questions on the test. The test is offered several times each semester. Students should contact the school's resource center office for more information concerning dates and how to enroll for the test. Students may take the grammar and usage test two times before being invited to enroll in JMC:1600.

Professional Skills Courses

Code	Title	Hours
Both of these (completed with a grade of C-minus or higher before enrollment in the reporting and writing and workshop courses):		
JMC:2010	Journalistic Reporting and Writing	4
JMC:2020	Introduction to Multimedia Storytelling	4

Reporting and Writing Courses

Code	Title	Hours
Two of these:		
JMC:3400	Specialized Reporting and Writing	3-4
JMC:3405	Investigative Reporting and Writing	3-4
JMC:3410	Magazine Reporting and Writing	3-4
JMC:3411	Radio and Television Storytelling	3-4
JMC:3412	Strategic Communication Writing	3-4
JMC:3413	Sports Writing	3-4
JMC:3414	Basic Elements of Book Writing: Fiction and Nonfiction	3-4
JMC:3415	Writing Across Cultures	3-4
JMC:3420	Content Marketing	3-4
JMC:3460	Arts and Culture Reporting and Writing	3-4
JMC:3470	Narrative Journalism	3-4
JMC:3490	Feature Reporting and Writing	3-4

Workshop

Code	Title	Hours
One of these:		
JMC:3600	Topics in Media Production	3-4

JMC:3603	TV News Production	3-4
JMC:3605	Editing the News	3-4
JMC:3610	Graphic Design	3-4
JMC:3611	Web Design Basics	3-4
JMC:3615	Strategic Communication Campaigns	3-4
JMC:3620	Applied Digital and Social Media	3-4
JMC:3630	Photo Storytelling: Making Powerful Images	3-4
JMC:3633	Philanthropy Communication in a Digital World	3-4
JMC:3635	Political Public Relations	3-4
JMC:3640	Data Journalism	3-4
JMC:3645	Digital Storytelling	3-4

Advanced Writing or Workshop Course

Code	Title	Hours
One of these:		
JMC:4100	Advanced Reporting and Writing	3-4
JMC:4110	Advanced Magazine Reporting and Writing: Iowa Journalist	3-4
JMC:4130	Advanced Public Relations Writing	3-4
JMC:4300	Advanced Photo Storytelling	3-4
JMC:4310	Advanced Media Workshop	3-4
JMC:4315	Advanced Strategic Communication	3-4
JMC:4320	Advanced Television News	3-4
JMC:4350	Advanced Graphic Design	3
JMC:4360	Advanced Web Design	3
JMC:4600	Nonprofit Ethics and Governance	3

Conceptual Courses

Code	Title	Hours
Both of these:		
JMC:2600	Freedom of Expression	3
JMC:3180	Media Ethics and Diversity	3
And one of these:		
JMC:3100	Nonprofit and Fundraising Communication	3
JMC:3101	Fundraising Fundamentals	3
JMC:3110	Visual Communication	3
JMC:3115	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3116	Media and Global Cultures	3
JMC:3121	Business of Media: Profits, People, and Power	3
JMC:3122	Digital and Gaming Culture	3
JMC:3123	Advocacy Communication	3
JMC:3124	Entertainment Media	3
JMC:3125	Media and Consumers	3
JMC:3126	Social Media Marketing	3

JMC:3135	New Media and the Future of Sport	3
JMC:3140	News-Editorial Problems	3
JMC:3146	Arab Spring in Context: Media, Religion, and Geopolitics	3
JMC:3150	Media and Health	3
JMC:3154	Foundations of Event Management	3
JMC:3165	African Americans and the Media	3
JMC:3175	Gender and Mass Media	3
JMC:3181	The Business of Sport Communication	3
JMC:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
JMC:3183	Sport and the Media	3
JMC:3185	Topics in Mass Communication	3
JMC:3190	Classics of Sports Journalism: From Jack London to Grantland	3
JMC:3260	Event Planning Workshop	3
JMC:3270	Event Planning and the Arts	3

Optional Journalism Electives

Students may earn elective credit by completing additional journalism and mass communication course work (prefix JMC), but they may not exceed a maximum of 48 s.h. earned in the School of Journalism and Mass Communication toward the 120 s.h. required for the degree. Credit earned in JMC:4955 Honors Project counts toward the total journalism and mass communication course work that students may apply to their degree.

Second Major or Concentration Area

Every student majoring in journalism and mass communication must complete a second major or a concentration area outside the School of Journalism and Mass Communication. Study in the second major or concentration area enables students to acquire a substantial body of knowledge or expertise in a relevant area, learn how another discipline views the world, and/or develop a companion set of skills to those in journalism and mass communication.

The Certificates in Fundraising and Philanthropy Communication, Event Planning, or Media Entrepreneurialism do not satisfy the requirement for a second major or concentration area.

Specific Requirements for the Second Major or Concentration Area

Students must complete the requirements for the journalism and mass communication major (38-48 s.h.) and must satisfy the school's second major or concentration area requirement in one of two ways.

Option 1: complete a B.A. major in another department.

Option 2: complete an undergraduate certificate or minor that is listed on the department's approved list (students may not double count courses for their journalism and mass

communication major and a certificate or minor). Students can choose from one of the following: aging and longevity studies, Native American and indigenous studies, American sign language and deaf studies, arts entrepreneurship, business administration, critical cultural competence, disability studies, entrepreneurial management, geographic information science, global health studies, human rights, international business, interscholastic athletic/activities administration, large data analysis, Latin American studies, leadership studies, medieval studies, museum studies, nonprofit management, political risk analysis, public health, risk management and insurance, social science analytics, sustainability, wind energy, or writing.

Honors

Honors in the Major

Students majoring in journalism and mass communication have the opportunity to graduate with honors in the major. Students in the school's honors program must have a g.p.a. of at least 3.50 in work for the major. To graduate with honors in the major, they complete JMC:4955 Honors Project, earning 3 s.h. of credit in work guided by a faculty member. The honors project may be a thesis or a professional project and typically is completed during the last semester of the senior year.

All majors with an overall g.p.a. of at least 3.33 are encouraged to take any journalism and mass communication course for honors credit and to make use of other honors opportunities in the school. Visit Journalism Honors Program on the school's website or contact the school's honors advisor for details.

National Honor Society

The school's chapter of Kappa Tau Alpha, the national society honoring scholarship in journalism and mass communication, was founded in 1936 and is named for former director Leslie G. Moeller. Students are considered for membership if their grade-point average places them in the top 10 percent of their class and they have completed at least five semesters of University work, including a minimum of 9 s.h. in journalism and mass communication skills courses. Contact the school's Kappa Tau Alpha advisor for details.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the journalism and mass communication major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Students must declare the journalism and mass communication major by the first semester of their sophomore year in order to be eligible for the Four-Year Graduation Plan. The checkpoints below include the required work in journalism

and mass communication plus a second concentration area, but they do not include the requirements of a second major, since the Four-Year Graduation Plan does not apply to second majors.

Before the fifth semester begins: JMC:1100 Media Uses and Effects, JMC:1200 Media History and Culture, JMC:2200 Principles of Strategic Communication or JMC:2300 Principles of Journalism, and at least one quarter of the semester hours required for graduation

Before the seventh semester begins: JMC:2010 Journalistic Reporting and Writing, JMC:2020 Introduction to Multimedia Storytelling, JMC:2600 Freedom of Expression, JMC:3180 Media Ethics and Diversity, an additional course in the major, and at least one-half of the semester hours required for graduation

During the seventh semester: one writing or workshop course, one conceptual course, and at least three-quarters of the semester hours required for graduation

During the eighth semester: one writing or workshop course, one advanced workshop course, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Journalism and Mass Communication, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^a		4 - 5
JMC:1200	Media History and Culture ^b	3
JMC:1600	Writing Fundamentals ^c	1
CSI:1600	Success at Iowa	2
Hours		13-15
Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^a		4 - 5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
JMC:1100	Media Uses and Effects ^b	3
GE CLAS Core: Natural Sciences with Lab ^d		4
Hours		14-16
Second Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^a		4 - 5
JMC:2600	Freedom of Expression ^b	3
JMC:2300 or JMC:2200	Principles of Journalism or Principles of Strategic Communication	3

Major: second program of study ^e	3
Hours	13-14

Spring

GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course ^a		
JMC:2010	Journalistic Reporting and Writing ^f	4
JMC:2020	Introduction to Multimedia Storytelling ^f	4
Major: second program of study ^e		3
Internship: begin planning to apply for internships (not required for the degree but strongly encouraged)		
Hours		15-16

Third Year

Fall

GE CLAS Core: Quantitative or Formal Reasoning ^d	3
GE CLAS Core: International and Global Issues ^d	3
Major: intermediate reporting and writing course (prefix JMC, numbered 34XX)	3
Major: second program of study ^e	3
Major: second program of study ^e	3
Hours	15

Spring

GE CLAS Core: Values and Culture ^d	3
GE CLAS Core: Natural Sciences without Lab ^d	3
JMC:3180 Media Ethics and Diversity	3
Major: intermediate workshop course (prefix JMC, numbered 36XX)	3
Major: second program of study ^e	3
Hours	15

Fourth Year

Fall

Major: intermediate reporting and writing course (prefix JMC, numbered 34XX)	3
Major: additional advanced conceptual course (prefix JMC, numbered 31XX or 32XX)	3
Major: second program of study ^e	3
Major: second program of study or elective ^e	3
Major: second program of study or elective ^e	3
Hours	15

Spring

GE CLAS Core: Literary, Visual, and Performing Arts ^d	3
Major: advanced writing or workshop course (prefix JMC, numbered 4100-4600)	3
Major: second program of study ^e	3
Major: second program of study or elective ^e	3
Major: second program of study or elective ^e	3
Hours	15
Total Hours	115-121

- a Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students must complete a grammar requirement by either completing JMC:1600 or successfully completing an online grammar and usage test before progressing to JMC:2010 and JMC:2020.

- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students must complete a second area of study. There are three options: 1. complete a second major, 2. complete a certificate on the School of Journalism and Mass Communications list of approved certificate programs (the Business Administration Minor is also on this list), or 3. complete a student-designed area of concentration, which must be approved by the SJMC and consist of a minimum of 24 s.h.; at least 15 of the 24 s.h. must be earned in advanced courses (typically numbered above 3000).
- f JMC:2010 and JMC:2020 should be taken concurrently.

Career Advancement

The major prepares students for careers in the field. Graduates find employment in a variety of areas, such as public relations, advertising, marketing, political communication, health communication, philanthropy and fundraising communication, newspapers, magazines, radio, television, online communications and social media, publication design, photojournalism, and media research.

The school's internship and assessment coordinator helps students seeking career guidance and employment opportunities. The school compiles and publicizes notices of professional jobs open to journalism and mass communication students and graduates. It also cooperates with the University's Pomerantz Career Center in providing career guidance and placement services as well as workshops and programs on seeking jobs.

Mass Communication, Minor

The minor in mass communication requires a minimum of 15 s.h. in mass communication courses, including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Courses for the minor may not be taken pass/nonpass.

Conceptual courses numbered JMC:3100 through JMC:3399 are considered advanced for the minor. Students are encouraged to take JMC:1100 Media Uses and Effects, JMC:1200 Media History and Culture, JMC:2200 Principles of Strategic Communication, JMC:2300 Principles of Journalism, JMC:2500 Community Media, JMC:2600 Freedom of Expression, or JMC:1500 Social Media Today as a lower-level course.

The minor introduces students to the field of mass communication; it does not prepare them for careers in media.

Journalism, M.A.

Requirements

The School of Journalism and Mass Communication offers a Master of Arts in Journalism. The M.A. program requires 31 s.h. with thesis. Students who plan to continue on to doctoral studies in the school can complete the required course work for the master's degree, plus one additional course, and successfully pass a qualifying examination; a thesis is not required.

Students in the M.A. program in journalism must complete the following course work. They are required to take at least two courses in the School of Journalism and Mass Communication selected from the methods, theory, or electives areas.

Code	Title	Hours
JMC:6700	Approaches to Media Communication	3
Methods Area Course		3
Theory Area Course		3
Outside Concentration Courses		9
Relevant Electives		6
Master's Seminar		4
Master's Thesis		3
Total Hours		31

For a more detailed description of the M.A. program in journalism, contact the School of Journalism and Mass Communication.

Combined Programs

M.A./J.D.

The School of Journalism and Mass Communication and the College of Law offer a combined Master of Arts in Journalism/J.D. The combined degree program allows students to count a limited amount of credit toward both degrees. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. Admission for the M.A. program in journalism is for fall entry.

For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Admission to the program is for fall entry.

Financial Support

The school offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Journalism and mass communication students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

Career Advancement

This is an academically oriented degree that prepares students for doctoral studies or a career in research.

The M.A. program is designed to meet the needs of:

- Journalism and mass communication students who have earned a bachelor's degree and wish to continue their education; M.A. students can be considered for admission into the doctoral program after completion of all their M.A. degree requirements.
- Experienced journalists or communicators who wish to prepare themselves for teaching by earning the M.A. degree, possibly continuing on to earn their Ph.D.

Strategic Communication, M.A.

Requirements

The Master of Arts program in strategic communication requires a minimum of 30 s.h. of graduate credit. Courses for the program are offered online.

The curriculum consists of core courses, electives, and a capstone project in place of a thesis. In most courses, students are encouraged to introduce case studies and projects from their workplace.

The M.A. with a major in strategic communication requires the following course work.

Core Courses

Code	Title	Hours
All of these:		
JMC:5235	Strategic Communications Research	3
JMC:5240	Digital Strategic Communication	3
JMC:5300	Foundations of Strategic Communication	3
JMC:5400	Strategic Communication Writing	3

Electives

Strategic communication students earn 15 s.h. in elective courses, which they choose in consultation with their advisors. Students select electives from the list below. They also may choose other electives that are appropriate for their individual programs, drawing from courses offered by the School of Journalism and Mass Communication and by other University of Iowa departments and programs.

Code	Title	Hours
JMC:5200	Topics in Strategic Communication	3
JMC:5237	Financial and Budget Fundamentals for Communicators	3
JMC:5238	Strategic Communication Campaigns	3
JMC:5239	Strategic Web Video Communication	3
JMC:5243	Copywriting for Strategic Communication	3
JMC:5248	Strategic Political Communication	3
JMC:5266	Risk Communication	3
JMC:5267	Strategic Health Care Communication	3
JMC:5269	Media Management for Strategic Communicators	3
JMC:5270	Leadership Communication	3
JMC:5285	Strategic Communication Externship	3

Capstone Project

Students complete the following capstone project.

Code	Title	Hours
JMC:5950	Capstone Project in Strategic Communication	3

For a more detailed description of the M.A. in strategic communication, contact the School of Journalism and Mass Communication.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applications for admission to the program are accepted all year.

Career Advancement

The strategic communication program is designed for professionals in a wide variety of areas, such as corporate and organizational communication, public relations, integrated marketing communication, advertising, political and public affairs communication, health communication, event planning, risk communication, and professional writing. The program focuses on the skills, knowledge, and experience that working professionals need, including the ability to anticipate and meet the challenges of radical change in the media landscape.

Mass Communications, Ph.D.

Requirements

The Doctor of Philosophy program in mass communications requires 72 s.h. of graduate credit. The program provides training in research methods, communication theory, and teaching skills.

The program emphasizes interdisciplinary studies, with course work and research tailored to each student's interests under the guidance of faculty members. The school offers several areas of strength to support graduate student research in both traditional and digital media:

- critical and cultural studies,
- sports and media,
- international/development studies,
- health and science communication,
- journalism studies, and
- history of media and media institutions.

Students in the Ph.D. program in mass communications must complete the following curriculum and are required to take at least two courses in the School of Journalism and Mass Communication in addition to JMC:6700 Approaches to Media Communication. These courses can be from the methods, theory, or electives areas.

Code	Title	Hours
JMC:6700	Approaches to Media Communication	3
Methods Area Courses		6
Theory Area Courses		6
Outside Concentration Courses		9
Relevant Electives		6
Ph.D. Seminar		8
JMC:6999	Dissertation	4
Credit from master's degree and/or additional Ph.D. courses		30
Total Hours		72

For a more detailed description of the Ph.D. program, contact the School of Journalism and Mass Communication.

Combined Programs

J.D./Ph.D.

The School of Journalism and Mass Communication and the College of Law offer a combined Juris Doctor/Doctor of Philosophy in mass communications. The combined degree program allows students to count a limited amount of credit toward both degrees. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. Admission for the Ph.D. program in mass communications is for fall entry.

For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Admission to the program is for fall entry.

Financial Support

The school offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Journalism and mass communication students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

Career Advancement

Students in this program prepare for careers as teachers and industry researchers.

Large Data Analysis

Chair, Department of Computer Science

- Alberto M. Segre

Coordinator, Large Data Analysis

- Suely P. Oliveira (Computer Science)

Undergraduate certificate: large data analysis

The Certificate in Large Data Analysis addresses the need for people with the quantitative and computational skills to make sense of massive data. Expertise in this field involves computational and algorithmic skills to efficiently process large data sets, statistical analysis to understand if correlations seen in large data sets are significant, and mathematical skills to develop and understand the underlying algorithms for the data analysis.

The Certificate in Large Data Analysis is administered by the Department of Computer Science [p. 274].

Programs

Undergraduate Program of Study Certificate

- Certificate in Large Data Analysis [p. 687]

Large Data Analysis, Certificate

The undergraduate Certificate in Large Data Analysis requires a minimum of 18 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students majoring in computer science, mathematics, or statistics may count a maximum of 6 s.h. of course work for their major toward the certificate. Students pursuing other majors should consult with their major advisors to ascertain whether they may count certificate course work toward their majors.

Most of the certificate courses have prerequisites not included in the certificate requirements. Students need to select courses for which they have met the prerequisites.

Some of the prerequisites (or their equivalents) for the certificate include the following.

Code	Title	Hours
CS:1210	Computer Science I: Fundamentals	4
MATH:1850 or MATH:1550	Calculus I Engineering Mathematics I: Single Variable Calculus	4
MATH:1860 or MATH:1560	Calculus II Engineering Mathematics II: Multivariable Calculus	4
MATH:2700	Introduction to Linear Algebra	4
STAT:2010 or STAT:2020	Statistical Methods and Computing Probability and Statistics for the Engineering and Physical Sciences	3

The Certificate in Large Data Analysis requires the following course work.

Code	Title	Hours
Level I		
Both of these:		
MATH:3800/ CS:3700	Elementary Numerical Analysis	3
STAT:3200/IE:3760/ IGPI:3200	Applied Linear Regression	3
Level II		
Two of these:		
CS:4700/ MATH:4860	High Performance and Parallel Computing	3
MATH:4820/ CS:4720	Optimization Techniques	3
MSCI:3200 or CS:2420 or CS:4400	Database Management Databases for Informatics Database Systems	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
Level III		
One of these:		
CS:5430	Machine Learning	3

CS:5630	Cloud Computing Technology	3
IE:4172	Big Data Analytics	3
MSCI:3500	Data Mining	3
MSCI:4480/ CS:4480/ECE:4480/ IGPI:4480	Knowledge Discovery	3
STAT:4540/ IGPI:4540	Statistical Learning	3
Capstone Course		
This course:		
CS:4740/IGPI:4740/ MATH:4740/ STAT:4740	Large Data Analysis (should be taken within 30 s.h. of graduation)	3

Latham Science Engagement Initiative

Chair, Department of Biology

- Diane C. Slusarski

Program Director, Latham Science Engagement Initiative

- Lori Adams (Biology)

Faculty: <https://latham.uiowa.edu/people/faculty>

Website: <https://latham.uiowa.edu/>

The Latham Science Engagement Initiative provides the opportunity to engage highly talented undergraduate students across science disciplines in community outreach. The program enhances research opportunities for selected undergraduate students with the goal to position students with scientific and creative ability for graduate work.

The program prepares students to communicate science in the public sphere, work in interdisciplinary settings, and demonstrate the broader impact of scientific research. Students experience the strength of interdisciplinary interactions through exposure to research in other disciplines and work with students in other science majors on group projects. In addition, they develop fluency in communicating to diverse audiences in the community.

Students selected for the program complete two courses, design and implement an outreach project, and participate in an event that highlights their achievements.

Admission

Students must apply for this program. The requirements include first-year, sophomore, or junior standing in the College of Liberal Arts and Sciences; a g.p.a. of at least 3.00; a minimum of one semester of undergraduate research experience; and an interest in speaking about science in a public forum.

The Latham Science Engagement Initiative is administered by the Department of Biology [p. 147]. For additional information, contact the Latham Science Engagement Initiative and Fellowship Program.

Courses

Latham Science Engagement Initiative Courses

LATH:3000 Latham Fellows: Science Communication Skill Building 1-2 s.h.

Provide Latham Fellows with various communication skills needed to explain scientific research to varied audiences.

LATH:3001 Latham Fellows: Science Outreach Project 2 s.h.

Guidance to Latham Fellows as they implement one individual and one group project proposed the previous fall. Prerequisites: LATH:3000. Requirements: Latham Fellow standing.

LATH:4900 Science Communication and Engagement 0 s.h.

Independent science outreach and engagement project through the Latham Science Engagement Initiative. Prerequisites: LATH:3000 and LATH:3001. Requirements: admission to the Latham Science Engagement Fellows Program.

LATH:4990 Science Communication and Engagement 1-3 s.h.

Independent science outreach and engagement project through the Latham Science Engagement Initiative. Prerequisites: LATH:3000 and LATH:3001. Requirements: admission to the Latham Science Engagement Fellows Program.

Latin American Studies

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, Latin American Studies

- Amber E. Brian (Spanish and Portuguese)

Coordinator, Latin American Studies

- Karmen R. Berger

Undergraduate minor: Latin American studies

Undergraduate certificate: Latin American studies

Faculty: <https://clas.uiowa.edu/latin-american-studies/people>

Website: <https://clas.uiowa.edu/latin-american-studies/>

The Latin American Studies Program (LASP) is an interdisciplinary program focusing on the history, society, language, art, and culture of Latinos/as in Central and South America, Mexico, the Caribbean, the United States, and elsewhere. Faculty members from across the College of Liberal Arts and Sciences participate in the Latin American Studies Program as affiliated faculty members. Other University of Iowa faculty members occasionally offer courses and participate in the program's research, study, and interdisciplinary activities.

The Latin American Studies Program prepares students for graduate study or for Latin America-related careers in business, communications, government, bilingual/bicultural education, secondary teaching, community organizing, and international work.

In addition to its instructional activity, LASP sponsors a wide variety of activities, brings scholars of Latin America to campus, and fosters institutional linkages.

Latin American Studies is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

Study Abroad

The Latin American Studies Program highly recommends, but does not require, that students have an in-depth Latin American cultural experience, usually through study abroad, before completing their undergraduate requirements.

In cooperation with International Programs Study Abroad, LASP faculty members facilitate student participation in programs in many Latin American countries. University of Iowa students may enroll in programs in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Honduras, Mexico, and Uruguay. Programs range from intensive language study to group programs with a special focus. The University of Iowa cosponsors these programs through various consortiums.

Study abroad courses may be counted toward requirements for the certificate and the minor with prior approval from a LASP director.

Financial Support

Students are encouraged to apply for a Stanley Undergraduate Award for International Research/Fieldwork through University of Iowa International Programs. The awards are given to outstanding University of Iowa undergraduates who, in close consultation with a faculty member, propose well-conceived, small-scale research or fieldwork projects that

require travel abroad. Students may conduct projects while participating in a study abroad program and may combine the award with other awards and financial assistance. For information regarding other scholarships, contact LASP advisors, International Programs staff, and the LASP director.

Activities

In addition to its instructional activity, LASP organizes a range of public programming activities each semester, including film series, photography and art exhibits, conferences, roundtable discussions, and lectures. Recent events include public lectures on community media and violence in Mexico and Colombia and on the cultural legacies of the 1960s in Latin America, and the annual Charles A. Hale Lecture in Latin American Studies.

Programs

Undergraduate Programs of Study

Minor

- Minor in Latin American Studies [p. 693]

Certificate

- Certificate in Latin American Studies [p. 694]

Courses

- Associated Courses [p. 689]
- Latin American Studies Courses [p. 691]

Associated Courses

The following courses are approved for the Latin American studies certificate and minor. Students may petition to include other courses that have significant Latin American content; consult the Latin American Studies Program.

Anthropology

Code	Title	Hours
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3

Art

Code	Title	Hours
ARTH:3120/ LAS:3120	The Art of Ancient Mexico	3

Cinematic Arts

Code	Title	Hours
CINE:4678/ LAS:4678/ SPAN:4810	Topics in Latin American Cinema	3

Communication Studies

Code	Title	Hours
COMM:1898/ LAS:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3

COMM:2052/ LAS:2052	Latin American Media	3
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Dance

Code	Title	Hours
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3

English

Code	Title	Hours
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Inter-American Studies (when content is Latin American)	3

Gender, Women's, and Sexuality Studies

Code	Title	Hours
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3

History

Code	Title	Hours
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
HIST:4334	Topics in American Borderlands History	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4505	Topics in Latin American History	3
HIST:4510	Colonial Latin America	3
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3

Latina/o Studies

Code	Title	Hours
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3
LATS:3550	Topics in Latina/o Studies: History and Culture	1-3

Music

Code	Title	Hours
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3163	Intermediate Steel Band	1

Political Science

Code	Title	Hours
POLI:2415/ LAS:2415	Latin American Politics	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3

Portuguese

Code	Title	Hours
PORT:2850/ SPAN:2850	Brazilian Narrative in Translation	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850/ SPAN:3850	Topics in Cultural Studies	3
PORT:4000	Topics in Luso-Brazilian Literature (when topic is Latin American)	3
PORT:4100	Topics in Luso-Brazilian Culture (when topic is Latin American)	3

Religious Studies

Code	Title	Hours
RELS:1765/ LAS:1765/ LATS:1765	U.S. Latino Religions	3

Spanish

Code	Title	Hours
SPAN:1700/ LATS:1700	Latino/a Literature in the U.S.	3
SPAN:1800	Contemporary Spanish American Narrative	3
SPAN:2050/ LATS:2050	Spanish in the U.S.	3
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:2500	Readings in Spanish American Literature	3
SPAN:2800	Screening Latin America	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215	Medellin	3
SPAN:3230	Modern Mexico	3
SPAN:3240	Mexico City	3
SPAN:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3

SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:3550	Doing Business in Latin America	3
SPAN:4160	Language, Justice, and the Law	3
SPAN:4330	Colonial Spanish American Literature	3
SPAN:4360	The Orient in Contemporary Latin American Literature and Culture	3
SPAN:4390	Topics in Spanish American Literature	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3
SPAN:4820/ LATS:4800	Latino/a Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3

Theatre Arts

Code	Title	Hours
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3

Rotating Topics

The focus of these courses changes from semester to semester. With prior approval, students may use these courses to satisfy requirements for the Latin American studies certificate or minor when the course focuses on Latin America.

Code	Title	Hours
ANTH:3107/ CL:3107/ENGL:3107	Literature and Anthropology	3
CINE:4618	Topics in World Cinemas	3
ENGL:4000	English Honors Seminar	3
HIST:2151	Introduction to the History Major	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3370	Topics in Literatures and Cultures	3
SPAN:4850	Topics in Cultural Studies	3
SPAN:4910	Topics in Literary Studies	3
SPAN:4920	Topics in Film Studies	3

Latin American Studies Courses

All Latin American Studies Program courses are approved for the certificate and minor.

LAS:1150 Brazilian Culture and Carnival 3 s.h.
Dance, music, historical, and social contents of Brazilian Carnival production, critical theories of performance, religious backgrounds, and theatre making in carnival parades. GE: Engineering Be Creative; Values and Culture. Same as DANC:1150.

LAS:1765 U.S. Latino Religions 3 s.h.

Beliefs and practices of U.S. Latinos and Latinas, ways that their beliefs and practices are unique and where they overlap with mainstream U.S. society; beliefs, symbols, and practices among U.S. Latinos and Latinas on national and local level; field visits to local churches and religious sites; class visitors share insights. Same as LATS:1765, RELS:1765.

LAS:1898 Introduction to Latina/o/x Communication and Culture 3 s.h.

Introduction to fundamentals of communication by and about Latina/o/x in the U.S.; Latina/o/x as one of the fastest growing demographics; how Latina/o/x history, politics, and culture remain little understood despite a longstanding and growing presence in Iowa and across the nation; historical orientation; Latina/o/x social movement and protest (e.g., Chicana/o/x movements, Young Lords Organization), institutional discourses (e.g., congressional, presidential, legal discourses), and Latina/o/x in popular culture (film, television, music, sports). GE: Diversity and Inclusion. Same as COMM:1898, LATS:1898.

LAS:2052 Latin American Media 3 s.h.

Development of media institutions, texts, and audiences across a number of Latin American countries; focus on broadcast media (radio and television) and situates them within larger historical context of 20th- and 21st-century Latin America; readings, discussions, and assignments with particular attention to influence of U.S. corporate and state interests on Latin American media; debates over cultural dependency, globalization, and hybridity in region. Same as COMM:2052.

LAS:2311 Music of Latin America and the Caribbean 3 s.h.

Folk and popular musical traditions and their social contexts in Latin America, the Caribbean; listening skills; video/film screenings. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as MUS:2311.

LAS:2415 Latin American Politics 3 s.h.

Governmental institutions, major interest groups; focus on area as a whole. GE: International and Global Issues; Social Sciences. Same as POLI:2415.

LAS:2700 Introduction to Latin American Studies 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as COMM:2800, IS:2700, PORT:2700, SPAN:2700.

LAS:2800 Screening Latin America 3 s.h.

Latin American film; histories of the four major national film industries; aesthetic and political debates surrounding the New Latin American Cinema movement of the 1960s and 1970s. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2800.

LAS:2850 Brazilian Narrative in Translation 3 s.h.

Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as PORT:2850, SPAN:2850.

LAS:3104 Immigration Politics 3 s.h.

United States immigration policy and political consequences of Latino population growth; contrast of political experiences of Latinos with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LATS:3104, POLI:3104.

LAS:3111 Health in Mexico 3 s.h.

Use of anthropological perspectives to examine disease, healing systems, and ideas about health and the body in Mexico and its diaspora; relationships between structural conditions and historical and political transformations; ideas about gender and race; chronic and acute disease in Mexico; conquest and disease; racialized bodies; sexual health; biomedicine; shamanism; immigration and health; pollution and narcoviolence; readings in English. Same as ANTH:3111, GHS:3040.

LAS:3120 The Art of Ancient Mexico 3 s.h.

Art and architecture of Mexico and Peru before Cortéz. Same as ARTH:3120.

LAS:3501 Rebel Island: A History of Cuba 3 s.h.

Cuban society and revolutionary movements since the late colonial period, including the years since 1959. Same as HIST:3501.

LAS:3508 Health in Latin America 3 s.h.

Survey of major topics in Latin American history in relation to development of medicine and public health. Same as GHS:3508, HIST:3508.

LAS:3515 Introduction to Modern Latin America 3 s.h.

Introduction to modern history of Latin America from independence movements of the early 19th century to present; topics include race and ethnicity, slave emancipation, gender, labor relations, and foreign interventions; exploration of relationship between economic, social, and political structures over time to explain difference and commonality between Latin American people and societies; focus on topics pertaining to histories of Mexico, Central America, the Caribbean, and South America. Same as HIST:3515.

LAS:3535 Inter-American Studies 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3535.

LAS:4216 Mexican American History 3 s.h.

Survey of Chicana/o (Mexican American) history from 18th century to present; Mexican American society's diverse nature, explored through class, ethnic, gender, and regional divisions. Same as HIST:4216.

LAS:4217 Latina/o Immigration 3 s.h.

Immigration experiences of people arriving in the U.S. from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the U.S. and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latino identity in the U.S. Same as HIST:4217, LATS:4217.

LAS:4502 History of Mexico 3 s.h.

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as HIST:4502, NAIS:4502.

LAS:4678 Topics in Latin American Cinema 3 s.h.

Taught in English. Prerequisites: CINE:1601. Requirements: one Spanish literature or culture course numbered above SPAN:3200 or one film studies course. Same as CINE:4678, SPAN:4810.

LAS:4700 Latin American Studies Seminar 3 s.h.

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, CL:4700, HIST:4504, PORT:4700, SPAN:4900.

LAS:4990 Independent Project in Latin American Studies arr.

Independent work completed under the supervision of Latin American studies faculty.

Latin American Studies, Minor

The undergraduate minor in Latin American studies requires a minimum of 15 s.h. in Latin American Studies Program (LASP) approved courses (see "Associated Courses" and "Latin American Studies Courses" under Courses [p. 689] in this section of the Catalog), including at least 12 s.h. of credit earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

A student may earn the minor or the certificate in Latin American studies, but not both.

Students may count a total of 6 s.h. earned for majors, certificates, and other minors toward the Latin American studies minor. Since the minor is interdisciplinary, it may include a maximum of 6 s.h. of credit from any single department or program.

Students are strongly encouraged to take either or both of these for the minor.

Code	Title	Hours
LAS:2700	Introduction to Latin American Studies	3
LAS:4700	Latin American Studies Seminar	3

Latin American Studies, Certificate

The undergraduate Certificate in Latin American Studies requires a minimum of 18 s.h. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program (except those earning an undergraduate major in international studies [p. 648] with an emphasis in Latin American studies).

A student may earn the certificate or the minor in Latin American studies, but not both.

The 18 s.h. required for the certificate must be earned in Latin American Studies Program (LASP) approved courses (see "Associated Courses" and "Latin American Studies Courses" under Courses [p. 689] in this section of the Catalog), including at least 12 s.h. of credit earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in certificate courses.

All students develop an individual certificate plan of study in close cooperation with a LASP advisor. They may count a total of 6 s.h. of credit earned for majors, minors, and other certificates toward the Certificate in Latin American Studies. In some cases, students may be able to count certificate courses toward certain GE CLAS Core [p. 459] requirements.

The Certificate in Latin American Studies requires the following course work.

Code	Title	Hours
LAS:2700	Introduction to Latin American Studies	3
LAS:4700	Latin American Studies Seminar	3
Spanish and Portuguese Courses		6
Additional Courses (excluding Spanish or Portuguese courses)		6
Total Hours		18

Students who complete the required 6 s.h. of Spanish and Portuguese course work at the University of Iowa must choose courses from the "Associated Courses" list under Courses [p. 689] in this section of the Catalog. Students also may use 6 s.h. of Spanish or Portuguese language study at any level if those hours are earned through an approved study abroad program in Latin America. Contact the Latin American Studies Program for prior approval of a study abroad program.

The required 6 s.h. of additional courses also must be chosen from the "Associated Courses" and "Latin American Studies Courses" lists under Courses [p. 689] in this section of the Catalog. They may not include Spanish or Portuguese courses (prefix PORT or SPAN).

Study Abroad

The program highly recommends study abroad in Latin America. Students must have prior approval to apply credit from a study abroad program toward the certificate requirements; contact the Latin American Studies Program.

Latina/o Studies

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, Latina/o Studies

- Rene R. Rocha (Political Science)

Coordinator, Latina/o Studies

- Karmen R. Berger

Undergraduate minor: Latina/o studies

Faculty: <https://clas.uiowa.edu/latina-latino-studies/people>

Website: <https://clas.uiowa.edu/latina-latino-studies/>

Latina/o studies offers an interdisciplinary perspective on the history, culture, politics, and experiences of the Latina/o population in the United States. This population is now the largest minority group in the United States, and by the year 2060, it is expected that approximately one third of the U.S. population will be Latina/o. Latina/o studies courses introduce the peoples who have had a long-term presence in the United States and in the Midwest and who are increasingly neighbors, classmates, and coworkers.

The Latina/o studies minor helps to prepare undergraduates for careers in medicine, public health, social work, business, education, and the arts, and to respond to the changing demographics of the United States.

Latina/o studies is one of the academic units in the Division of Interdisciplinary Programs [p. 333].

Programs

Undergraduate Program of Study

Minor

- Minor in Latina/o Studies [p. 697]

Courses

Latina/o Studies Courses

LATS:1700 Latino/a Literature in the U.S. 3 s.h.

Introduction to growing cultural production of varied Latino communities (e.g., Chicano, Puerto Rican American/Nuyorican, Cuban American) that have a strong presence in the United States; recent cultural production from borderland transcultural spaces with physical, cultural, economic, political, and mythical elements; visions of the United States from contemporary Latin American writers who recently have become U.S. residents. Taught in English. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as SPAN:1700.

LATS:1765 U.S. Latino Religions 3 s.h.

Beliefs and practices of U.S. Latinos and Latinas, ways that their beliefs and practices are unique and where they overlap with mainstream U.S. society; beliefs, symbols, and practices among U.S. Latinos and Latinas on national and local level; field visits to local churches and religious sites; class visitors share insights. Same as LAS:1765, RELS:1765.

LATS:1898 Introduction to Latina/o/x Communication and Culture 3 s.h.

Introduction to fundamentals of communication by and about Latina/o/x in the U.S.; Latina/o/x as one of the fastest growing demographics; how Latina/o/x history, politics, and culture remain little understood despite a longstanding and growing presence in Iowa and across the nation; historical orientation; Latina/o/x social movement and protest (e.g., Chicana/o/x movements, Young Lords Organization), institutional discourses (e.g., congressional, presidential, legal discourses), and Latina/o/x in popular culture (film, television, music, sports). GE: Diversity and Inclusion. Same as COMM:1898, LAS:1898.

LATS:2005 Writing Global Spanish 3 s.h.

Spanish in the digital age; linguistic varieties of Spanish spoken globally; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2005.

LATS:2040 Spanish for Heritage Speakers 3 s.h.

Development of reading and writing skills for bilingual students who have acquired listening and speaking skills in Spanish; review of grammar and registers of use. Same as SPAN:2040.

LATS:2050 Spanish in the U.S. 3 s.h.

Issues related to Spanish in the United States; aspects of linguistics and sociolinguistics inherent to the existence and proliferation of Spanish in the United States. Taught in English. Same as SPAN:2050.

LATS:2280 Introduction to Latina/o Studies 3 s.h.

Introduction to field of Latina/o studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o populations (Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). GE: Diversity and Inclusion. Same as HIST:2280, SPAN:2280.

LATS:2400 Health Disparities and Intersectionality with U.S. Latina/o Peoples 3 s.h.

Exploration of intersectionality (related to gender, immigration status, and more) and U.S. health disparities, particularly as they impact U.S. Latina/o peoples; Latina/o as a heterogeneous group, originating from a variety of countries, with families that may have mixed immigration, education, class, and/or nationality status; public health approaches and concepts; intersectionality, social determinants of health, the Social Ecological Model, Ecosocial Theory, and Critical Race Theory; examination of various levels of racism, sexism, and other forms of intersectional discrimination. Same as CPH:2240, GWSS:2400.

LATS:3000 Writing Skills for Heritage Speakers 3 s.h.

Development of writing skills in Spanish, focus on expository writing for academic purposes. Requirements: at least two courses taught in Spanish at the 2000 level or above. Same as SPAN:3000.

LATS:3020 Journalistic Writing in Spanish 3 s.h.

Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as SPAN:3020.

LATS:3104 Immigration Politics 3 s.h.

United States immigration policy and political consequences of Latino population growth; contrast of political experiences of Latinos with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LAS:3104, POLI:3104.

LATS:3400 Chicano Literature and Culture 3 s.h.

Recent fiction and poetry by Chicano and Chicana writers; readings in Spanish and English. Taught in English. Requirements: satisfaction of GE CLAS Core Interpretation of Literature, or LATS:2280 or SPAN:2280 or HIST:2280. Same as SPAN:3400.

LATS:3440 Topics in Latino/a Literature and Culture 3 s.h.

Examination of special topics in interdisciplinary field of Latina/o studies. Taught in Spanish or English. Requirements: one course taught in Spanish at the 2000 level or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as SPAN:3440.

LATS:3550 Topics in Latina/o Studies: History and Culture 1-3 s.h.

Historical and cultural approaches; topics vary.

LATS:3551 Topics in Latina/o Studies: Comparative and Transnational 1-3 s.h.

Comparative and transnational approaches; topics vary.

LATS:4217 Latina/o Immigration 3 s.h.

Immigration experiences of people arriving in the U.S. from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the U.S. and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latino identity in the U.S. Same as HIST:4217, LAS:4217.

LATS:4800 Latino/a Popular Culture 3 s.h.

Role of Latino/a popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Taught in English. Requirements: either one literature or culture course taught in Spanish numbered SPAN:3200 or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as SPAN:4820.

LATS:4990 Independent Project in Latina/o Studies arr.

Independent work under the supervision of Latina/o studies faculty.

Latina/o Studies, Minor

The undergraduate minor in Latina/o studies (Latina/Latino studies) requires a minimum of 15 s.h. Additionally, 12 s.h. of course work must be taken at the University of Iowa, with a maximum of 3 s.h. accepted as transfer credit from another institution. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate may be counted toward the minor.

The minor in Latina/o studies requires the following course work.

Code	Title	Hours
Foundation Course		3
Historical and Cultural Approaches Courses		6
Comparative and Transnational Topics Course		3
One additional course from the Historical and Cultural Approaches list or the Comparative and Transnational Topics list or LATS:4990		3
Total Hours		15

Foundation Course

Code	Title	Hours
This course:		
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o Studies	3

Historical and Cultural Approaches

Code	Title	Hours
At least 6 s.h. from these:		
COMM:1898/ LAS:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
GWSS:2400/ CPH:2240/ LATS:2400	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3
LATS:3550	Topics in Latina/o Studies: History and Culture	1-3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
RELS:1765/ LAS:1765/ LATS:1765	U.S. Latino Religions	3
SPAN:1700/ LATS:1700	Latino/a Literature in the U.S.	3
SPAN:2040/ LATS:2040	Spanish for Heritage Speakers	3
SPAN:2050/ LATS:2050	Spanish in the U.S.	3
SPAN:3000/ LATS:3000	Writing Skills for Heritage Speakers	3

SPAN:3020/ LATS:3020	Journalistic Writing in Spanish	3
SPAN:3091	Spanish Creative Literacy Outreach	1
SPAN:3110	Spanish Sound Structure	3
SPAN:3130	Introduction to Bilingualism	3
SPAN:3170	Introduction to Spanish Language Acquisition	3
SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:4820/ LATS:4800	Latino/a Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3

Comparative and Transnational Topics

Code	Title	Hours
One of these:		
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
ANTH:3142	American Cultures	3
CRIM:3416	Race, Crime, and Justice	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Inter-American Studies	3
HIST:4221	The Frontier in American History 1840-Present	3
HIST:4334	Topics in American Borderlands History	3
LATS:3551	Topics in Latina/o Studies: Comparative and Transnational	3
PHIL:3342	Multiculturalism and Toleration	3
POLI:1900	Introduction to the Politics of Race	3
SPAN:2005/ LATS:2005	Writing Global Spanish	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3

Additional Course

Students select an additional 3 s.h. course from the "Historical and Cultural Approaches" list or the "Comparative and Transnational Topics" list or take LATS:4990 Independent Project in Latina/o Studies.

Linguistics

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Chair, Department of Linguistics

- Jill N. Beckman

Undergraduate major: linguistics (B.A.)

Undergraduate minor: linguistics

Graduate degrees: M.A. in linguistics; Ph.D. in linguistics

Faculty: <https://clas.uiowa.edu/linguistics/people/faculty>

Website: <https://clas.uiowa.edu/linguistics/>

Linguistics is the scientific study of human languages, which are highly complex systems. Areas of study include word structure (morphology), speech sounds (phonetics) and their patterns of combination and contrast (phonology), sentence structure (syntax), and meaning relations (semantics).

Linguists study well-known and familiar languages, such as English, Spanish, Russian, and Chinese. They also study less well-known languages and even those languages about which little has been discovered. While human languages are different from one another in many ways, there are broad similarities among them, supporting the idea that the capacity for language is part of human cognitive functions.

The description of formal patterns of human language has a number of applications. Linguistics is connected to psychology and to speech and hearing, in studying how children learn language, how speakers process and interpret language, and how injuries and disorders affect both production and perception of speech. Linguistics also is linked with anthropology and other social sciences in studying how language use relates to culture, region, class, and gender. Linguists collaborate with computer scientists to construct computational representations of syntax and semantics for processing natural languages.

Linguistics has important ties with instruction in world languages and in English as a second language (ESL). Studies of how languages are learned are based in part on analysis of the languages in question. They also are grounded strongly in theories of second language acquisition, which in turn are related to theories of how linguistic knowledge is represented in the mind.

People with linguistic training teach ESL and help clinicians retrain people with linguistic disabilities. Some help design school programs for minority groups or intelligence and achievement tests. Linguists also work in occupations related to law, the computer industry, and world languages.

High scores on verbal, analytic, and quantitative aptitude tests are indicators of success in linguistics. Although few aspects of the field deal with numbers, students must be able to reason logically and explicitly and deal with formulas and abstract symbols.

The Department of Linguistics is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 336].

Related Certificate

Cognitive Science of Language

The Graduate College offers the Certificate in Cognitive Science of Language. Designed to complement doctoral study, the certificate program ensures that students have training in interdisciplinary approaches to the study of language along with strong theoretical grounding in their Ph.D. discipline. See the Certificate in Cognitive Science of Language [p. 1452] in the Catalog for more information.

Programs

Undergraduate Programs of Study

Major

- Major in Linguistics (Bachelor of Arts) [p. 702]

Minor

- Minor in Linguistics [p. 706]

Graduate Programs of Study

Majors

- Master of Arts in Linguistics [p. 707]
- Doctor of Philosophy in Linguistics [p. 708]

Facilities

The Department of Linguistics has a laboratory equipped with 20 computer workstations for small group instruction, individual work, and student research in speech analysis, second language acquisition, computational linguistics, and other areas. The department also has a soundproof booth connected to a computer with software for speech analysis. Remote terminals and personal computers also are available to students.

The departmental reading room, which contains a modest library, provides a common meeting place for faculty and students.

Courses

Linguistics Courses

LING:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

LING:1003 English Grammar 3 s.h.

Recognizing nouns, verbs, adverbs, adjectives, and other parts of speech; sentence analysis; subjects, objects; types of sentences; passives, relative clauses; for students with little or no background in English grammar study. Does not count toward the linguistics major. Same as WRIT:1003.

LING:1010 Language and Society 3 s.h.

Correlations between social and linguistic behavior; methods for discovering and describing socially significant language behavior; educational and political implications of findings. GE: Social Sciences.

- LING:1030 English Words** 3 s.h.
English word formation, basic units of English vocabulary; vocabulary skill expansion; word structure. Same as WRIT:1030.
- LING:1040 Language Rights** 3 s.h.
Language minorities and linguistic human rights in the United States and worldwide; language and identity, culture, power; case studies of language rights deprivation. GE: International and Global Issues. Same as ANTH:1040.
- LING:1050 Language and Formal Reasoning** 3 s.h.
Semantics and sentence structure of English; word meanings, meaning connected to truth conditions, reasoning based on logical connectives and quantifiers, evaluation of valid and invalid arguments. GE: Quantitative or Formal Reasoning.
- LING:1060 Languages of the World** 3 s.h.
Overview of structural similarities and differences in human language; survey of the world's major language families; emphasis on sentence and word structure, sound systems, and modes of classification. GE: Social Sciences.
- LING:2010 Research Practicum** arr.
Individual participation in faculty research projects.
- LING:2090 Special Project** arr.
- LING:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.
Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, TRNS:2248, WLLC:2248.
- LING:2900 Language, Gender, and Sexuality** 3 s.h.
Gender-related language variation; current research on gender-specific linguistic forms and usage in the United States and other language communities; introduction to relevant principles of linguistic theory and analysis. GE: Values and Culture.
- LING:3001 Introduction to Linguistics** 3 s.h.
Introduction to the study of human language: sounds and their contrasts and variation, words and meaningful subunits, sentence structure, historical change.
- LING:3005 Articulatory and Acoustic Phonetics** 3 s.h.
Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as SLA:3400.
- LING:3010 Syntactic Analysis** 3 s.h.
Introduction to sentence structures and basic abstract relations that characterize them, including word category, word order, hierarchical organization; problem sets from English and other languages as basis for discussion, analysis. Offered spring semesters. Prerequisites: LING:3001.
- LING:3020 Phonological Analysis** 3 s.h.
Introduction to analysis of sound systems; generative phonological theory; practice in phonological analysis using data from a variety of languages. Offered spring semesters. Prerequisites: LING:3001 and LING:3005.
- LING:3030 Child Language-Linguistic Perspectives** 3 s.h.
Linguistic theory as applied to first-language learning, including acquisition of sounds, syntax and word meaning, acquisition strategies, properties of input, theories of first-language acquisition. Prerequisites: LING:3001.
- LING:3040 Topics in Linguistics** 3 s.h.
Varied topics in linguistics; for undergraduates.
- LING:3080 History of the English Language** 3 s.h.
Development of phonological and grammatical structure of English, from Old to Modern English; dialectal differentiation in English. Same as WRIT:3080.
- LING:3116 Basic Neuroscience for Speech and Hearing** 3 s.h.
Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as CSD:3116.
- LING:3117 Psychology of Language** 3 s.h.
Introduction to scientific study of language use; language approached from a multidisciplinary perspective, integrating theories and methods of psycholinguistics, neuropsychology, and communication sciences and disorders. GE: Social Sciences. Same as CSD:3117.
- LING:3118 Language Acquisition** 1-3 s.h.
Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Requirements: for CSD:3118—LING:3001 and PSY:1001; for LING:3118—LING:3001 or LING:3117. GE: Social Sciences. Same as CSD:3118.
- LING:3190 Psycholinguistic Aspects of Bilingualism** 3-4 s.h.
Interaction of two languages in a bilingual in terms of sound system, words, and grammar; different meanings of bilingualism, how bilingualism and multilingualism can change across lifespan. Taught in English. Requirements: linguistics or language acquisition course. Same as FREN:3190, SPAN:3190.
- LING:3302 Introduction to Chinese Linguistics** 3 s.h.
Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as CHIN:3302, SLA:3302.
- LING:3670 Language Processes** 3 s.h.
Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: (PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-) or CSD:1015 or LING:3001. Same as PSY:3670.
- LING:4010 Undergraduate Practicum in Teaching English as a Second Language** 3 s.h.
Practicum experience for undergraduate linguistics majors with an emphasis in teaching English as a second language (TESL); readings and reflection on academic writing, international student writing, and providing feedback on written work; training in the policies and procedures of the Department of Rhetoric's Writing Center; mentored experience in working with international student writers. Prerequisites: LING:3005 and LING:4040. Corequisites: LING:4050. Requirements: undergraduate major in linguistics with TESL emphasis.

LING:4020 Morphology 3 s.h.

Lexicon and principles of word formation; principal processes of inflection, derivation, and compounding found in the world's languages; relation to phonology, syntax; practice in morphological analysis from a variety of languages. Prerequisites: LING:3001.

LING:4040 The Structure of English 3 s.h.

Descriptive analysis of English, including word and sentence structure; focus on relevance to teaching English as a second language. Offered fall semesters. Prerequisites: LING:3001.

LING:4050 Methods of Teaching English as a Second Language 3 s.h.

Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: LING:3005 and LING:4040. Same as SLA:4401.

LING:4070 Introduction to the Study of Meaning 3 s.h.

Introduction to the study of meanings and language use in context; meaning outside the literal semantic interpretation of words used including presuppositions and goals of speaker, expectation of listener, speech acts, conversational implicatures, deixis, discourse functions, and other relevant topics. Taught in English. Prerequisites: LING:3001. Same as FREN:4070.

LING:4090 Practical Phonetics 3 s.h.

Contemporary articulatory and acoustic research, including second-language acquisition, elicitation and computer analysis of primary linguistic data. Prerequisites: LING:3005.

LING:4589 Philosophy of Language 3 s.h.

Main issues in contemporary philosophy of language; topics may include theories of meaning, truth, belief, interpretation, translation, speech acts, performatives, rule following, reference, naming, propositional attitudes, metaphor. Same as PHIL:4589.

LING:5000 Proseminar: Morphosyntax 1 s.h.

Basic morphological analysis of languages other than English; morphological markers of syntactic relations (morphosyntax), such as case/agreement, possession, switch reference and other inflectional marking. Corequisites: LING:5010.

LING:5010 Introduction to Syntax 3 s.h.

Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: LING:5000. Same as SLA:5010.

LING:5020 Introduction to Phonology 3 s.h.

Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: LING:3005. Same as SLA:5020.

LING:5030 First Language Acquisition 3 s.h.

Child language from a crosslinguistic perspective. Prerequisites: LING:3005 and (LING:4040 or LING:5010). Same as SLA:5401.

LING:5040 Linguistic Field Methods 3 s.h.

Collection and analysis of primary linguistic data from unfamiliar language; methods of elicitation, theory, practical problems; extensive practice in eliciting data from a consultant. Prerequisites: LING:3005 and LING:5010. Requirements: a course in syntax and a course in phonology.

LING:5070 Practicum in Teaching English as a Second Language 3 s.h.

Practical experience in TESL, observation and participation in intensive English classes; design and teaching of ESL classes under supervision. Offered summer sessions. Prerequisites: LING:4050.

LING:5090 Special Projects arr.

Theoretical and applied topics.

LING:6010 Syntactic Theory 3 s.h.

Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: LING:5010. Same as SLA:6010.

LING:6020 Phonological Theory 3 s.h.

Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: LING:5020. Same as SLA:6011.

LING:6040 Linguistic Structures 3 s.h.

Grammatical and/or phonological structure of a selected language or language family.

LING:6050 Language Universals Linguistic Typology 3 s.h.

Proposed universal principles of linguistic structure; approaches to classification of languages on the basis of grammatical and phonological structure. Prerequisites: LING:5010.

LING:6080 Topics in Second Language Acquisition 3 s.h.

Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: (LING:3010 or LING:5010) and (LING:3020 or LING:5020). Same as SLA:6452.

LING:6101 Cognitive Science of Language Proseminar I 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6101, PSY:6101.

LING:6102 Cognitive Science of Language Proseminar II 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6102, PSY:6102.

LING:6190 Topics in Comparative Romance Linguistics 3 s.h.

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Recommendations: additional graduate course work in linguistics. Same as SLA:6302, SPAN:6190.

LING:6415 Seminar: Language, Gender, and Sexuality 3 s.h.

Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as ANTH:6415, GWSS:6415.

- LING:6900 Master's Thesis** **arr.**
- LING:7000 Seminar: Spanish Linguistics** **3 s.h.**
Same as SPAN:7000.
- LING:7010 Advanced Syntactic Theory** **2-3 s.h.**
Recent developments in syntax; comparison of theories, argumentation, and uses of data. Prerequisites: LING:6010. Same as SLA:7401.
- LING:7040 Topics in Linguistic Theory** **2-3 s.h.**
Varied topics in linguistic theory; for graduate students.
- LING:7090 Seminar: Problems in Linguistics** **2-3 s.h.**
Intensive study of theoretical and practical problems. Same as SLA:7404.
- LING:7100 Special Projects** **arr.**
- LING:7900 Ph.D. Thesis** **arr.**

Linguistics, B.A.

Learning Outcomes

Students will have the:

- ability to identify generalizations in language data ,
- ability to apply theoretical concepts to the analysis of language,
- understanding of and ability to use scientific method,
- ability to present a valid and sound argument , and
- ability to identify the empirical shortfalls of a linguistic analysis and think creatively about alternative solutions.

Linguistics as a discipline inquires into the fundamental nature of human language. The ability to learn and speak a language is unique to humans, and language is intrinsic to the human mind, as well as integral to human society. The study of linguistics at the undergraduate level teaches students how to analyze languages, which are highly structured in ways that most people are not consciously aware of.

Undergraduate courses in the linguistics major teach a vocabulary of concepts and notation for analyzing language, and a process of analytical reasoning for applying the concepts to forms from specific languages. Students who major in linguistics achieve an informed awareness of language which has applications to many other fields, as well as preparation for continuing in linguistics and other fields which focus on language. The curriculum also provides an introduction to the kind of arguments used in scientific reasoning, using data and techniques which are perhaps more easily accessible to undergraduates than the kind used in laboratory sciences.

Overview

Depending on their vocational goals, students planning to major in linguistics should consider pursuing their studies either through the M.A. in linguistics with a professional focus or through the Ph.D., or they should complete a second major. Appropriate companion fields include languages, anthropology, computer science, English, mathematics, philosophy, psychology, sociology, speech pathology, and elementary and secondary education.

Requirements

The Bachelor of Arts with a major in linguistics requires a minimum of 120 s.h., including 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major in linguistics prepares students to do basic language analysis in syntax-semantics (sentence patterns and their relation to meanings) and phonology (sound patterns). Elective courses in a variety of subspecialties enable students to tailor the program to their own interests.

The B.A. with a major in linguistics requires the following course work.

Code	Title	Hours
Major Courses		15
Electives		15
Total Hours		30

Major Courses

Students must complete no fewer than 15 s.h. of requirements for the major at the University of Iowa, including LING:3005 Articulatory and Acoustic Phonetics, LING:3010 Syntactic Analysis, and LING:3020 Phonological Analysis.

The course LING:1003 English Grammar does not count toward the linguistics major.

Code	Title	Hours
All of these:		
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
One of these:		
A course in language history, such as LING:3080		3
A course in an old language (classical Greek, Latin, Old English, Sanskrit)		3

Electives

Electives are chosen in consultation with a faculty advisor (15 s.h.), bringing the total credit in the major to 30 s.h.

TESL Emphasis

As part of the major in linguistics, students may complete an emphasis in Teaching English as a Second Language (TESL). The TESL emphasis can prepare students to teach English to nonnative speakers abroad. It also is excellent preparation for graduate work in second language acquisition. TESL emphasis students complete the requirements for the linguistics major listed above, using the following course work to partially satisfy the electives requirement.

Code	Title	Hours
Both of these:		
LING:4040	The Structure of English	3
LING:4050	Methods of Teaching English as a Second Language	3
One of these:		
LING:3030	Child Language-Linguistic Perspectives	3
LING:3670	Language Processes	3
LING:4010	Undergraduate Practicum in Teaching English as a Second Language	3
LING:4090	Practical Phonetics	3

Combined Programs

B.A./M.A. (TESL Subprogram)

Undergraduate linguistics majors who plan to earn a master's degree in linguistics with a teaching English as a second language (TESL) subprogram have the opportunity to enroll in the Bachelor of Arts/Master of Arts in linguistics degree program. Students in the B.A./M.A. program take selected graduate-level courses while they are still undergraduates and may count 12 s.h. of advanced course work toward both degrees. Once students complete the requirements for the

bachelor's degree, they are granted the B.A., and they usually complete the M.A. one year later.

As part of the undergraduate major with TESL subprogram, B.A./M.A. students take LING:4040 The Structure of English, a course in language history, LING:3001 Introduction to Linguistics, and LING:3005 Articulatory and Acoustic Phonetics.

Students substitute some graduate-level course work for typical undergraduate requirements. Instead of taking LING:3010 Syntactic Analysis to fulfill the B.A. syntax requirement, they take LING:5010 Introduction to Syntax, the first course in the mandatory two-course syntax sequence for M.A. students. Instead of taking LING:3020 Phonological Analysis to fulfill the B.A. phonology requirement, they take LING:5020 Introduction to Phonology, the first in the graduate two-course phonology sequence.

In addition, LING:4050 Methods of Teaching English as a Second Language and LING:6010 Syntactic Theory count toward both degrees and usually are taken during the senior year.

To be admitted to the program, students must be working toward an undergraduate major in linguistics, must have completed at least 80 s.h. of undergraduate course work (typically by the end of their fifth semester), and must have a g.p.a. of at least 3.50.

Honors

Honors in the Major

Students majoring in linguistics have the opportunity to graduate with honors in the major. Departmental honors students must complete the required course work for the major and must prepare an honors thesis, working in consultation with their academic advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the linguistics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the fifth semester begins: LING:3001 Introduction to Linguistics and one additional linguistics course

Before the seventh semester begins: three more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

- Linguistics, B.A. [p. 703]
- Teaching English as a Second Language Emphasis [p. 704]

Linguistics, B.A.

Course	Title	Hours
First Year		
Fall		
LING:1010	Language and Society ^{a, b}	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^c		3
Elective course ^d		3
CSI:1600	Success at Iowa	2
	Hours	14-15
Spring		
LING:3001	Introduction to Linguistics	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab ^c		4
GE CLAS Core: Values and Culture ^c		3
Elective course ^d		2
	Hours	15-16
Second Year		
Fall		
LING:3005	Articulatory and Acoustic Phonetics	3
GE CLAS Core: Quantitative or Formal Reasoning ^{c, e}		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course ^f		
Elective course ^d		3
Elective course ^d		3
	Hours	16-17
Spring		
LING:3010	Syntactic Analysis	3
GE CLAS Core: International and Global Issues ^{c, g}		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ^f		
Elective course ^d		3
Elective course ^d		3
	Hours	16-17
Third Year		
Fall		
Major: old language course (classical Greek, Latin, Old English, Sanskrit) or LING:3080 History of the English Language		3
Major: Linguistics elective course ^a		3
GE CLAS Core: Historical Perspectives ^c		3

GE CLAS Core: Natural Sciences without Lab ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
Hours	16-17

Spring

LING:3020 Phonological Analysis	3
Major: Linguistics elective course ^a	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5
Elective course ^d	3
Elective course ^d	3
Hours	16-17

Fourth Year**Fall**

Major: Linguistics elective course ^a	3
Major: Linguistics elective course ^a	3
GE CLAS Core: Literary, Visual, and Performing Arts ^c	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Spring

Major: Linguistics elective course ^a	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Total Hours 123-129

- a Students complete Linguistics electives (prefix LING) chosen in consultation with an advisor, bringing total credit in the major to 30 s.h. LING:1003 may not be used as an elective course.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students may choose to take LING:1050 to fulfill this GE requirement.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students may choose to take LING:1040 to fulfill this GE requirement.

Teaching English as a Second Language Emphasis

Course	Title	Hours
First Year		
Fall		
LING:1010	Language and Society ^{a, b}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^c		3
Elective course ^d		3
CSL:1600	Success at Iowa	2
Hours		14-15
Spring		
LING:3001	Introduction to Linguistics	3

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab ^c		4
GE CLAS Core: Values and Culture ^c		3
Elective course ^d		2
Hours		15-16

Second Year**Fall**

LING:3005	Articulatory and Acoustic Phonetics	3
GE CLAS Core: Quantitative or Formal Reasoning ^{c, e}		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Spring

LING:3010	Syntactic Analysis	3
GE CLAS Core: International and Global Issues ^{c, g}		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Third Year**Fall**

Major: old language course (classical Greek, Latin, Old English, Sanskrit) or LING:3080 History of the English Language		3
LING:4040	The Structure of English	3
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: Natural Sciences without Lab ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		16-17

Spring

LING:3020	Phonological Analysis	3
LING:4050	Methods of Teaching English as a Second Language	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Fourth Year**Fall**

Major: additional TESL emphasis requirement ^h		3
Major: Linguistics elective course ^a		3
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: Linguistics elective course ^a		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3

Elective course ^d	3
Hours	15
Total Hours	123-129

- a Students complete Linguistics electives (prefix LING) chosen in consultation with an advisor, bringing total credit in the major to 30 s.h. LING:1003 may not be used as an elective course.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students may choose to take LING:1050 to fulfill this GE requirement.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students may choose to take LING:1040 to fulfill this GE requirement.
- h Choose one of these: LING:3030, LING:3670, LING:4010, or LING:4090.

Career Advancement

Linguistics majors have found work teaching English as a second language overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

Some graduates choose to pursue advanced study in linguistics or other disciplines. Graduates with bachelor's degrees in linguistics may be admitted to certain graduate programs without additional academic preparation, such as anthropology, English literature, world language specializations, law, library science, philosophy, psychology, and sociology.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Linguistics, Minor

The undergraduate minor in linguistics requires a minimum of 15 s.h. in linguistics courses, including at least 12 s.h. in University of Iowa courses. The minor must include the courses listed below. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor in linguistics requires the following course work.

Code	Title	Hours
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
Additional approved course numbered 3000 or above		3
Total Hours		15

Linguistics, M.A.

Department of Linguistics graduate programs emphasize theory and research. Students interested in non-university careers also may take courses in applied linguistics and other fields as an option in the M.A. program.

Iowa's linguistics department has particular strengths in phonology, syntax, and second language acquisition (SLA).

The phonology curriculum emphasizes current theoretical perspectives, including optimality theory, and the collection, description, and interpretation of novel phonological and phonetic data. Courses feature extensive work in data analysis and problem solving, focusing on construction and evaluation of phonological theories, particularly in light of new empirical data.

The syntax curriculum includes the dual emphases of empirical and theoretical perspectives. It offers a variety of foundational courses that build analytic and argumentation skills, as well as specialized course work on current issues in syntactic theory. The courses consist of intensive work in problem solving. They combine discovery and description of new linguistic data with exploration of the implications of such facts in testing and constructing syntactic theories.

The curriculum in second language acquisition includes courses that provide an overview and analysis of current SLA research conducted within the generative framework, with emphasis on explaining the linguistic competence of second language learners in terms of universal grammar (UG), the innate language acquisition device. Work focuses on experimental research investigating the influence of the first language, theories of UG access, and related topics.

Requirements

The Master of Arts program in linguistics requires a minimum of 31-37 s.h. of graduate credit with thesis, or 37 s.h. without thesis. A student's advisor must approve all courses that count toward the degree.

A student with a linguistics background may waive up to 6 s.h. of course work if the department determines that the student completed comparable work before enrolling in the program.

Comprehensive examinations cover phonology, syntax, and applied linguistics (for students who choose this option).

Core Courses

All M.A. students complete the following set of required core courses in phonology, syntax, and language acquisition (total of 22 s.h.).

Code	Title	Hours
All of these:		
LING:3005	Articulatory and Acoustic Phonetics	3
LING:5000	Proseminar: Morphosyntax	1
LING:5010	Introduction to Syntax	3
LING:5020	Introduction to Phonology	3
LING:6010	Syntactic Theory	3
LING:6020	Phonological Theory	3
LING:6080	Topics in Second Language Acquisition	3
One of these:		
LING:5040	Linguistic Field Methods	3

LING:6040	Linguistic Structures	3
LING:6050	Language Universals Linguistic Typology	3

Electives/Thesis

Thesis students also complete at least 9 s.h. of electives and may earn up to 6 s.h. for the thesis.

Nonthesis students also complete 15 s.h. of Department of Linguistics course work, which may include a 9 s.h. focus (e.g., teaching English as a second language).

Admission

Applicants to the graduate program in linguistics must complete an application form, submit Graduate Record Examination (GRE) General Test scores, and have three letters of recommendation sent to the Department of Linguistics. Students whose first language is not English must submit Test of English as a Foreign Language (TOEFL) scores. Applications for admission should be submitted as early as possible for the following academic year.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Applications should be received by February 1 for the following academic year in order to have priority in consideration for financial aid. Applications received after February 1 are considered for remaining aid. Early submission of an application is strongly encouraged.

Applications for awards are considered only for students whose application for admission is complete.

Career Advancement

A master's degree with TESL emphasis qualifies graduates to teach English as a second language in the United States or overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Linguistics, Ph.D.

Department of Linguistics graduate programs emphasize theory and research. Students interested in non-university careers also may take courses in applied linguistics and other fields in connection with doctoral work.

Iowa's linguistics department has particular strengths in phonology, syntax, and second language acquisition (SLA).

The phonology curriculum emphasizes current theoretical perspectives, including optimality theory, and the collection, description, and interpretation of novel phonological and phonetic data. Courses feature extensive work in data analysis and problem solving, focusing on construction and evaluation of phonological theories, particularly in light of new empirical data.

The syntax curriculum includes the dual emphases of empirical and theoretical perspectives. It offers a variety of foundational courses that build analytic and argumentation skills, as well as specialized course work on current issues in syntactic theory. The courses consist of intensive work in problem solving. They combine discovery and description of new linguistic data with exploration of the implications of such facts in testing and constructing syntactic theories.

The curriculum in second language acquisition includes courses that provide an overview and analysis of current SLA research conducted within the generative framework, with emphasis on explaining the linguistic competence of second language learners in terms of universal grammar (UG), the innate language acquisition device. Work focuses on experimental research investigating the influence of the first language, theories of UG access, and related topics.

Requirements

The Doctor of Philosophy program in linguistics requires a minimum of 72 s.h. of graduate credit, or 73 s.h. for graduates of the M.A. nonthesis program. The highly selective program provides students with a strong foundation in theoretical linguistics and helps them develop the skills they will need to explore the close relationship between linguistics and related disciplines.

The Ph.D. core includes the following course work (total of 18 s.h.).

Code	Title	Hours
One upper-level syntax course numbered LING:7010 or above		
One upper-level phonology course numbered LING:7020 or above		
Two or more seminars		

An approved specialty area of 18 s.h. also is required, and students must achieve proficiency in a world language, as specified by department regulations.

To pass the comprehensive examination for the Ph.D., a student must gain approval for two papers of publishable quality. One must be in phonology or syntax. The other should be in an area of the student's choosing and must be distinct from the area of the first paper.

An oral defense of the dissertation and three years in residence at the University of Iowa are required. In addition, all candidates are required to gain supervised experience in teaching and research.

Admission

Applicants to the graduate program in linguistics must complete an application form, submit Graduate Record Examination (GRE) General Test scores, and have three letters of recommendation sent to the Department of Linguistics. Students whose first language is not English must submit Test of English as a Foreign Language (TOEFL) scores. Applications for admission should be submitted as early as possible for the following academic year.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Applications should be received by February 1 for the following academic year in order to have priority in consideration for financial aid. Applications received after February 1 are considered for remaining aid. Early submission of an application is strongly encouraged.

Applications for awards are considered only for students whose application for admission is complete.

Career Advancement

Linguistics majors have found work teaching English as a second language overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Literary Translation

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Graduate certificate: literary translation

The Certificate in Literary Translation complements students' primary graduate training to allow them to:

- become more firmly grounded in comparative literature or contemporary international writing,
- take advantage of the synergy between creative writing and literary translation as part of their personal writing life, and
- develop stronger competencies in translation as a method of scholarly inquiry and pedagogy.

Students will benefit from the creative commons established when translators, poets, fiction and nonfiction writers, playwrights, and literary scholars work together for a shared purpose.

The Certificate in Literary Translation is administered by the Division of World Languages, Literatures and Cultures [p. 336].

Programs

Graduate Program of Study

Certificate

- Certificate in Literary Translation [p. 710]

Literary Translation, Graduate Certificate

The graduate Certificate in Literary Translation requires at least 15 s.h. of credit, including course work in translation practice, techniques, and theories. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. Students may earn the certificate while working toward a graduate degree. Nondegree students also can complete the certificate.

Translation workshops and course work in translation theory are central to the certificate program since they are essential to the training of literary translators.

Certificate students enroll in a combination of the following courses determined in consultation with the director of the M.F.A. program in comparative literature—translation.

Code	Title	Hours
TRNS:4480	Literature and Translation	3
TRNS:5205	International Translation Workshop	2-3
TRNS:5500	Advanced Translation Practice	1-3
TRNS:6459	Issues in Translation	3
TRNS:7460	Translation Workshop	3

Admission

Applicants should submit a one-page statement of interest and a letter from their academic advisor indicating support for entrance to the program. Admission decisions are made when an application is received and contingent on enrollment capacity. Students must be in good standing in their degree programs.

Magid Center for Undergraduate Writing

Director, Division of Interdisciplinary Programs

- Helena R. Dettmer

Director, Magid Center for Undergraduate Writing

- Daniel E. Khalastchi

Director, Iowa Young Writers' Studio

- Stephen P. Lovely

Director, Iowa Youth Writing Project

- Mallory R. Hellman

Undergraduate certificate: writing

Faculty: <https://magidcenter.uiowa.edu/certificate/faculty>

Website: <https://magidcenter.uiowa.edu/>

The Frank N. Magid Center for Undergraduate Writing was established in 2011 through a gift from Marilyn Y. Magid and family, in the name of the late Frank Magid, who believed that writing was a key component of a liberal arts and sciences education and a successful career.

The Magid Center for Undergraduate Writing takes seriously its mission to offer all undergraduate students at the University of Iowa (regardless of major or area of study) the unique opportunity to enhance their academic, creative, and professional communication skills by focusing on the written word. In addition to sponsoring the Certificate in Writing [p. 714], the center also publishes the student literary magazines Ink Lit Mag and earthwords, supports the Iowa Writers Living Learning Community (in association with University Housing and Dining), and is home to the Iowa Youth Writing Project, a K-12 literacy outreach nonprofit, and the Iowa Young Writers' Studio, a selective summer camp for aspiring high school writers.

Precollege Program

Iowa Young Writers' Studio

Website: <https://magidcenter.uiowa.edu/youth-programs/iowa-young-writers-studio>

The Iowa Young Writers' Studio is a residential creative writing program held in the summer for high school students at the University of Iowa housed in the Frank N. Magid Center for Undergraduate Writing. The studio gives promising high school-age creative writers the opportunity to spend two weeks studying writing (primarily fiction, poetry, and creative nonfiction) at the University of Iowa, in the thriving literary community of Iowa City, with teachers and counselors from the Iowa Writers' Workshop and other renowned UI writing programs.

Students at the Iowa Young Writers' Studio share their writing with teachers and peers, receive constructive critique, participate in writing exercises and activities, and attend readings and literary events. The studio operates under the philosophy that the study of creative writing is essential not only to students who want to pursue writing as a career, but to any student hoping to function effectively in a writing-centric world. The studio encourages students

to explore different genres and approaches, and to express themselves freely, without censorship. Students are taught to be generous, respectful critics.

Students who have completed grade 10, 11, or 12 are eligible to attend the summer program. The program occasionally considers ninth graders. Application materials include an application, a creative writing sample, a statement of purpose, a high school transcript, and a letter of recommendation. Applications are taken online during the first week of February for the following summer.

The Iowa Young Writers' Studio also offers six-week online creative writing courses for high school students. These courses are offered in January-February and in late June-early August. The courses are asynchronous, so students can complete the assignments and participate in the discussions on their own schedules. The courses offer students the chance to study creative writing with graduates of the Iowa Writers' Workshop and other UI writing programs, and to connect with other high school-age writers around the country and the world. Students who complete the course and meet all the requirements will receive 1 s.h. of credit. Applicants must be enrolled in high school and have a g.p.a. of 3.50 or higher. Applicants must submit a writing sample, a statement of purpose, a teacher statement of support, a parental permission form, and a transcript. Applications are taken online in the fall (for January-February courses) and in the spring (for June-August courses).

Visit the Iowa Young Writers' Studio website for detailed information about the summer program and online courses.

College Program

Certificate in Writing

The undergraduate Certificate in Writing enables students in all majors to benefit from the University's wide-ranging writing programs and resources by pursuing a concentration in writing related to their majors, their career goals, or their personal interests.

The Frank N. Magid Center for Undergraduate Writing is one of the academic units in the Division of Interdisciplinary Programs [p. 333]. The Certificate in Writing and the Iowa Young Writers' Studio are administered by the College of Liberal Arts and Sciences [p. 17].

Learn more about the University's wealth of writing resources by visiting The Writing University website, and read about the University's central role in Iowa City's designation as a UNESCO City of Literature.

Programs

Precollege Program of Study

The Iowa Young Writers' Studio is a residential creative writing program offered during the summer for high school students who have completed grade 10, 11, or 12. See "Precollege Program" in the Magid Center for Undergraduate Writing [p. 711] section of the Catalog.

Undergraduate Program of Study Certificate

- Certificate in Writing [p. 714]

Career Advancement

Recent Certificate in Writing graduates have gone on to work in various fields that are wide-ranging in scope and background. Graduates have found work as teachers, copywriters, editors and publishers, government administrators, free-lance journalists, magazine writers, and more. Additionally, graduates often go on to graduate and professional programs, such as M.F.A. programs and law, and Teach For America. Finally, many recent graduates have found internships during and after their time in the program with publishing companies and magazines across the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Courses

- Iowa Young Writers' Studio Courses [p. 712]
- Magid Center for Undergraduate Writing Courses [p. 712]

Iowa Young Writers' Studio Courses

IYWS:1001 Iowa Young Writers' Studio 0 s.h.

IYWS:1002 Iowa Young Writers' Studio: Fiction Writing 0-1 s.h.

Introduction to fiction writing; for high school students. Requirements: admission through Iowa Young Writers' Studio application process.

IYWS:1003 Iowa Young Writers' Studio: Poetry Writing 0-1 s.h.

Introduction to poetry writing; for high school students. Requirements: admission through Iowa Young Writers' Studio application process.

IYWS:1004 Iowa Young Writers' Studio: Creative Writing 1 s.h.

Basic introduction to creative writing (poetry, fiction, creative nonfiction); for high school students. Requirements: admission through Iowa Young Writers' Studio application process.

Magid Center for Undergraduate Writing Courses

WRIT:1003 English Grammar 3 s.h.

Recognizing nouns, verbs, adverbs, adjectives, and other parts of speech; sentence analysis; subjects, objects; types of sentences; passives, relative clauses; for students with little or no background in English grammar study. Does not count toward the linguistics major. Same as LING:1003.

WRIT:1030 English Words 3 s.h.

English word formation, basic units of English vocabulary; vocabulary skill expansion; word structure. Same as LING:1030.

WRIT:1500 Writing Commons: A Community of Writers 1-3 s.h.

Varied topics focused on building community and enhancing writing skills through generative exercises, long-form essay and hybrid assignments, workshops, sharing work in public, reading and discussing works of published authors.

WRIT:1600 Fast Fixes: Improving Your Writing in Six Short Weeks 1 s.h.

Varied topics focused on improving common writing problems or specific aspects of craft. Prerequisites: (RHET:1040 and RHET:1060) or RHET:1030.

WRIT:1740 Writing Strategies: Word Origins and Word Choice 3 s.h.

Study of words, their meanings, and their origins combined with writing; words and word histories; role of English language in the world. GE: Literary, Visual, and Performing Arts. Same as CLSA:1740.

WRIT:2100 Writing and Community Outreach 3 s.h.

Service-learning course offered in coordination with Iowa Youth Writing Project (IYWP); students create lesson plans, lead creative writing workshops in area schools and after-school programs, and collaborate to publish a final chapbook of writing from their teaching sites; assigned readings on creative writing pedagogy, teaching life, community outreach, social justice; relationships between self and community enhance interdisciplinary perspectives; weekly written reflections on teaching experiences featured on IYWP blog. GE: Diversity and Inclusion.

WRIT:2101 Writers in the Community 1 s.h.

Experiential, hands-on learning opportunities organized by the Iowa Youth Writing Project; introduction to the community at large; fun and meaningful activities with elementary and junior high school students; designing creative writing lessons, discussion of teaching tips and tricks, leading creative writing workshops for children in the Iowa City community, writing reflective essays about experiences; for those interested in education, creative writing, volunteerism, nonprofit work, or community engagement.

WRIT:2600 Science Communication I: Fundamentals of Science Communication 2 s.h.

Bringing science to varied audiences; focus on writing and presenting research story, analogies, connecting with audiences, collaborating with others from science and film/writing disciplines; first of a two-course sequence culminating in a group outreach project and print product.

WRIT:2601 Science Communication II: Science Outreach and Engagement 2 s.h.

Bringing science to varied audiences; focus on writing and presenting research story, analogies, connecting with audiences, collaborating with others from science and film/writing disciplines; second of a two-course sequence culminating in a group outreach project and print product. Prerequisites: WRIT:2600.

WRIT:2900 Book Design for Publishing 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, ENGL:2900, UICB:2900.

WRIT:2991 Publishing I: Introduction to Literary Publishing 3 s.h.

Introduction to major aspects of book and literary publishing, including evaluating submissions, copy editing, production calendars, and planning marketing campaigns; discussion of industry trends. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Same as CNW:2991.

WRIT:2992 Publishing II: Advanced Literary Publication 3 s.h.

Hands-on experience of entire literary publishing process including reading submissions, selecting texts, editing, layout and design, marketing and promotion, and book release. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CNW:2991. Same as CNW:2992.

WRIT:3000 Publishing Practicum: The Iowa Chapbook Prize 3 s.h.

Experiential learning in the field of publishing through the Iowa Chapbook Prize; students gain knowledge in all aspects of publishing world including assessing submissions, selecting manuscripts, editing and proofreading, layout and design, marketing and promotion, and book release.

WRIT:3080 History of the English Language 3 s.h.

Development of phonological and grammatical structure of English, from Old to Modern English; dialectal differentiation in English. Same as LING:3080.

WRIT:3101 Writers in the Community 1 s.h.

Experiential, hands-on learning opportunities organized by the Iowa Youth Writing Project; introduction to the community at large; fun and meaningful activities with elementary and junior high school students; designing creative writing lessons, discussion of teaching tips and tricks, leading creative writing workshops for children in the Iowa City community, writing reflective essays about experiences; for those interested in education, creative writing, volunteerism, nonprofit work, or community engagement.

WRIT:3200 Writing for the Earth and Environmental Sciences 1-3 s.h.

Practical methods of content creation across curriculum; effective communication to lay and academic audiences; methods of planning, drafting, revising, and editing everything from general articles of interest to scientific papers. Same as EES:3040.

WRIT:3632 Prose Style 3 s.h.

Sentences: how they work, what they do; how sentences can help writing, expand understanding of prose style, stretch options. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as CNW:3632.

WRIT:3742 Word Power: Building English Vocabulary 3 s.h.

Analysis of unfamiliar English words through knowledge of the history and meaning of word parts. Same as CLSA:3742.

WRIT:3900 Writing: Undergraduate Internship 1-3 s.h.

Professional and/or creative experience; students arrange faculty-approved internship. Requirements: undergraduate standing and minimum of 24 s.h. of course work with at least 12 s.h. in University of Iowa courses.

WRIT:4000 Independent Capstone Project 1-3 s.h.

Capstone requirement for the Certificate in Writing through Program Option B. Requirements: junior or higher standing.

WRIT:4001 Guided Capstone Portfolio 1 s.h.

Capstone requirement for Certificate in Writing through Program Option A. Recommendations: junior or higher standing.

WRIT:4100 Iowa Youth Writing Project Mentorship Practicum 1-3 s.h.

Mentor new volunteers on a weekly basis at Iowa Youth Writing Project (IYWP) program sites; work one-on-one with volunteers, write and review lesson plans, provide resources and feedback for volunteers, lead workshops for children. Requirements: WRIT:2100 or completion of Iowa Youth Writing Project internship.

WRIT:4745 The Sentence: Strategies for Writing 3 s.h.

Writing dynamic, cogent, and grammatically correct sentences; effectively communicating ideas; writing with clarity and confidence; review of grammar and various types of sentences; building complexity by adding adverbial, subordinate, and connective clauses to simple sentences; how rhythm, syntax, and word order expand the meaning of a sentence; application and appreciation. GE: Engineering Be Creative. Same as CW:4745.

WRIT:4760 The Art of Revision: Rewriting Prose for Clarity and Impact 3 s.h.

Writing and rewriting of short stories and essays; specific choices to help writing reach its full potential; examination of first drafts and making strategic or radical decisions on what needs to happen in subsequent drafts in order for writing to better match original intentions; students gain insight from peers on where first drafts are succeeding or falling short, and write second and third drafts of short stories and personal narratives; structural and aesthetic choices. GE: Engineering Be Creative. Same as CW:4760.

Writing, Certificate

The undergraduate Certificate in Writing requires a minimum of 22 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Certificate students explore and develop their own writing skills in a wide range of genres and for varied purposes, including creative writing (fiction, nonfiction, poetry); writing for the professions, such as the arts, business, journalism, or science; writing for organizations; and writing related to personal interests.

The Certificate in Writing also is available online for students unable to attend classes on campus, including professionals, distance education students, nondegree-seeking students, and international students. More information about the online Certificate in Writing is available at the Frank N. Magid Center for Undergraduate Writing website. Some courses below are available online; more online courses are added each year.

Students who complete the certificate develop:

- skills in planning and using strategies to begin writing, overcome obstacles, obtain feedback, revise their work, and present their writing in public venues;
- skills in the craft of writing, such as the ability to write clearly and concisely, control of mechanics and style, and the ability to communicate with particular audiences for specific purposes; and
- competence in discussing writing.

Course work for the certificate includes a minimum of 12 s.h. in core courses, a minimum of 9 s.h. in focused electives, and a minimum of 1 s.h. in a capstone course that results in a project and/or portfolio of work. Students may count a maximum of 6 s.h. earned for a major, a minor, or another certificate toward the Certificate in Writing.

Certificate students have the opportunity to participate in the Iowa City writing community through activities such as attending readings and lectures; presenting their own work in public; working with professional journals, newspapers, or other publications; and volunteering or interning with the Iowa Youth Writing Project literacy outreach program.

See "Professional Track" below for information and requirements regarding the literary publishing track for the Certificate in Writing.

The Certificate in Writing requires the following work.

Code	Title	Hours
Core Courses		12
Focused Electives		9
Capstone Project		1-3
Total Hours		22-24

Core Courses

Code	Title	Hours
All students must complete this course:		
WRIT:1500	Writing Commons: A Community of Writers (online or on campus)	3
And 9 s.h. from the following list:		

WRIT:1003/ LING:1003	English Grammar	3
WRIT:1600	Fast Fixes: Improving Your Writing in Six Short Weeks (to count as a core course, must be taken three times for 1 s.h. each with different subtitles)	3
WRIT:3080/ LING:3080	History of the English Language	3
WRIT:3632/ CNW:3632	Prose Style	3
WRIT:4745/ CW:4745	The Sentence: Strategies for Writing (online or on campus)	3
WRIT:4760/ CW:4760	The Art of Revision: Rewriting Prose for Clarity and Impact (online or on campus)	3
The 9 s.h. may include one of these:		
WRIT:1030/ LING:1030	English Words	3
WRIT:1740/ CLSA:1740	Writing Strategies: Word Origins and Word Choice	3
WRIT:3742/ CLSA:3742	Word Power: Building English Vocabulary (online or on campus)	3

Focused Electives

Students earn a total of at least 9 s.h. in focused electives, which they select from courses in at least two of the following categories (maximum of 6 s.h. from any one category).

- Writing for the professions
- Writing and the literary arts
- Writing and the media
- Writing in context
- Student-designated writing-intensive courses

Each focused elective course may be used to fulfill only one certificate requirement, even if the course is listed in more than one category below. Some of these courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and meet its registration requirements before they may register for the course.

Students may petition to count a course not listed below toward their elective requirements. Petitions must be submitted online and receive prior approval from the Certificate in Writing advisor; visit Course Petition Form on the Frank N. Magid Center for Undergraduate Writing website.

Writing for the Professions

Art

Code	Title	Hours
ARTH:1080	Writing About the Visual Arts	3
ARTS:3400	Grant Writing in the Arts	3

Business

Code	Title	Hours
BUS:3000	Business Communication and Protocol	3
BUS:3800	Business Writing	3

CNW:3640	Writing for Business and Industry	3
COMM:1816	Business and Professional Communication	3
INTD:3005/ CW:3005	Professional and Creative Business Communication (online or on campus)	3
SRM:3300	Writing for Sport and Recreation Managers	3

Grant/Proposal Writing

Code	Title	Hours
ARTS:3400	Grant Writing in the Arts	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing (online or on campus)	3

Journalism

Code	Title	Hours
CINE:1620	Writing Film Reviews and Criticism	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2830	The Art and Craft of Immersion Journalism	3
JMC:2010	Journalistic Reporting and Writing	4
JMC:3360	Journalism Writing for Nonmajors	3
JMC:3405	Investigative Reporting and Writing	4
JMC:3412	Strategic Communication Writing	4
JMC:3415	Writing Across Cultures	4
JMC:3470	Narrative Journalism	4
SPAN:3020/ LATS:3020	Journalistic Writing in Spanish	3

Literature, Language, and Translation

Code	Title	Hours
GRMN:3200/ TRNS:3200	Literary Translation from German	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
SPAN:2000	Spanish Language Skills: Writing	4
SPAN:3000/ LATS:3000	Writing Skills for Heritage Speakers	3
SPAN:3010	Advanced Spanish Speaking and Writing	3
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3
SPAN:4980	Advanced Translation: Spanish to English	3

TRNS:3179/ CL:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
TRNS:3499	Undergraduate Translation Seminar	3
TRNS:4480	Literature and Translation	3

Political Science

Code	Title	Hours
CNW:2850	The Art and Craft of Writing About Politics	3
POLI:3107	Writing in Political Science: Writing for "Science" and for "Politics"	3

Publishing

Code	Title	Hours
WRIT:2900/ ARTS:2900/ ENGL:2900/ UICB:2900	Book Design for Publishing	3
WRIT:2991/ CNW:2991	Publishing I: Introduction to Literary Publishing	3
WRIT:2992/ CNW:2992	Publishing II: Advanced Literary Publication	3
WRIT:3000	Publishing Practicum: The Iowa Chapbook Prize	3
GWSS:3190	Tell Magazine Writing and Publishing Workshop	3

Sciences

Code	Title	Hours
CNW:2730	The Art and Craft of Science Writing	3
HHP:3900	Writing for Health and Human Physiology	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3

Undergraduate Research

Code	Title	Hours
BUS:1999	Introduction to Research in Business	1
BUS:4999	Honors Thesis in Business	3
	An undergraduate thesis or writing-based capstone project related to any undergraduate discipline	1-3

Writing and the Literary Arts

Creative Writing

Code	Title	Hours
CL:1510/ASIA:1510	Ghost Stories and Tales of the Weird in Pre-Modern Chinese Literature	3
CW:2100	Creative Writing (online or on campus)	3
	or CW:1800 Creative Writing Studio Workshop	
CW:3003	Writing and Reading Science Fiction	3

CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
CW:4894	Undergraduate Project in Creative Writing	arr.

Fiction

Code	Title	Hours
CW:2870	Fiction Writing (online or on campus)	3
CW:3870	Advanced Fiction Writing (online or on campus)	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4897	Novel Writing (online)	3

Nonfiction

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2690	The Art and Craft of Writing About Business	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2820	The Art and Craft of the Literary Essay	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3633	Personal Writing	3
CNW:3662	Graphic Writing	3
CNW:4631	Advanced Essay Workshop	3
CNW:4690	Undergraduate Project in Nonfiction Writing	arr.

Playwriting

Code	Title	Hours
THTR:2301	Playwriting I (online or on campus)	3
THTR:2320	Playwriting in a Global World	3
THTR:3301	Playwriting II (online or on campus)	3
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:3421/ GWSS:3421	Performing Autobiography	3

Poetry

Code	Title	Hours
CW:2875	Poetry Writing	3
CW:3875	Advanced Poetry Writing (online or on campus)	3
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.

Writing and the Media

Television and Screenwriting

Code	Title	Hours
CINE:1200	Screenwriting Fundamentals (online)	3
CINE:1620	Writing Film Reviews and Criticism	3
CINE:2861	Screenwriting: Short Form	3
CINE:2867	Screenwriting: Long Form	3
CINE:4836	Advanced Screenwriting: Long Form	4
CNW:3661	Film and Writing	3
COMM:2077	Writing and Producing Television	3
THTR:3320	Writing for Film	3

Other Media

Code	Title	Hours
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:3660	Multimedia Writing	3
CNW:3663	Radio and Writing	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
JMC:3600	Topics in Media Production	3-4

Writing in Context

Code	Title	Hours
WRIT:2100	Writing and Community Outreach	3
CNW:2710	The Art and Craft of Food Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2760	The Art and Craft of Writing for Social Change	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2800	The Art and Craft of Writing Across Genres	3
CNW:2810	The Art and Craft of Writing with Emotion	3
CNW:3644	Dublin Writing Workshop	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:4751	Creative Writing for the Musician	3
EDTL:4355/ CNW:4355	Approaches to Teaching Writing	3
GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World	3
GWSS:3450/ ENGL:3820	Writing About Girls	3
HONR:3220	Honors Writing Fellows: Writing Theory and Practice	3

IWP:3191/ ENGL:3595/ WLLC:3191	International Literature Today	1-3
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Student-Designated Writing-Intensive Course

Students may request permission to count a maximum of 3 s.h. earned in a non-writing intensive course numbered 3000 or above as credit toward the focused elective requirement. For this option, students must propose a writing-related project that extends the writing focus of their chosen course. They must have the approval of the faculty member teaching the course and the writing certificate advisor.

Capstone Project

Each student must earn at least 1 s.h. in an independent writing project course that serves as a capstone experience and results in a substantial project and/or portfolio of the student's own writing. Students choose one of the following three options for completing their capstone requirement.

Program Option A: WRIT:4001 Guided Capstone Portfolio (1 s.h.) is an online, portfolio-based class that allows students the chance to direct their own academic, professional, and creative learning experience by asking them to think critically about where they have come from and where they are headed. Students are guided by a series of prompts, readings, and targeted assignments that lead to a shared final goal—an online portfolio of writing that highlights the work created and the skills gained while pursuing the Certificate in Writing.

Program Option B: WRIT:4000 Independent Capstone Project (1-3 s.h.) is an independent writing project of the student's choosing, guided by a faculty mentor. It is offered online or on campus.

Program Option C: WRIT:3900 Writing: Undergraduate Internship (1-3 s.h.) provides departmental oversight for students completing a writing-related internship and guides students through a series of reflections on their internship experience and how it relates to their academic, professional, and creative goals.

Visit Capstone Project Information on the Frank N. Magid Center for Undergraduate Writing website for more information related to registering for a capstone course.

Professional Track

Literary Publishing

Students considering a career in literary publishing can learn the ins and outs of the industry and gain a competitive edge by enrolling in the literary publishing track. This unique educational experience provides a substantial understanding of the editorial, design, and managerial work essential to this profession. Students who enroll in the track complete the certificate's core courses (see "Core Courses" above) and fulfill the focused elective requirement by taking a series of three publishing-specific courses (see "Literary Publishing Track Focused Electives" below). Finally, they complete a publishing-related capstone project; literary publishing students may select WRIT:3000 Publishing Practicum: The Iowa Chapbook Prize as a capstone project or Program Option A, B, or C (see "Capstone Project" above).

The literary publishing track, interdisciplinary in scope, is a collaboration between the Frank N. Magid Center for Undergraduate Writing, the Nonfiction Writing Program

[p. 390] in the Department of English, the School of Art and Art History [p. 82], and the University of Iowa Center for the Book [p. 1446]. For more information, contact the Frank N. Magid Center for Undergraduate Writing.

Students may earn either the certificate in writing with the literary publishing track or the Bachelor of Arts with a major in English (publishing track) or the Bachelor of Arts with a major in English and creative writing (publishing track). Students may not earn the publishing track in both the major and in the writing certificate.

Literary Publishing Track Focused Electives

Code	Title	Hours
WRIT:2900/ ARTS:2900/ ENGL:2900/ UICB:2900	Book Design for Publishing	3
WRIT:2991/ CNW:2991	Publishing I: Introduction to Literary Publishing	3
WRIT:2992/ CNW:2992	Publishing II: Advanced Literary Publication	3

Mathematics

Chair

- Maggy Tomova

Undergraduate major: mathematics (B.A., B.S.)

Undergraduate minor: mathematics

Graduate degrees: M.S. in mathematics; Ph.D. in mathematics

Faculty: <https://math.uiowa.edu/people/faculty>

Website: <https://math.uiowa.edu>

Mathematics is a basic tool for understanding modern society as well as a crucial requirement for many careers in science, engineering, business, and the professions. Research in this living, dynamic subject is at the highest level in history. According to CareerCast.com, ranking the best jobs of 2017, "In total, four of the top 10 best jobs are built on math...Mathematician ranks No. 7."

An undergraduate degree in mathematics prepares students for a variety of careers in government and business, for secondary teaching, for graduate study, and with proper planning, for a variety of professional programs. Graduate study is advisable for some business and governmental positions and for college and university teaching and research. The department also offers a minor and partners with the Departments of Computer Science and Statistics and Actuarial Science to offer the undergraduate Certificate in Large Data Analysis.

Certificate

Large Data Analysis

The Certificate in Large Data Analysis [p. 687] can be earned in addition to a B.A. or B.S. degree in mathematics. The certificate focuses on handling, processing, and extracting information from large data sets. As computers have become faster and smaller, more information can be gathered and used for a large range of applications, such as for weather forecasting; identifying people and trends utilizing Facebook or other social media; understanding the genome; and searching for disease causes and cures, as well as many other areas of study. The certificate is interdisciplinary, requiring courses from three areas of study—computer science, mathematics, and statistics. Computer science teaches students how to handle large amounts of data and how to implement the algorithms to process them while statistics helps students to understand what can and cannot be legitimately inferred from the data. Mathematics focuses on algorithms and methods for connecting these important areas of data collection.

Programs

Undergraduate Programs of Study

Majors

- Major in Mathematics (Bachelor of Arts) [p. 725]
- Major in Mathematics (Bachelor of Science) [p. 731]

Minor

- Minor in Mathematics [p. 737]

Graduate Programs of Study

Majors

- Master of Science in Mathematics [p. 738]
- Doctor of Philosophy in Mathematics [p. 740]

Courses

Credit earned in MATH:0100 Basic Algebra I and MATH:0300 Basic Geometry does not count toward graduation.

The sequences MATH:1850 Calculus I and MATH:1860 Calculus II, and MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus are similar, but they cover the material in a different order and with different emphases. Students who have taken the first semester of one sequence must consult with their advisor before taking the second semester of the other sequence.

Students who consider taking MATH:1860 Calculus II after MATH:1380 Calculus and Matrix Algebra for Business or MATH:1460 Calculus for the Biological Sciences must consult with their advisor; they also must take a math placement test.

Graduate students may not earn graduate credit in courses numbered below 3000.

Graduate students in mathematics must have departmental approval to earn credit for any of the courses listed below numbered 3000 or above except MATH:3995 Topics in Mathematics. Graduate students in mathematics may not earn credit for MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra. Graduate students in other disciplines may earn credit for any course numbered 3000 or above.

Mathematics Courses

MATH:0100 Basic Algebra I 3 s.h.

Percents, ratio and proportion, algebraic expressions and operations, simple products, linear and quadratic equations, simultaneous equations, exponents and radicals; emphasis on verbal problems. GE: Algebra I - Developmental.

MATH:0300 Basic Geometry 3 s.h.

Angles, triangles, polygons, areas, Pythagorean theorem, similar triangles, circles, loci, related topics. Offered spring semesters. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Geometry - Developmental.

MATH:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

MATH:1005 College Algebra 4 s.h.

Algebraic techniques, equations and inequalities, functions and graphs, exponential and logarithmic functions, systems of equations and inequalities. Prerequisites: MATH:0100 with a minimum grade of C- or ALEKS score of 30 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

MATH:1010 Trigonometry**3 s.h.**

Trigonometric functions, solutions of right and oblique triangles, complex numbers. Prerequisites: MATH:1340 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1005 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or ALEKS score of 55 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

MATH:1020 Elementary Functions**4 s.h.**

Functions, relations, coordinate systems; properties and graphs of algebraic, trigonometric, logarithmic, exponential functions; inverse trigonometric functions; properties of lines, conic sections. Prerequisites: MATH:1010 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MPT Level 3 score of 9 or higher or ALEKS score of 60 or higher or MATH:1340 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1120 Logic of Arithmetic**4 s.h.**

Mathematical and conceptual foundations of the natural numbers used in elementary school arithmetic teaching; multiple algorithmic approaches to arithmetic and its mathematical and contextual relationships, extensions to integers, rational and irrational numbers, multiple representations. Prerequisites: ALEKS score of 30 or higher or MATH:1460 with a minimum grade of C- or MATH:1010 with a minimum grade of C- or MATH:1550 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or MATH:1860 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1850 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:1440 with a minimum grade of C- or MATH:0100 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1130 Theory of Arithmetic**3 s.h.**

Sets, cardinalities, reasoning in proofs, counterexamples, arithmetic with integers, rationals, irrationals, number theory, functions, algebraic expressions. Prerequisites: MATH:1550 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or MATH:1850 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1020 with a minimum grade of C- or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or ALEKS score of 75 or higher or (MATH:1010 with a minimum grade of C- and ALEKS score of 55 or higher) or MATH:1860 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1140 Mathematical Basis of Elementary Geometry**3 s.h.**

Points, lines, planes; measurement, two- and three-dimensional coordinate geometry, transformational geometry and vectors; applications of geometry to solve real-world problems. Prerequisites: MPT Level 3 score of 9 or higher or MATH:1850 with a minimum grade of C- or ALEKS score of 30 or higher or MATH:1010 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:0100 with a minimum grade of C- or MATH:1440 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or MATH:1860 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or MATH:1550 with a minimum grade of C-. Requirements: elementary teacher certificate candidacy or certification. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

MATH:1340 Mathematics for Business**4 s.h.**

Algebraic techniques, functions and functional models, exponential and logarithmic functions and models, linear programming, informal introduction to calculus; examples and applications from management, economic sciences, related areas. Prerequisites: MATH:1005 with a minimum grade of C- or MPT Level 3 score of 9 or higher or ALEKS score of 45 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1380 Calculus and Matrix Algebra for Business**4 s.h.**

Quantitative methods for treating problems arising in management, economic sciences, related areas; introduction to differential and integral calculus, systems of linear equations and matrix operations. Prerequisites: MATH:1340 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1020 with a minimum grade of C- or ALEKS score of 65 or higher or MATH:1440 with a minimum grade of C- or MATH:1005 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1440 Mathematics for the Biological Sciences**4 s.h.**

Relations, functions, coordinate systems, graphing, polynomials, trigonometric functions, logarithmic and exponential functions; discrete mathematics, probability; examples and applications from biological sciences. Prerequisites: MATH:1005 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or ALEKS score of 55 or higher or MATH:1010 with a minimum grade of C- or MPT Level 3 score of 9 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1460 Calculus for the Biological Sciences 4 s.h.

One-semester survey of calculus for students in biological or life sciences; non-theoretical treatment of differential and integral calculus; brief introduction to differential equations and probability with calculus, with applications to the life sciences. Prerequisites: MATH:1440 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or ALEKS score of 70 or higher or (ALEKS score of 55 or higher and MATH:1010 with a minimum grade of C-) or (MATH:1010 with a minimum grade of C- and MATH:1340 with a minimum grade of C-) or MPT Level 3 score of 9 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1550 Engineering Mathematics I: Single Variable Calculus 4 s.h.

Limits, derivatives, max/min, other applications, mean-value theorem, approximating functions, concavity, curve sketching, exponential models; Riemann sums, fundamental theorem; integration techniques, improper integrals, approximations. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1005 with a minimum grade of C-) or MPT Level 3 score of 9 or higher or ALEKS score of 75 or higher or (MATH:1380 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or (MATH:1010 with a minimum grade of C- and ALEKS score of 55 or higher) or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-). Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1560 Engineering Mathematics II: Multivariable Calculus 4 s.h.

Vector geometry; functions of several variables; polar coordinates; partial derivatives, gradients, directional derivatives; tangent lines and planes; max/min/parametric curves, curvilinear motion; multiple integrals; vector fields, flows; integration on curves, work; divergence, flux, Green's theorem. Prerequisites: MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C- or MPT Level 3 score of 15 or higher. Requirements: score of 4 or higher on AP Calc (AB) exam, or score of 4 or higher on AP Calc (BC) exam.

MATH:1850 Calculus I 4 s.h.

Fundamental concepts, limits, methods, and techniques of differential calculus of a single variable; definite and indefinite integrals, substitution rule, fundamental theorem of calculus; applications including graphing, extreme values, areas, and volumes. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1380 with a minimum grade of C-) or MATH:1460 with a minimum grade of C- or ALEKS score of 75 or higher or MPT Level 3 score of 9 or higher or (ALEKS score of 55 or higher and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-). Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

MATH:1860 Calculus II 4 s.h.

Techniques of integration including by-parts, trigonometric Integrals, trigonometric substitutions, partial fractions, improper integrals; applications (i.e., arclength), area surfaces of revolutions, application to physics; introduction to differential equations; parametric equations and polar coordinates; infinite sequences and series, convergence tests, power series, Taylor polynomials and series. Prerequisites: MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C- or MPT Level 3 score of 15 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

MATH:2150 Foundations of Geometry 3 s.h.

Axiomatic development of common foundation for Euclidean, non-Euclidean geometry; constructions of non-Euclidean models, independence of parallel postulate. Prerequisites: MATH:1860 or MATH:1560.

MATH:2550 Engineering Mathematics III: Matrix Algebra 2 s.h.

Applications, computers for matrix calculations; matrix, vector arithmetic; linear independence, basis, subspace (in R^2 , R^3); systems of equations, matrix reduction; rank, dimension; determinants, applications; eigenvalues, eigenvectors; diagonalization, principal axis theorem. Prerequisites: MATH:1850 or MATH:1550 or MATH:1860 or MATH:1560 or MPT Level 3 score of 15 or higher.

MATH:2560 Engineering Mathematics IV: Differential Equations 3 s.h.

Ordinary differential equations and applications; first-order equations; higher order linear equations; systems of linear equations, Laplace transforms; introduction to nonlinear equations and systems, phase plane, stability. Prerequisites: (MATH:1560 or MATH:1860) and (MATH:2700 or MATH:2550).

MATH:2700 Introduction to Linear Algebra 4 s.h.

Vector algebra and geometry of three-dimensional Euclidean space and extensions to n-space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row echelon form, dimension, rank, determinants, eigenvalues and eigenvectors, diagonalization, Principal Axis Theorem. Prerequisites: MATH:1850 or MATH:1550 or MATH:1860 or MATH:1560 or MPT Level 3 score of 15 or higher.

MATH:2850 Calculus III 4 s.h.

Multivariable calculus; vector functions, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, line integrals, surface integrals, and Green's, Stokes', and divergence theorems. Prerequisites: MATH:1860 with a minimum grade of C- or MATH:1560 with a minimum grade of C-.

MATH:2995 Introduction to Research Opportunities 1 s.h.

Modern mathematics research areas and activities; seminar. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1560 or MATH:1860).

MATH:3550 Engineering Mathematics V: Vector Calculus**3 s.h.**

Partial derivatives, max-min problems, integrals along curves, surfaces and solids, vector fields and conservation of energy; curl, divergence, Stokes' theorem and the divergence theorem; the classical partial differential equations and qualitative behavior of their solutions. Prerequisites: MATH:1560 and (MATH:2550 or MATH:2700). Corequisites: MATH:2560.

MATH:3600 Introduction to Ordinary Differential Equations**2-3 s.h.**

First-order ordinary differential equations; second-order linear differential equations; series solutions; higher-order linear and matrix differential equations; existence and uniqueness theorems. Prerequisites: (MATH:1560 or MATH:1860) and (MATH:2550 or MATH:2700). Corequisites: MATH:2850 (if not taken as a prerequisite). Requirements: prior or concurrent enrollment in MATH:2850.

MATH:3700 Introduction to Matrix Theory**3 s.h.**

Vector algebra and geometry of three-dimensional Euclidean space and extensions to n -space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row-echelon form, dimension, rank, determinants, eigenvalues and eigenvectors, diagonalization, Principal Axis Theorem. Requirements: graduate standing.

MATH:3720 Introduction to Abstract Algebra I**4 s.h.**

Basic logic, proof methods, sets, functions, relations, mathematical induction; gradual transition from familiar number systems to abstract structures—division algorithm, unique factorization theorems; groups, subgroups, quotient groups, homomorphisms. Prerequisites: MATH:2700 or MATH:2550.

MATH:3750 Classical Analysis**3 s.h.**

Multivariable calculus; vector functions, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, line integrals, surface integrals, and Green's, Stokes', and divergence theorems. Requirements: graduate standing and one year of calculus.

MATH:3770 Fundamental Properties of Spaces and Functions I**4 s.h.**

Elementary topological and analytic properties of real numbers; emphasis on ability to handle definitions, theorems, proofs. Prerequisites: MATH:1560 or MATH:1860. Corequisites: MATH:2700. Requirements: second-semester calculus.

MATH:3800 Elementary Numerical Analysis**3 s.h.**

Computer arithmetic, root finding, polynomial approximation, numerical integration, numerical linear algebra, numerical solution of differential equations; use of a higher-level computer language such as Matlab, Python, or Julia. Prerequisites: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860). Same as CS:3700.

MATH:3900 Introduction to Mathematics Research**3 s.h.**

Research experience; students study an elementary topic of active research, then work in groups under faculty supervision. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1860 or MATH:1560).

MATH:3995 Topics in Mathematics**3 s.h.**

Varied topics. Recommendations: junior, senior, or graduate standing in mathematics, classics, or related fields.

MATH:3996 Individual Study and Honors in Mathematics**arr.****MATH:3997 Readings in Mathematics****arr.****MATH:4010 Basic Analysis****3 s.h.**

Elementary topological and analytical properties of real numbers; emphasis on ability to handle definitions, theorems, proofs; same material as MATH:3770 for non-mathematics graduate students. Requirements: graduate standing, one year of calculus, and one semester of linear algebra.

MATH:4020 Basic Abstract Algebra**3 s.h.**

Basic logic, proof methods, sets, functions, relations, mathematical induction; gradual transition from familiar number systems to abstract structures (division algorithm, unique factorization theorems); groups, subgroups, quotient groups, homomorphisms; same material as MATH:3720; for non-mathematics graduate students. Requirements: graduate standing, one year of calculus, and one semester of linear algebra.

MATH:4040 Matrix Theory**3 s.h.**

Vector spaces, linear transformations, matrices, equivalence of matrices, eigenvalues and eigenvectors, canonical forms, similarity, orthogonal transformations, bilinear and quadratic forms. Prerequisites: MATH:2700 or MATH:3700.

MATH:4050 Introduction to Discrete Mathematics**3 s.h.**

Basic methods of enumerative combinatorics, inclusion-exclusion and generating functions, applications of group theory (Polya-Burnside theorem). Offered fall semesters. Prerequisites: (MATH:1860 or MATH:1560) and (MATH:2550 or MATH:2700).

MATH:4060 Discrete Mathematical Models**3 s.h.**

Basic combinatorics and graph theory, their applications (which may include scheduling, matching, optimization); Eulerian and Hamiltonian paths, spanning trees. Offered spring semesters. Prerequisites: MATH:2700 or MATH:2550.

MATH:4080 Elementary Theory of Numbers**3 s.h.**

Factorization, congruence, Diophantine equations, law of quadratic reciprocity. Prerequisites: MATH:1860 and MATH:2700.

MATH:4090 A Rigorous Introduction to Abstract Algebra**4 s.h.**

Rigorous review of groups including homomorphisms and quotient groups; group actions; Sylow's theorems; rigorous review of rings; ideals, ring homomorphisms, quotient rings; polynomial rings; vector spaces and linear transformations; basic field theory; serves as a bridge between MATH:3720 and MATH:5000. Prerequisites: MATH:3720. Requirements: MATH:3720 or graduate standing.

MATH:4120 History of Mathematics**3 s.h.**

May include numerical systems; Babylonian, Egyptian, and Greek mathematics; mathematics of other cultures; calculus; 19th- and 20th-century mathematics. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1560 or MATH:1860). Requirements: two semesters of calculus and one semester of linear algebra.

MATH:4200 Complex Variables**3 s.h.**

Geometry of complex plane, analytic functions; Cauchy-Goursat theorem, applications; Laurent series, residues, elementary conformal mapping. Prerequisites: MATH:2850 or MATH:1560 or MATH:3750.

MATH:4210 Foundations of Analysis 4 s.h.

Introduction to fundamental ideas of analysis; emphasis on understanding and constructing definitions, theorems, and proofs; real and complex numbers, set theory in metric spaces, compactness and connectedness, sequences, Cauchy sequences, series, and continuity; elements of differential and integral calculus; sequences and series of functions; modes of convergence; equicontinuity; serves as a bridge between MATH:3770 and MATH:5200. Prerequisites: MATH:3770. Requirements: MATH:3770 or graduate standing.

MATH:4250 Introduction to Financial Mathematics 3 s.h.

Financial mathematics; option pricing and portfolio optimization, stochastic integration, methods due to Ito and Feynman-Kac, Monte-Carlo simulation. Prerequisites: MATH:2850 or STAT:3120.

MATH:4500 Introduction to Differential Geometry I 3 s.h.

Space curves, Frenet frames, intrinsic and extrinsic geometry of surfaces, first and second fundamental forms, isometries, Gauss map, Gaussian curvature, Theorema Egregium, geodesics, covariant differentiation; may include global theory of curves and Gauss-bonnet theorem. Prerequisites: (MATH:3550 or MATH:2850) and (MATH:2700 or MATH:2550).

MATH:4510 Introduction to Differential Geometry II 3 s.h.

Continuation of MATH:4500; geometry of surfaces in Euclidean space, Gauss-Bonnet theorem and its applications, minimal surfaces, abstract surfaces; may include Riemannian manifolds, connections, elementary Lie groups, applications of differential geometry to other disciplines (physics, engineering). Prerequisites: MATH:4500.

MATH:4610 Continuous Mathematical Models 3 s.h.

Building and analyzing mathematical models involving differential equations for specific problems from engineering and the sciences; modeling project. Prerequisites: MATH:2560 or MATH:3600.

MATH:4740 Large Data Analysis 3 s.h.

Current areas that deal with problem of Big Data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or IE:3760 or IGPI:3200). Same as CS:4740, IGPI:4740, STAT:4740.

MATH:4820 Optimization Techniques 3 s.h.

Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: (MATH:2700 or MATH:2550) and (ME:4111 or MATH:3800 or CS:3700) and (MATH:1560 or MATH:2850). Same as CS:4720.

MATH:4860 High Performance and Parallel Computing 3 s.h.

Parallel algorithms presented and implemented with different approaches and libraries (e.g., OpenMP, MPI); various platforms including Message Passing Clusters, Multicore and GPUs, MapReduce (Hadoop), and related current topics; scientific computing and large data analysis projects. Prerequisites: (CS:2210 with a minimum grade of C- or MATH:4050) and CS:2230 with a minimum grade of C-. Same as CS:4700.

MATH:5000 Abstract Algebra I 4 s.h.

Groups and homomorphisms, Sylow Theorems, rings, finitely generated modules over a PID, Galois theory, vector spaces, linear transformations and matrices, canonical forms. Prerequisites: MATH:3720 or MATH:4090.

MATH:5010 Abstract Algebra II 4 s.h.

Continuation of MATH:5000. Prerequisites: MATH:5000.

MATH:5200 Introduction to Analysis I 4 s.h.

Real numbers, fundamentals of limits and continuity in the context of metric spaces; Lebesgue theory of functions of one real variable. Prerequisites: MATH:3770 or MATH:4210. Requirements: MATH:3770 or graduate standing.

MATH:5210 Introduction to Analysis II 4 s.h.

Local theory of analytic functions of one complex variable, power series, classical transcendental functions; spaces of functions. Prerequisites: MATH:5200.

MATH:5400 General Topology 4 s.h.

Basic concepts of general topological spaces and continuous functions: countability of sets, topological space, comparing topologies; subspace, order, and product topologies; closed sets and limit points, continuous functions, metric topology, quotient topology (including projective spaces and gluing cells), connectedness in the real line and in general spaces, components and local connectedness, compactness in Euclidean and general spaces, limit point compactness, local compactness, countability axioms, separation axioms, normal spaces and Urysohn's Lemma, complete metric spaces, convergence in function spaces. Prerequisites: MATH:3770 or MATH:4210.

MATH:5410 Introduction to Smooth Manifolds 4 s.h.

Calculus on smooth manifolds; smooth functions, mean value theorem, chain rule, smooth manifolds, tangent vectors, tangent spaces, inverse and implicit functions theorems, submersions and immersions, vector fields, flows, multilinear algebra, differential forms, Stokes theorem. Prerequisites: MATH:2700 and MATH:2850 and MATH:5400.

MATH:5600 Nonlinear Dynamics with Numerical Methods 4 s.h.

Nonlinear differential equations, one- and two-dimensional flows, stability, phase plane analysis, limit cycles, bifurcations, chaos, fractals; Euler's, multistep, and Runge-Kutta numerical methods. Prerequisites: MATH:3600 and (MATH:3770 or MATH:4210).

MATH:5700 Partial Differential Equations with Numerical Methods 4 s.h.

Conservation laws, weak solutions, diffusion equation, Laplace's equation, finite difference methods, variational methods, finite element method. Prerequisites: MATH:2850 and MATH:3600 and (MATH:3770 or MATH:4210).

MATH:5800 Numerical Analysis: Nonlinear Equations and Approximation Theory 4 s.h.

Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: MATH:2700 and (MATH:2850 or MATH:3550). Requirements: knowledge of computer programming. Same as CS:5710.

MATH:5810 Numerical Analysis: Differential Equations and Linear Algebra 4 s.h.

Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: MATH:2700 and MATH:5800 and (MATH:2850 or MATH:3550) and (MATH:3600 or MATH:2560). Requirements: knowledge of computer programming. Same as CS:5720.

- MATH:5900 First-Year Graduate Seminar** 1 s.h.
Introduction to mathematics graduate program.
Requirements: first-year graduate standing in mathematics.
- MATH:5950 Qualifying Exam Preparation Seminars** 0 s.h.
Exam preparation in pure and applied mathematics.
- MATH:6000 Introduction to Algebra I** 3 s.h.
Abstract algebra: semigroups, groups, rings, integral domains, polynomial rings, division rings, fields, vector spaces, matrices, modules over rings, lattices, categories. Prerequisites: MATH:5010.
- MATH:6010 Introduction to Algebra II** 3 s.h.
Continuation of MATH:6000. Prerequisites: MATH:6000.
- MATH:6200 Analysis I** 3 s.h.
Lebesgue measure and integral, fundamental theorem of calculus, abstract measures and integration, Fubini's theorem, Radon-Nikodym theorem, Riesz representation theorem, L-p spaces. Prerequisites: MATH:5210.
- MATH:6210 Analysis II** 3 s.h.
Hilbert space, Banach space techniques; Hahn-Banach theorem, open mapping theorem, principle of uniform boundedness; reflexivity, H-p spaces, Paley-Wiener theorem, space of functions analytic on the open unit disk. Prerequisites: MATH:6200.
- MATH:6400 Introduction to Algebraic Topology** 3 s.h.
Homotopy, fundamental group and covering spaces, CW and simplicial complexes, simplicial homology, Euler characteristic. Prerequisites: MATH:5400.
- MATH:6410 Introduction to Differential Topology** 3 s.h.
Manifolds, functions: tangent bundle, Morse-Sard theorem, transversality, submanifolds, tubular neighborhoods, normal bundles, vector fields, degree and intersection theory, fixed-point theory, Morse theory. Prerequisites: MATH:5410.
- MATH:6500 Differential Geometry I** 3 s.h.
Differentiable manifolds, forms, tensors, Riemannian metrics, isometries, connections, geodesics, curvature, related topics. Prerequisites: MATH:5410.
- MATH:6510 Differential Geometry II** 3 s.h.
Continuation of MATH:6500; varied topics, may include study of existence and uniqueness of solutions to differential equations and systems related to geometry, indefinite metrics, Lie groups, attributes of manifolds with particular curvature properties, global Riemannian geometry, Kahler geometry, applications of differential geometry to other disciplines. Prerequisites: MATH:6500.
- MATH:6600 Ordinary Differential Equations I** 3 s.h.
Existence, uniqueness, continuous dependence of solutions to initial value problems, variational calculus, Lagrangian and Hamiltonian systems, differential inequalities, perturbation theory, normal forms, invariant manifolds, KAM theory, bifurcation theory, boundary value problems. Prerequisites: MATH:5210.
- MATH:6610 Ordinary Differential Equations II** 3 s.h.
Continuation of MATH:6600. Prerequisites: MATH:6600.
- MATH:6700 Partial Differential Equations I** 3 s.h.
Elliptic equations; potential theory, maximum principle, a priori estimate, Dirichlet problem; initial value problem for parabolic equations; hyperbolic equations; Duhamel's principle, Cauchy problem; nonlinear equations, characteristics, canonical form, first-order systems. Prerequisites: MATH:5210.
- MATH:6710 Partial Differential Equations II** 3 s.h.
Continuation of MATH:6700. Prerequisites: MATH:6700.
- MATH:6850 Theoretical Numerical Analysis I** 3 s.h.
Theoretical foundations of numerical analysis, within framework of functional analysis; application areas including approximation theory, numerical methods for partial differential equations, integral equations; introduction to functional analysis. Prerequisites: MATH:5200 and MATH:5210 and MATH:5800 and MATH:5810.
- MATH:6860 Theoretical Numerical Analysis II** 3 s.h.
Continuation of MATH:6850. Prerequisites: MATH:6850.
- MATH:7000 Homological Algebra** 2-3 s.h.
Modules, tensor products, groups of homomorphisms, categories, functors, homology functors, projective and injective modules, derived functors, torsion and extension functors, homological dimension. Prerequisites: MATH:6010.
- MATH:7030 Topics in Algebra** 2-3 s.h.
May include algebraic number theory, groups, representation theory, algebras, ideal theory, lattice theory. Prerequisites: MATH:6010.
- MATH:7070 Seminar: Algebra** arr.
- MATH:7080 Seminar: Commutative Ring Theory** arr.
- MATH:7090 Seminar: Representation Theory** arr.
- MATH:7200 Functional Analysis I** 2-3 s.h.
Locally convex topological vector spaces, duality, tensor products and nuclear spaces; Krein-Millman theorem, Choquet's theory; geometry of Banach spaces, nonlinear functional analysis; operators on Hilbert spaces, spectral theorem, algebras of operators. Prerequisites: MATH:6210.
- MATH:7210 Functional Analysis II** 2-3 s.h.
Continuation of MATH:7200. Prerequisites: MATH:7200.
- MATH:7250 Topics in Analysis** 2-3 s.h.
Measure theory, integration, general topology.
- MATH:7290 Seminar: Operator Theory** arr.
- MATH:7400 Topology of Manifolds** 3 s.h.
Embedding, knotting, immersions; isotopy, homotopy, regular neighborhoods, engulfing, surgery, cobordism; three-, four-, and higher dimensional manifolds. Prerequisites: MATH:6400 and MATH:6410.
- MATH:7450 Topics in Topology** 2-3 s.h.
May include homotopy theory, topology of 3-manifolds, 4-manifolds, or higher-dimensional manifolds, knotting and embedding problems, fiber bundles and characteristic classes, K-theory, PL manifolds, infinite-dimensional manifolds.
- MATH:7470 Seminar: Topology** arr.
- MATH:7570 Seminar: Differential Geometry** arr.
- MATH:7580 Seminar: Mathematical Physics** arr.
- MATH:7630 Topics in Mathematical Biology** 2-3 s.h.
Application of mathematics to biology.
- MATH:7660 Seminar: Nonlinear Dynamics and Differential Equations** arr.
- MATH:7670 Seminar: Mathematical Biology** arr.
- MATH:7730 Topics in Partial Differential Equations** 2-3 s.h.
Regularity theory, nonlinear analysis in partial differential equations, fluid dynamics, harmonic analysis, conservation laws, other topics.
- MATH:7770 Seminar: Partial Differential Equations** arr.

MATH:7830 Topics in Applied Mathematics

Application of mathematics to other disciplines.

arr.**MATH:7870 Seminar: Numerical Analysis****arr.****MATH:7990 Reading Research****arr.**

Mathematics, B.A.

Learning Outcomes

Math majors will be able to demonstrate the ability to:

- give correct, logical mathematical proofs using mathematical terminology and hypotheses;
- reason logically and quantitatively using algebraic, analytic, and numerical methods;
- incorporate mathematical ideas and reasoning into well-written English; and
- model and analyze problems in pure mathematics and in other disciplines.

Overview

Bachelor of Arts students majoring in mathematics enroll in one of three programs: Program A is for students who plan to work in business or government or pursue graduate study in mathematics; program B is for students who seek secondary school teaching licensure; and program C is for those seeking specialization in a math-related area, such as actuarial science, biomathematics, business, computer science, economics, physics, statistics, and so forth. Program C may be especially appropriate for students who plan to seek a math-related job after earning a bachelor's degree, rather than going on to graduate study.

B.A. with Second Major

Students majoring in mathematics may choose to earn a second major in computer science, statistics, actuarial science, or other disciplines. They must satisfy all requirements of program A, program B, or program C in mathematics as well as all requirements for the second major. For more information, consult an advisor and see Declaring or Changing a Major on the College of Liberal Arts and Sciences website.

Transfer from Engineering to Mathematics

Certain engineering students who have completed MATH:1550 Engineering Mathematics I: Single Variable Calculus, MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, or MATH:3550 Engineering Mathematics V: Vector Calculus may count these courses toward the major in mathematics. See the department's Handbook for Undergraduate Majors or the Department of Mathematics website.

Requirements

The Bachelor of Arts with a major in mathematics requires a minimum of 120 s.h., including at least 38-41 s.h. (11-12 courses) of work for the major. Total credit for the major depends on a student's choice of program A, B, or C. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

All students complete the post-calculus mathematics requirement, the upper-level mathematics requirement, and the requirements for program A, B, or C.

For policies concerning transfer credit, correspondence credit, credit by examination, cumulative grade-point average, general rules relating to regression and duplication, and so forth, see For Current Students on the College of Liberal Arts and Sciences website. For information about duplication, regression, and use of the second-grade-only option for mathematics courses, contact the Department of Mathematics or the Department of Mathematics website.

The department's Handbook for Undergraduate Majors provides details about schedule planning and career options for mathematics students. For more information on admission, financial support, employment opportunities, the faculty, facilities, and other topics, visit the University of Iowa and Department of Mathematics website.

The B.A. with a major in mathematics (program A, B, or C) requires the following course work.

Code	Title	Hours
Program Requirements (semester hours vary in program A, B, or C selection)		38-48
Total Hours		38-48

Post-Calculus Mathematics Requirement

Students majoring in mathematics must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa; students may not count transfer courses or credit by exam toward this requirement. At least 12 s.h. of the required 15 s.h. in post-calculus courses must be earned in Department of Mathematics courses (prefix MATH) or in courses cross-listed with the department.

Post-calculus courses in the Department of Mathematics are numbered 2000 or above, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	3
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses offered by the Department of Computer Science, and the Department of Statistics and Actuarial Science must have a calculus prerequisite.

Upper-Level Mathematics Requirement

Majors must take at least one upper-level mathematics course for the B.A. degree. Upper-level mathematics courses include MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding these:

Code	Title	Hours
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3
MATH:4120	History of Mathematics	3

No courses from other departments can be counted as upper-level mathematics courses, unless they are cross-listed with an upper-level mathematics course (prefix MATH).

Program A

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

Program A: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit granted through the Mathematics Incentive Program is accepted for all or part of the calculus requirement.

Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program A: Electives

Students complete four electives (12-16 s.h.), including at least one upper-level mathematics course.

Mathematics

Students may choose from mathematics courses numbered MATH:2150 Foundations of Geometry, MATH:3800 Elementary Numerical Analysis or courses above MATH:3800, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra.

Computer Science

Students may choose computer science courses numbered CS:1210 through CS:4740, excluding CS:3210 Programming Languages and Tools, CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:3990 Honors in Computer Science or Informatics.

Statistics and Actuarial Science

Students may choose statistics courses numbered STAT:2020 Probability and Statistics for the Engineering and Physical Sciences, STAT:3100 through STAT:4740, STAT:5100 through STAT:5120, excluding STAT:3510 Biostatistics, STAT:4143 Introduction to Statistical Methods, and STAT:4200 Statistical Methods and Computing.

Among the courses listed above, only one of the following three courses, STAT:2020, STAT:3100, or STAT:3120 can be counted; although none of these courses can be counted if taken after STAT:4100.

Students may choose actuarial science courses numbered ACTS:3080 Mathematics of Finance I and ACTS:4130 through ACTS:4380.

Consult the department's Handbook for Undergraduate Majors for a complete list of electives in computer science, and statistics and actuarial science.

Program B

Program B is intended for students seeking secondary school teaching licensure. Students who wish to earn teaching licensure in addition to earning a Bachelor of Arts with a major in mathematics also must complete the Teacher Education Program (TEP); see "Teacher Licensure" below.

Program B: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement. Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2150	Foundations of Geometry	3
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
MATH:4050 or MATH:4060	Introduction to Discrete Mathematics Discrete Mathematical Models	3
CS:1210	Computer Science I: Fundamentals	4
STAT:3120	Probability and Statistics	4

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program B: Electives

Students in Program B must take at least one additional Department of Mathematics post-calculus course (3-4 s.h.). The post-calculus courses must be chosen avoiding duplication and regression with the core mathematics courses, particularly when engineering mathematics courses are considered. With the department's approval, capable students are encouraged to substitute more advanced courses in the same subject area for any of the electives. The Handbook for Undergraduate Majors offers advice on course selection.

Teacher Licensure

Mathematics majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's TEP in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students who wish to earn teacher licensure should choose program B; see "Program B" above.

Program C

Program C enables students to specialize in a mathematics-related subtrack, such as the mathematics of making optimal business decisions, risk management and insurance, economics, finance, physics, chemistry, biostatistics, biomathematics, computer science, statistics and actuarial science, or all departments within the College of Engineering. In consultation with the faculty advisor, students build on the Program C core to prepare a subtrack plan of study tailored to their interests and academic or career goals. The proposed study plan must be approved by the Department of Mathematics.

Students must file their subtrack plan of study before they begin their senior year; they use the Program C Plan of Study form, available at the Department of Mathematics website. The Handbook for Undergraduate Majors has templates for choosing electives in several areas; students may use these or propose other plans.

Program C: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement. Students complete the following core mathematics courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
One additional "proofs" course such as MATH:3720 or MATH:3770		4

Some subtracks require additional core courses from other departments; consult the Handbook for Undergraduate Majors or the Department of Mathematics website. Additional non-math core courses count toward electives (see "Program C: Electives" below). Students who specialize in engineering should consult the Department of Mathematics.

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program C: Electives

Students choose six or seven electives beyond the core math courses, depending on their subtrack. All electives must be offered for 3-4 s.h. of credit. At least three of the electives must be offered by the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science (prefixes CS, MATH, and STAT or ACTS). At least two of the three electives must be post-calculus mathematics courses (prefix MATH). All B.A. students must take 15 s.h. of post-calculus mathematics courses and at least one upper-level mathematics course; see "Post-Calculus Mathematics Requirement" and "Upper-Level Mathematics Requirement" above.

Some subtracks require additional core courses from other departments (see "Program C: Core Courses" above); the additional non-math core courses count toward electives. For a list of suggested subtracks and restrictions on electives in each subtrack, consult the Handbook for Undergraduate Majors or the Department of Mathematics website.

Combined Programs

B.A./M.A.T. (Mathematics Education Subprogram)

The College of Liberal Arts and Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts/Master of Arts in Teaching degree with a mathematics education subprogram in as little as five years.

Students can begin work toward the M.A.T. while completing their bachelor's degree. The combined program allows students to count a limited amount of credit toward both the B.A. and M.A.T. degree requirements.

Separate application to each program is required. For more information, see "Mathematics Education" in the Master of Arts in Teaching [p. 1274] section of the Catalog.

Honors

Honors in the Major

Students majoring in mathematics have the opportunity to graduate with honors in the major. Departmental honors students must complete all requirements for the major and must maintain a g.p.a. of at least 3.40 in the major and overall. To graduate with honors in the major, they must complete one of the options below.

Option 1: complete four of the courses below, including a two-course sequence, with a B average for the four courses.

Code	Title	Hours
MATH:4090	A Rigorous Introduction to Abstract Algebra	4
MATH:4210	Foundations of Analysis	4
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400 & MATH:5410	General Topology - Introduction to Smooth Manifolds	8
MATH:5600 & MATH:5700	Nonlinear Dynamics with Numerical Methods - Partial Differential Equations with Numerical Methods	8
MATH:5800 & MATH:5810	Numerical Analysis: Nonlinear Equations and Approximation Theory - Numerical Analysis: Differential Equations and Linear Algebra	8

Mathematics courses (prefix MATH) numbered 6000 or above, to be approved by the mathematics honors advisor in advance

Option 2: complete an honors project comparable to taking several of the courses above, approved by the mathematics honors advisor and the thesis supervisor. Students who choose this option typically register for MATH:3996 Individual Study and Honors in Mathematics for 3 s.h. or more. They must find a faculty member willing to supervise their project; contact the department for help finding a project supervisor. Contact the Department of Mathematics honors advisor for more information.

It is recommended that students who earn honors in mathematics pursue the B.S. degree.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program. Honors in mathematics is awarded by the Department of Mathematics and is separate from the University of Iowa Honors Program.

Membership in the UI Honors Program is not required to earn honors in the mathematics major. However, honors in mathematics can be applied toward UI Honors Program requirements.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Note: Many mathematics courses must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be constructed carefully. The major typically requires 11 or 12 courses. Students must choose program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

Before the third semester begins: course work in the major through second-semester calculus

Before the fifth semester begins: two or three more courses in the major

Before the seventh semester begins: three or four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Mathematics, B.A.

- Program A [p. 728]
- Program B [p. 729]

Program A

Course	Title	Hours
Academic Career		
Any Semester		

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

	Hours	0
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1850	Calculus I ^a	4
GE CLAS Core: Values and Culture ^b		3
CSI:1600	Success at Iowa	2
Elective course ^c		2
	Hours	14-15

Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^c		2
	Hours	15-16

Second Year		
Fall		
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
GE CLAS Core: Social Sciences ^b		3
Elective course ^{c, e}		1
	Hours	16-17

Spring		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
GE CLAS Core: Historical Perspectives ^b		3
Elective course ^{c, e}		2
	Hours	16-17

Third Year		
Fall		
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
MATH:3770	Fundamental Properties of Spaces and Functions I	4
Major: required post-calculus math elective course ^f		3
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^c		1
	Hours	16-17

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d	4 - 5
Major: required post-calculus math elective course ^f	3
Elective course ^{c, e}	3
GE CLAS Core: Natural Sciences without Lab ^b	3
Elective course ^{c, e}	3
Hours	16-17

Fourth Year**Fall**

Major: required upper-level math elective course ^g	3
GE CLAS Core: International and Global Issues ^b	3
Elective course ^{c, e}	3
Elective course ^{c, e}	3
Elective course ^{c, e}	3
Hours	15

Spring

Major: required post-calculus math elective course ^f	3
Elective course ^{c, e}	3
Elective course ^{c, e}	3
Elective course ^{c, e}	3
Elective course ^{c, e}	3
Hours	15
Total Hours	123-129

- a Enrollment in math courses requires completion of a placement exam.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Electives may also be used to complete additional hours in the major up to a total of 56 s.h.
- f Students must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa. Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020. Required mathematical electives must include at least one upper-level math course (prefix MATH). Some statistics, actuarial science and computer sciences courses can be included among post-calculus electives only. See advisor for list of acceptable courses in MATH, STAT, ACTS, and CS.
- g Required mathematical electives must include at least one upper-level math course. These include: MATH:3900 and math courses (MATH prefix) numbered 4000 and higher, but not MATH:4010, MATH:4020 and MATH:4120. Each upper-level math course is offered at most once per year; choose when to complete the upper-level requirement according to spring or fall offerings for desired courses.

Program B

Course	Title	Hours
Academic Career		
Any Semester		

Program B is intended for students seeking secondary school teaching licensure.^a

Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.

Hours	0
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First Year**Fall**

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
MATH:1850	Calculus I ^c	4
CSI:1600	Success at Iowa	2
Elective course ^d		2
Hours		15-17

Spring

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
PSQF:1075	Educational Psychology and Measurement ^e	3
GE CLAS Core: Diversity and Inclusion ^f		3
Hours		17-19

Summer

Exam: PRAXIS test for Teacher Education Program^g

Hours	0
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Second Year**Fall**

GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
MATH:2700	Introduction to Linear Algebra ^h	4
MATH:2850	Calculus III	4
EPLS:3000	Foundations of Education ^e	3
Elective course ^d		1
Admission Application: Teacher Education Program ⁱ		
Hours		16-17

Spring

MATH:2150	Foundations of Geometry ^j	3
EDTL:3091	Secondary Education Program Orientation and Classroom Management ^{k, l}	3
EDTL:3095	Teaching Reading in Secondary Content Areas ^{k, l}	1
EDTL:3002	Technology in the Classroom ^{k, l}	2
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Social Sciences ^{f, m}		3
Hours		16-17

Third Year**Fall**

MATH:3720	Introduction to Abstract Algebra I	4
MATH:4050	Introduction to Discrete Mathematics ⁿ	3

EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:4900	Foundations of Special Education ^e	3
GE CLAS Core: Historical Perspectives ^{f, m}		3
Hours		16

Spring

MATH:3770	Fundamental Properties of Spaces and Functions ^l	4
STAT:3120	Probability and Statistics	4
EDTL:3534	Methods: Middle School Mathematics	3
EPLS:4180	Human Relations for the Classroom Teacher ^l	3
Elective course ^d		1
Hours		15

Fourth Year**Fall**

GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
GE CLAS Core: Natural Sciences with Lab ^f		4
Major: required post-calculus math elective course ^o		3 - 4
EDTL:4535	Methods: High School Mathematics	3
Elective course ^d		2
Hours		15-16

Spring

CS:1210	Computer Science I: Fundamentals ^h	4
GE CLAS Core: Natural Sciences without Lab ^f		3
GE CLAS Core: International and Global Issues ^f		3
Elective course ^d		3
Elective course ^d		2
Hours		15

Fifth Year**Fall**

EDTL:4087	Seminar: Curriculum and Student Teaching ^l	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School ^l	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School ^l	6
Hours		15
Total Hours		140-147

- a Completion of the Mathematics Program B.B.A. major requirements (41-42 s.h.), the Teacher Education Program requirements (39 s.h.), and all general education requirements (including World Languages) (48-52 s.h.) exceeds the minimum 120 s.h. expected for a bachelor's degree in CLAS. Students pursuing this program of study should expect to take higher than average number (15 s.h.) of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Course required for the Teacher Education Program and may be completed prior to admission to the College of Education.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Required for admission into the Teacher Education Program.

h Course may also be offered in the summer session.

i Application deadlines can be found on the College of Education's website. Admission is selective and a priority deadline exists.

j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

k Course must be completed during the first semester of enrollment in the Teacher Education Program.

l Course required for the Teacher Education Program and may only be completed after admission to the College of Education.

m Requirement should be completed after admission to the Teacher Education Program.

n Students must complete MATH:4050, a fall-only course, or MATH:4060, a spring-only course.

o Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Mathematics, B.S.

Learning Outcomes

Math majors will be able to demonstrate the ability to:

- give correct, logical mathematical proofs using mathematical terminology and hypotheses;
- reason logically and quantitatively using algebraic, analytic, and numerical methods;
- incorporate mathematical ideas and reasoning into well-written English; and
- model and analyze problems in pure mathematics and in other disciplines.

Overview

Bachelor of Science students majoring in mathematics enroll in one of three programs: Program A is for students who plan to work in business or government or pursue graduate study in mathematics; program B is for students who seek secondary school teaching licensure; and program C is for those seeking specialization in a mathematics-related area, such as actuarial science, biomathematics, business, computer science, economics, physics, statistics, and so forth. Program C may be especially appropriate for students who plan to seek a mathematics-related job after earning a bachelor's degree, rather than going on to graduate study.

B.S. with Second Major

Students majoring in mathematics may choose to earn a second major in computer science, statistics, actuarial science, or other disciplines. They must satisfy all requirements of program A, program B, or program C in mathematics as well as all requirements for the second major. For more information, consult an advisor and see Declaring or Changing a Major on the College of Liberal Arts and Sciences website.

Transfer from Engineering to Mathematics

Certain engineering students who have completed MATH:1550 Engineering Mathematics I: Single Variable Calculus, MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, or MATH:3550 Engineering Mathematics V: Vector Calculus may count these courses toward the major in mathematics. See the department's Handbook for Undergraduate Majors or the Department of Mathematics website.

Requirements

The Bachelor of Science with a major in mathematics requires a minimum of 120 s.h., including at least 44-47 s.h. (13-14 courses) of work for the major. Total credit for the major depends on a student's choice of program A, B, or C. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

All students complete the post-calculus mathematics requirement, the upper-level mathematics requirement, and the requirements for program A, B, or C.

For policies concerning transfer credit, correspondence credit, credit by examination, cumulative grade-point average, general rules relating to regression and duplication, and so forth, see For Current Students on the College of Liberal Arts and Sciences website. For information about duplication, regression, and use of the second-grade-only option for mathematics courses, contact the Department of Mathematics or the Department of Mathematics website.

The department's Handbook for Undergraduate Majors provides details about schedule planning and career options for mathematics students. For more information on admission, financial support, employment opportunities, the faculty, facilities, and other topics, visit the University of Iowa and Department of Mathematics website.

The B.S. with a major in mathematics (program A, B, or C) requires the following course work.

Code	Title	Hours
Program Requirements (semester hours vary in program A, B, or C selection)		44-56
Total Hours		44-56

Post-Calculus Mathematics Requirement

Students majoring in mathematics must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa; students may not count transfer courses or credit by exam toward this requirement. At least 12 s.h. of the required 15 s.h. in post-calculus courses must be earned in Department of Mathematics courses (prefix MATH) or in courses cross-listed with the department.

Post-calculus courses in the Department of Mathematics are numbered 2000 or above, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	3
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses offered by the Department of Computer Science, and the Department of Statistics and Actuarial Science must have a calculus prerequisite.

Upper-Level Mathematics Requirement

Mathematics majors must take at least two upper-level mathematics courses for the B.S. degree. Upper-level mathematics courses include MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding these:

Code	Title	Hours
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3
MATH:4120	History of Mathematics	3

No courses from other departments can be counted as upper-level mathematics courses, unless they are cross-listed with an upper-level mathematics course (prefix MATH).

Program A

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

Program A: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit granted through the Mathematics Incentive Program is accepted for all or part of the calculus requirement.

Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program A: Electives

Students complete six electives (18-24 s.h.), including at least three upper-level mathematics courses.

Mathematics

Students may choose from mathematics courses numbered MATH:2150 Foundations of Geometry, MATH:3800 Elementary Numerical Analysis or courses above MATH:3800, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra.

Computer Science

Students may choose computer science courses numbered CS:1210 through CS:4740, excluding CS:3210 Programming Languages and Tools, CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:3990 Honors in Computer Science or Informatics.

Statistics and Actuarial Science

Students may choose statistics courses numbered STAT:2020 Probability and Statistics for the Engineering and Physical Sciences, STAT:3100 through STAT:4740, STAT:5100 through STAT:5120, excluding STAT:3510 Biostatistics, STAT:4143 Introduction to Statistical Methods, and STAT:4200 Statistical Methods and Computing.

Among the courses listed above, only one of the following three courses, STAT:2020, STAT:3100, or STAT:3120 can be counted; although none of these courses can be counted if taken after STAT:4100.

Students may choose actuarial science courses numbered ACTS:3080 Mathematics of Finance I and ACTS:4130 through ACTS:4380.

Consult the department's Handbook for Undergraduate Majors for a complete list of electives in computer science, and statistics and actuarial science.

Program B

Program B is intended for students seeking secondary school teaching licensure. Students who wish to earn teaching licensure in addition to earning a Bachelor of Science with a major in mathematics also must complete the Teacher Education Program (TEP); see "Teacher Licensure" below.

Program B: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement. Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2150	Foundations of Geometry	3
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
MATH:4050 or MATH:4060	Introduction to Discrete Mathematics Discrete Mathematical Models	3
CS:1210	Computer Science I: Fundamentals	4
STAT:3120	Probability and Statistics	4

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program B: Electives

Students in Program B must take at least three additional Department of Mathematics post-calculus courses (9-12 s.h.), including two chosen from MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra. The post-calculus courses must be chosen avoiding duplication and regression with the core math courses, particularly when engineering mathematics courses are considered. With the department's approval, capable students are encouraged to substitute more advanced courses in the same subject area for any of the electives. The Handbook for Undergraduate Majors offers advice on course selection.

Teacher Licensure

Mathematics majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students who wish to earn teacher licensure should choose program B; see "Program B" above.

Program C

Program C enables students to specialize in a mathematics-related subtrack, such as the mathematics of making optimal business decisions, risk management and insurance, economics, finance, physics, chemistry, biostatistics, biomathematics, computer science, statistics and actuarial science, or all departments within the College of Engineering. In consultation with the faculty advisor, students build on the Program C core to prepare a subtrack plan of study tailored-made to their interests and academic or career goals. The proposed study plan must be approved by the Department of Mathematics.

Students must file their subtrack plan of study before they begin their senior year; they use the Program C Plan of Study form, available at the Department of Mathematics website. The Handbook for Undergraduate Majors has templates for choosing electives in several areas; students may use these or propose other plans.

Program C: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program is accepted for part or all of the calculus requirement. Students complete the following core math courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
One additional "proofs" course such as MATH:3720 or MATH:3770		4

Some subtracks require additional core courses from other departments; consult the Handbook for Undergraduate Majors or the Department of Mathematics website. Additional non-math core courses count toward electives (see "Program C: Electives" below). Students who specialize in engineering should consult the Department of Mathematics.

More advanced courses may be substituted for the core courses, with Department of Mathematics approval.

Program C: Electives

Students choose eight or nine approved electives. All electives must be offered for 3-4 s.h. of credit. At least three of the electives must be post-calculus mathematics courses (prefix MATH). All B.S. mathematics majors must take 15 s.h. of post-calculus mathematics courses and at least two upper-level mathematics courses; see "Post-Calculus Mathematics Requirement" and "Upper-Level Mathematics Requirement" above.

Some subtracks require additional core courses from other departments (see "Program C: Core Courses" above); the additional non-math core courses count toward electives. For a list of suggested subtracks and restrictions on electives in each subtrack, consult the Handbook for Undergraduate Majors or the Department of Mathematics website.

Honors

Honors in the Major

Students majoring in mathematics have the opportunity to graduate with honors in the major. Departmental honors students must complete all requirements for the major and must maintain a g.p.a. of at least 3.40 in the major and overall. To graduate with honors in the major, they must complete one of the options below.

Option 1: complete four of the courses below, including a two-course sequence, with a B average for the four courses.

Code	Title	Hours
MATH:4090	A Rigorous Introduction to Abstract Algebra	4
MATH:4210	Foundations of Analysis	4
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400 & MATH:5410	General Topology - Introduction to Smooth Manifolds	8
MATH:5600 & MATH:5700	Nonlinear Dynamics with Numerical Methods - Partial Differential Equations with Numerical Methods	8
MATH:5800 & MATH:5810	Numerical Analysis: Nonlinear Equations and Approximation Theory - Numerical Analysis: Differential Equations and Linear Algebra	8

Mathematics courses (prefix MATH) numbered 6000 or above, to be approved by the mathematics honors advisor in advance

Option 2: complete an honors project comparable to taking several of the courses above, approved by the mathematics honors advisor and the thesis supervisor. Students who choose this option typically register for MATH:3996 Individual Study and Honors in Mathematics for 3 s.h. or more. They must find a faculty member willing to supervise their project; contact the department for help finding a project supervisor. Contact the Department of Mathematics honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program. Honors in mathematics is awarded by the Department of Mathematics and is separate from the University of Iowa Honors Program. Membership in the UI Honors Program is not required to earn honors in the mathematics major. However, honors in mathematics can be applied toward UI Honors Program requirements.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Note: Many mathematics courses must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be constructed carefully. The major typically requires 13 or 14 courses. Students must choose program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

Before the third semester begins: course work in the major through second-semester calculus

Before the fifth semester begins: three or four more courses in the major

Before the seventh semester begins: three or four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Mathematics, B.S.

- Program A [p. 734]
- Program B [p. 735]

Program A

Course	Title	Hours
Academic Career		
Any Semester		
Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.		
Hours		0
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1850	Calculus I ^a	4
GE CLAS Core: Values and Culture ^b		3
CSI:1600	Success at Iowa	2
Elective course ^c		2
Hours		14-15

Spring

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^c		1
Hours		15-16

Second Year

Fall

GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:2850	Calculus III	4
GE CLAS Core: Social Sciences ^b		3
Elective course ^c		2
Hours		16-17

Spring

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Major: required post-calculus math elective course ^e		3
MATH:3720	Introduction to Abstract Algebra I	4
GE CLAS Core: Historical Perspectives ^b		3
Elective course ^c		2
Hours		16-17

Third Year

Fall

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
MATH:3770	Fundamental Properties of Spaces and Functions I	4
Major: required post-calculus math elective course ^e		3 - 4
GE CLAS Core: Natural Sciences with Lab ^b		4
Elective course ^c		1
Hours		16-18

Spring

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Major: required upper-level math elective course ^f		3
Major: required post-calculus math elective course ^e		3 - 4
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^c		3
Hours		16-18

Fourth Year

Fall

Major: required upper-level math elective course ^f		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

Major: required upper-level math elective course ^f		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3

Elective course ^c	3
Hours	15
Total Hours	123-131

- a Enrollment in math courses requires completion of a placement exam.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa. Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020. Required mathematical electives must include at least one upper-level math course (prefix MATH). Some statistics, actuarial science and computer sciences courses can be included among post-calculus electives only. See advisor for list of acceptable courses in MATH, STAT, ACTS, and CS.
- f Required mathematical electives must include at least one upper-level math course. These include: MATH:3900 and math courses (MATH prefix) numbered 4000 and higher, but not MATH:4010, MATH:4020 and MATH:4120. Each upper-level math course is offered at most once per year; choose when to complete the upper-level requirement according to spring or fall offerings for desired courses.

Program B

Course	Title	Hours
Academic Career		
Any Semester		
Program B is intended for students seeking secondary school teaching licensure. ^a		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.		
Hours		0
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
MATH:1850	Calculus I ^c	4
CSI:1600	Success at Iowa	2
Elective course ^d		2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
PSQF:1075	Educational Psychology and Measurement ^e	3
GE CLAS Core: Diversity and Inclusion ^f		3
Hours		17-19

Summer

Exam: PRAXIS test for Teacher Education Program ^g	
Hours	0

Second Year

Fall

GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course ^b		
MATH:2700	Introduction to Linear Algebra ^h	4
MATH:2850	Calculus III	4
EPLS:3000	Foundations of Education ^e	3
Elective course ^d		1
Admission Application: Teacher Education Program ⁱ		
Hours		16-17

Spring

MATH:2150	Foundations of Geometry ^j	3
EDTL:3091	Secondary Education Program Orientation and Classroom Management ^{k, l}	3
EDTL:3095	Teaching Reading in Secondary Content Areas ^{k, l}	1
EDTL:3002	Technology in the Classroom ^{k, l}	2
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Social Sciences		3
Hours		16-17

Third Year

Fall

MATH:3720	Introduction to Abstract Algebra I	4
MATH:4050	Introduction to Discrete Mathematics ^m	3
EDTL:3532	Introduction and Practicum: Mathematics ^k	3
EDTL:4900	Foundations of Special Education ^e	3
GE CLAS Core: Historical Perspectives ^f		3
Hours		16

Spring

MATH:3770	Fundamental Properties of Spaces and Functions I	4
STAT:3120	Probability and Statistics	4
EDTL:3534	Methods: Middle School Mathematics ^k	3
EPLS:4180	Human Relations for the Classroom Teacher ^k	3
Elective course ^d		1
Hours		15

Fourth Year

Fall

GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
GE CLAS Core: Natural Sciences with Lab ^f		4
Major: required post-calculus math elective course ⁿ		3 - 4
EDTL:4535	Methods: High School Mathematics _k	3
Major: required upper-level math elective course ^o		3 - 4
Hours		16-18

Spring

CS:1210	Computer Science I: Fundamentals ^h	4
GE CLAS Core: Natural Sciences without Lab ^f		3

GE CLAS Core: International and Global Issues ^f	3
Major: required upper-level math elective course ^o	3 - 4
Elective course ^d	2

Hours	15-16
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Fifth Year

Fall

EDTL:4087	Seminar: Curriculum and Student Teaching ^k	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School ^k	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School ^k	6
Hours		15
Total Hours		141-150

- a Completion of the Mathematics Program B B.S. major requirements (41-42 s.h.), the Teacher Education Program requirements (39 s.h.), and all general education requirements (including World Languages) (48-52 s.h.) exceeds the minimum 120 s.h. expected for a bachelor's degree in CLAS. Students pursuing this program of study should expect to take higher than average number (15 s.h.) of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Course required for the Teacher Education Program and may be completed prior to admission to the College of Education.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Required for admission into the Teacher Education Program.
- h Course may also be offered in the summer session.
- i Application deadlines can be found on the College of Education's website. Admission is selective and a priority deadline exists.
- j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- k Course required for the Teacher Education Program and may only be completed after admission to the College of Education.
- l Course must be completed during the first semester of enrollment in the Teacher Education Program.
- m Students must complete MATH:4050, a fall-only course, or MATH:4060, a spring-only course.
- n Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020.
- o Upper-level electives include MATH:3900 or any MATH prefix courses numbered 4040 or higher.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Mathematics, Minor

The undergraduate minor in mathematics requires a minimum of 15 s.h. of credit earned in mathematics courses. At least 12 of the 15 s.h. must be equivalent to post-calculus math courses (prefix MATH) offered by the Department of Mathematics; credit by examination does not count toward the 12 s.h. requirement. At least 9 of the 12 s.h. in post-calculus math courses must be taken at the University of Iowa. No more than one transfer course can be counted toward the post-calculus requirement.

Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Courses numbered 2000 or above are considered post-calculus, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	3
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses must be chosen to avoid duplication and regression with the core mathematics courses, particularly when the engineering mathematics courses are considered.

Special Rules for Engineering

Students who have taken the engineering math courses —MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, and MATH:3550 Engineering Mathematics V: Vector Calculus—may satisfy the post-calculus requirement by taking an additional 3 s.h. course from the list below.

At least four of the following courses must be taken at the University of Iowa: MATH:1560, MATH:2550, MATH:2560, MATH:3550, or the additional 3 s.h. post-calculus math course; no more than one transfer course will count.

Students can choose the additional 3 s.h. course from MATH:2150 or from courses numbered MATH:3720 or above, excluding these:

Code	Title	Hours
MATH:3750	Classical Analysis	3
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

For more information, see the department's Handbook for Undergraduate Majors.

Mathematics, M.S.

Requirements

The Master of Science program in mathematics requires a minimum of 30 s.h. of graduate credit. Students earn the degree through courses and comprehensive examinations. There is no M.S. thesis. Requirements (courses and comprehensive examination areas) may be modified with the department's consent.

Four different programs (I, II, III, and IV) lead to the M.S. in mathematics.

Program I

Program I prepares students for further study of pure and applied mathematics and for employment in government and business. Students in program I take several courses and pass two comprehensive examinations. They must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the degree.

Program I requires the following courses.

Code	Title	Hours
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400	General Topology	4
MATH:5410	Introduction to Smooth Manifolds	4
MATH:5600	Nonlinear Dynamics with Numerical Methods	4
MATH:5700	Partial Differential Equations with Numerical Methods	4

The two comprehensive examinations are chosen from algebra, analysis, differential equations with numerical methods, and topology.

Program II

Program II is designed for secondary school teachers.

Program II requirements are similar to those for programs I and III, but program II students complete two mathematics education courses and a minimum of 24 s.h. in Department of Mathematics courses. The following courses may be used to satisfy the program II mathematics course requirements.

Code	Title	Hours
MATH:3600	Introduction to Ordinary Differential Equations	2-3

Mathematics courses (prefix MATH) numbered 4000 or above

Students are encouraged to consult with the mathematics education faculty when planning their course of study.

Program III

Program III focuses on applied mathematics. Students in program III take several courses and pass two comprehensive examinations. Students must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the M.S.

Program III requires the following courses.

Code	Title	Hours
All of these:		
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5600	Nonlinear Dynamics with Numerical Methods	4
MATH:5700	Partial Differential Equations with Numerical Methods	4
MATH:5800	Numerical Analysis: Nonlinear Equations and Approximation Theory	4
MATH:5810	Numerical Analysis: Differential Equations and Linear Algebra	4
Both courses in group A, or two courses from group B:		
Group A		
MATH:5400	General Topology	4
MATH:5410	Introduction to Smooth Manifolds	4
Group B		
MATH:4060	Discrete Mathematical Models	3
MATH:4610	Continuous Mathematical Models	3
MATH:4820	Optimization Techniques	3

The two comprehensive examinations are chosen from analysis, differential equations with numerical methods, numerical analysis, and topology.

Program IV

Program IV is designed for nondepartmental students working toward a Ph.D. in areas of study that require mathematical knowledge. The program has no specific required courses.

Students in program IV are considered to have passed the comprehensive examination for the master's degree in mathematics if they have maintained a g.p.a. of at least 3.00 in all mathematics courses taken for the M.S. in mathematics and have successfully completed the Ph.D. comprehensive examination in their area of study.

Students in program IV are assigned a mathematics advisor, who works with them and their major advisor to plan an appropriate curriculum for the M.S. in mathematics. A suitable program of study should be approved by a mathematics advisor before the student takes the Ph.D. comprehensive examination, and a member of the mathematics faculty should serve on the Ph.D. comprehensive examination committee.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Applicants to the Ph.D. program have preference for admission and funding.

Admission to M.S. programs I, II, and III is competitive and based on a combination of undergraduate course work and grades, letters of recommendation, and test scores. Numerical standards change every year or so; exceptions may be made to the following guidelines.

Applicants must have completed work in an undergraduate program equivalent to the major in mathematics offered by the University of Iowa Department of Mathematics with an undergraduate g.p.a. of at least 3.20. Relevance and difficulty of courses are considered when evaluating grades; grades of C or lower in mathematics courses must be balanced by grades of A. Individuals whose preparation does not meet this requirement may be admitted conditionally and are asked to take specific courses that cover deficiencies.

Applicants must score at least 155 on the quantitative section of the revised Graduate Record Examination (GRE) General Test (700 on the old GRE). In addition, applicants must submit three letters of recommendation. Applicants whose first language is not English are required to demonstrate their competence in English, normally by scoring at least 105 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Mathematics, Ph.D.

Requirements

The Doctor of Philosophy program in mathematics requires a minimum of 72 s.h. of graduate credit. The program places strong emphasis on preparation for research and teaching. The department maintains no division between pure and applied mathematics. It cooperates in interdisciplinary doctoral programs with the College of Education (see Teaching and Learning [p. 1245] in the Catalog) and the Program in Applied Mathematical and Computational Sciences [p. 1426].

Ph.D. students in mathematics must satisfy the following requirements for course work (credits and breadth), examinations, foreign language, and the Ph.D. thesis.

Students must spend at least three years in residence at a graduate college, including at least one year at the University of Iowa. They also should enroll in specific courses designated as preparatory for the Ph.D. examinations (consult the Department of Mathematics graduate studies director).

To further encourage mathematical breadth, students must earn at least 33 s.h. of graduate credit in regular courses equivalent to or more advanced than Ph.D. comprehensive examination preparatory courses. For a list of accepted Department of Mathematics courses and rules to ensure proper distribution, contact the department.

The Ph.D. examinations consist of a qualifying exam and a comprehensive exam. Students choose three areas from the department's list of qualifying examination areas: algebra, analysis, differential equations with numerical methods, and topology. For each qualifying area, there is a two-semester course sequence numbered 5000 or above that is designated as preparatory, although exams may differ from course content. Parts of the qualifying exam are taken over a two-week period. An exam committee gives one grade (pass, fail, conditional pass) on each part of the qualifying examination.

The Ph.D. comprehensive exam tests students on research-related topics. Candidates also take an oral final examination on their dissertation material.

Ph.D. students are required to demonstrate reading proficiency in French, German, or Russian by passing a reading test administered by the Department of Mathematics. Consult the department for details.

The most distinctive aspect of a Ph.D. is the thesis. The department expects the thesis to be an original mathematical work comparable in content and writing quality to that found in standard published research journals. The thesis is written under the supervision of a mathematics department faculty member and must be approved by the Ph.D. defense committee.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Applicants to the Ph.D. program have preference for admission and funding.

Admission to the Ph.D. program is competitive and based on a combination of undergraduate or graduate course work and grades, letters of recommendation, and test scores. Required scores on the Graduate Record Examination (GRE)

quantitative section and Test of English as a Foreign Language (TOEFL) are the same as those for admission to the M.S. program, but applicants to the Ph.D. program must have an undergraduate or graduate g.p.a. of at least 3.40.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Media Entrepreneurialism

Director, School of Journalism and Mass Communication

- David Ryfe

Coordinator, Media Entrepreneurialism

- Charles Munro (Journalism and Mass Communication)

Undergraduate certificate: media entrepreneurialism

The Certificate in Media Entrepreneurialism prepares students to succeed in the fast changing world of mass communication. Opportunities exist for students to invent new revenue streams or business models for media companies, to create new media products, to work as part of an innovation team for an established media company, or possibly build a new business.

Completion of the certificate encourages these student outcomes:

- an understanding of the principles of innovation and entrepreneurialism;
- an ability to adapt digital media technology to develop and enhance business goals;
- an ability to apply principles of innovation and entrepreneurialism to the business of media and digital media; and
- a facility toward innovating new forms of media content and distributing that content across different media platforms.

The Tippie College of Business and the School of Journalism and Mass Communication collaborate to offer the Certificate in Media Entrepreneurialism. The certificate is administered by the School of Journalism and Mass Communication [p. 670].

Programs

Undergraduate Program of Study Certificate

- Certificate in Media Entrepreneurialism [p. 742]

Media Entrepreneurialism, Certificate

The undergraduate Certificate in Media Entrepreneurialism requires a minimum of 27 s.h. of course work. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Certificate courses may not be taken pass/nonpass. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students majoring in journalism and mass communication or communication studies may earn the certificate but may not count it as their second area of concentration. Students may not double count more than 6 s.h. of the certificate toward other programs of study.

The Certificate in Media Entrepreneurialism requires the following course work.

Foundation Courses

These courses must be taken before any other certificate course work.

Code	Title	Hours
Both of these:		
ENTR:2000	Entrepreneurship and Innovation	3
JMC:3121	Business of Media: Profits, People, and Power	3

Required Courses

Code	Title	Hours
All of these:		
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
JMC:3115	Audience Engagement: Marketing Research in the Digital Age	3

Electives

Students select one elective course from each of the three areas (9 s.h.). Course selection depends on a student's interests; consult the media entrepreneurialism advisor for more information.

Code	Title	Hours
Media Production		
One of these:		
COMM:2077	Writing and Producing Television	3
JMC:3400	Specialized Reporting and Writing	3-4
JMC:3600	Topics in Media Production	3-4
Advanced Entrepreneurialism		
One of these:		
ENTR:3000	Practicum in Entrepreneurship	3
ENTR:3500	Social Entrepreneurship	3

ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4450	Professional Sports Management	3

Diversity and Globalization

One of these:

COMM:2075	Gender, Sexuality, and Media	3
COMM:2076	Race, Ethnicity, and Media	3
COMM:2079	Digital Media and Religion	3
COMM:2085	Media Industries and Organizations	3
COMM:2086	Global Media Studies	3
COMM:4131	Globalization and Culture	3
COMM:4172	Television and African American Culture	3
JMC:3125	Media and Consumers	3
JMC:3165	African Americans and the Media	3
JMC:3175	Gender and Mass Media	3
JMC:3180	Media Ethics and Diversity	3

Capstone Course

Students must complete the following.

Code	Title	Hours
	A media innovation case studies course (consult advisor)	3

Medieval Studies

Chair

- Craig A. Gibson (Classics)

Coordinator, Medieval Studies

- Michael E. Moore (History)

Undergraduate certificate: medieval studies

Website: <https://clas.uiowa.edu/classics/undergraduate-program/medieval-studies-program>

The Medieval Studies Program offers an undergraduate program of study and a selection of courses open to students in all majors.

Programs

Undergraduate Program of Study Certificate

- Certificate in Medieval Studies [p. 744]

Courses

Medieval Studies Courses

MDVL:3226 Literature and Culture of the Middle Ages 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3226.

MDVL:3409 Medieval Civilization I 3 s.h.

Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as HIST:3409.

MDVL:3410 Medieval Civilization II 3 s.h.

Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. Same as HIST:3410.

MDVL:4411 Economic and Social History of Medieval Europe 3 s.h.

Changes in western Europe from 300 to 1500 A.D.; feudalism, manorialism, revival of towns, heresy, women, monasticism, agricultural and commercial revolutions, Black Death. Same as HIST:4411.

MDVL:4412 History of the Medieval Church 3 s.h.

Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. Same as HIST:4412.

MDVL:4417 Medieval Intellectual History 300-1150 3 s.h.

Philosophy, art, literature, religious culture of Europe from waning of classical intellectual modes of culture in late antiquity, to their recovery in 12th century. Same as HIST:4417.

MDVL:4418 Medieval Intellectual History 1150-1500 3 s.h.

European philosophy, religion, literature, art from 12th-century rise of scholasticism; their transformation in period of Copernicus, Luther. Same as HIST:4418.

MDVL:4419 Ancient and Medieval Science 3 s.h.

Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as HIST:4419.

MDVL:4421 The Middle Ages in Film 3 s.h.

How films that represent medieval events and literature may be analyzed to reveal the culture and times in which the films were made; Middle Ages and European nationalistic mythmaking as represented in film. Same as HIST:4421.

MDVL:4423 Ireland in the Early Middle Ages 3 s.h.

Ireland and the northern British islands 400-1000 C.E., a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as HIST:4423.

MDVL:4426 Women, Power, and Society in Medieval Europe 3 s.h.

Same as HIST:4426.

Medieval Studies, Certificate

The undergraduate Certificate in Medieval Studies requires a minimum of 18 s.h. in medieval studies course work. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

Courses used to fulfill GE CLAS Core [p. 459] requirements or the requirements of a major or minor may be counted toward the certificate in most cases. Up to 6 s.h. of transfer credit may be counted toward certificate requirements, with the Certificate in Medieval Studies coordinating committee's approval; contact the certificate program's coordinator.

The program enables students to combine study in three or more disciplines into an organized investigation of the Middle Ages, a rich historical period that continues to influence today's culture. Students may earn the Certificate in Medieval Studies as a distinct interest or combine it with focused study in areas such as art history; classics; comparative literature; gender, women's, and sexuality studies; languages (e.g., French, German, Italian, Portuguese, Spanish); music; philosophy; religion; and theater.

The Certificate in Medieval Studies requires the following course work.

Code	Title	Hours
Core Course		
Students must complete one of these early in their program of study:		
MDVL:3409	Medieval Civilization I	3
or MDVL:3410	Medieval Civilization II	
Additional Courses		
Remaining course work, as indicated below		15
Total Hours		18

Additional Courses

Remaining courses may be chosen from the "Associated Courses" below or from medieval studies courses (prefix MDVL) under Courses [p. 743] in this section of the Catalog. Students must include courses from at least three different departments; they may count a maximum of 10 s.h. from a single department or program. Students should consult regularly with a medieval studies advisor while planning and completing their program of study.

Associated Courses

The following courses are approved for the medieval studies certificate. Other courses may be approved for satisfaction of certificate requirements; students who wish to have a course approved should make a request to the Certificate in Medieval Studies coordinating committee. The coordinating committee revises the list of approved courses as necessary.

Arabic Language and Literature

Code	Title	Hours
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

Art and Art History

Code	Title	Hours
ARTH:2420	Introduction to Medieval Art	3
ARTH:3390	Early Medieval Art	3
ARTH:3391	Themes in Medieval Art	3
ARTH:3990	Topics in Art History (when topic is medieval)	3

Center for the Book

Code	Title	Hours
UICB:4910/ HIST:4910/ SLIS:4910	The Book in the Middle Ages	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3

Classics

Code	Title	Hours
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

English

Code	Title	Hours
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:3226/ MDVL:3226	Literature and Culture of the Middle Ages	3
ENGL:3256	Old English Language and Literature	3
ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276/ THTR:3276	Medieval Drama	3
ENGL:3286	Chaucer	3

German

Code	Title	Hours
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	3-4

History

Code	Title	Hours
HIST:2151	Introduction to the History Major (when topic is medieval)	3
HIST:2483	History of Britain: Fall of Rome to the Norman Conquest	3
HIST:3409/ MDVL:3409	Medieval Civilization I	3
HIST:3410/ MDVL:3410	Medieval Civilization II	3
HIST:4411/ MDVL:4411	Economic and Social History of Medieval Europe	3
HIST:4412/ MDVL:4412	History of the Medieval Church	3
HIST:4417/ MDVL:4417	Medieval Intellectual History 300-1150	3

HIST:4418/ MDVL:4418	Medieval Intellectual History 1150-1500	3
HIST:4419/ MDVL:4419	Ancient and Medieval Science	3
HIST:4421/ MDVL:4421	The Middle Ages in Film	3
HIST:4423/ MDVL:4423	Ireland in the Early Middle Ages	3
HIST:4426/ MDVL:4426	Women, Power, and Society in Medieval Europe	3

Italian

Code	Title	Hours
ITAL:4633	Dante's Inferno	3
ITAL:4634	The Italian Renaissance	3

Music

Code	Title	Hours
MUS:2301	History of Music I	3
MUS:4200	Counterpoint Before 1600	3

Philosophy

Code	Title	Hours
PHIL:3112/ HIST:3412	Medieval Philosophy	3

Religious Studies

Code	Title	Hours
RELS:1225/ HIST:1025	Medieval Religion and Culture	3
RELS:4001	Biblical Hebrew I	4
RELS:4002	Biblical Hebrew II	4

Spanish and Portuguese

Code	Title	Hours
SPAN:4690	Topics in Spanish Literature (when topic is medieval)	3

Language Courses

The Medieval Studies Program strongly encourages students to complete course work in a language relevant to the medieval period. Latin is recommended for anyone intending to pursue graduate study in the field. Many language courses have prerequisites, and some are offered irregularly, so students should complete their language course work as early as possible. The following language courses are approved for the medieval studies certificate.

Code	Title	Hours
ARAB:2001- ARAB:2002	Intermediate Modern Standard Arabic I-II	10
CLSL:2001- CLSL:2002	World of Cicero - Golden Age of Roman Poetry	6
ENGL:3256	Old English Language and Literature	3
RELS:4001- RELS:4002	Biblical Hebrew I-II	8

Sample Study Plans

Both of these sample study plans fulfill the certificate's requirements.

Sample plan for students planning graduate work in medieval studies:

Code	Title	Hours
MDVL:3226/ ENGL:3226	Literature and Culture of the Middle Ages	3
MDVL:3410/ HIST:3410	Medieval Civilization II	3
ARTH:2420	Introduction to Medieval Art	3
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3
HIST:4418/ MDVL:4418	Medieval Intellectual History 1150-1500	3

Sample plan for students with a general interest in medieval studies:

Code	Title	Hours
MDVL:3409/ HIST:3409	Medieval Civilization I	3
ENGL:3256	Old English Language and Literature	3
ENGL:3286	Chaucer	3
HIST:4412/ MDVL:4412	History of the Medieval Church	3
HIST:4426/ MDVL:4426	Women, Power, and Society in Medieval Europe	3
MUS:2301	History of Music I	3

Museum Studies

Chair, Department of Anthropology

- James G. Enloe

Coordinator, Museum Studies

- Heidi K. Lung (Anthropology)

Undergraduate certificate: museum studies

Faculty: <https://uiowa.edu/museumstudies/contact-us>

Website: <https://uiowa.edu/museumstudies/>

Museum studies has a long history at the University of Iowa, with courses offered continuously since 1910. Iowa's museum studies students have become directors, curators, educators, and exhibit specialists in museums throughout the country.

Museums embrace every aspect of human experience. Iowa's Museum Studies Program reflects this multiplicity, and includes students from many fields, including American studies, anthropology and archaeology, art, biology, business, communication studies, earth and environmental sciences, elementary and secondary education, English, world languages, history, and library and information science.

Instructors for museum studies courses reflect the program's interdisciplinary nature. They include faculty members from anthropology, art and art history, business, history, library and information science, and other related fields. The University archivist for University of Iowa Libraries is an affiliated faculty member of the Museum Studies Program, as are the collections management specialists for the University's Museum of Art, Museum of Natural History, and Old Capitol Museum.

The Museum Studies Program holds academic memberships with the American Association for State and Local History and the Iowa Museum Association. These connections offer museum studies students opportunities for internships, professional networking, and career development. In addition to offering a wide range of on-campus courses, the certificate also can be earned online with a growing number of online courses.

The Museum Studies Program is administered by the Department of Anthropology [p. 56].

Programs

Undergraduate Program of Study Certificate

- Certificate in Museum Studies [p. 748]

Facilities

Museum studies students have access to a wide variety of museums and related resources, including the following University of Iowa museums: the Museum of Natural History, the Museum of Art, the Old Capitol Museum, the Medical Museum, and the Karro Athletic Hall of Fame.

The Museum Studies Program maintains close connections with a number of local, community-based museums and organizations, including the State Historical Society of Iowa, the Herbert Hoover Presidential Library and Museum, the African American Museum of Iowa, the Iowa Children's Museum, and the Johnson County Historical Society.

The University of Iowa Collections Coalition, consisting of 19 collections and collection-support organizations, is an essential resource for the Museum Studies Program. It provides museum studies internships, directed study projects, opportunities for site visits, and volunteer experiences for students as well as guest speakers.

Courses

Museum Studies Courses

MUSM:2850 Museums and Social Justice 3 s.h.

Exploration of museums as institutions that frame social justice, promote equity of access through social bridging, and at times, address and challenge social ills directly through exhibits and programs; case studies and dialogue.

MUSM:3001 Introduction to Museum Studies 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, EDTL:3001, SIED:3001.

MUSM:3003 Natural History Research Collections 3 s.h.

Techniques, methods, and issues specific to natural history research collections; practice in preparing and cleaning specimens; role of natural history specimens in modern scientific research. Recommendations: basic understanding of the diversity of plants and animals and natural history museum collections, MUSM:3001 or MUSM:3200, and BIOL:1411 or BIOL:1412; or other experience. Same as EES:3003.

MUSM:3004 Exhibition Planning 3 s.h.

Preliminary work for and process of developing museum exhibitions; history of exhibit design, evaluation, budgets, teams and team member roles, working with community and special interest groups, methods of production and display; students research a topic, choose artifacts and images, and create a narrative and exhibit script. Prerequisites: MUSM:3001.

MUSM:3090 Topics in Museum Studies 1 s.h.

Systematic and analytic methods used for research in physical collections; tutorials in collection building, curation, and preservation; designed by members of the University of Iowa Collections Coalition. Same as EES:3090.

MUSM:3100 Historic House Management and Preservation 3 s.h.

Management, preservation, interpretation, and basic operations of historic structures and the museums they serve.

MUSM:3105 Engaging Museum Audiences 3 s.h.

Effective audience engagement requires museums to meet visitors halfway; employing learning theories, knowledge of audience, and innovative examples from the field; students investigate a variety of approaches that are visitor-centered, interdisciplinary, and locally focused. Prerequisites: MUSM:3001.

MUSM:3120 Museum Origins 3 s.h.

History of museums; origin, character, and evolution into content specific institutions; anecdotes and personalities; how museums influenced society and their continuing relevance to a technological world.

MUSM:3125 Museums in a Digital World 3 s.h.

Digital technologies streamline internal museum processes while exponentially increasing the capacity of individuals to engage with museum collections; explores the digitized strategies and systems that democratize access and enhance museum visitor experiences.

MUSM:3131 Museum Evaluation and Visitor Studies 3 s.h.

Students explore evaluation theory, methodologies, and practical application through case studies and hands-on activities from all types of museum experiences (e.g., programs, exhibitions, wayfinding, interpretive technology) from both staff and visitor perspective. Prerequisites: MUSM:3001.

MUSM:3200 Collection Care and Management 3 s.h.

How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as EES:3200.

MUSM:3215 The Museum of Today and Tomorrow: How Museums Enhance the K-12 Classroom 3 s.h.

What do museums have to offer teachers? How are they relevant to social studies, math, English, and science teachers? Students are put in charge of answering these questions and build their knowledge about art and innovative teaching strategies in the K-12 classroom and museum, practice designing lessons around a work of art, and apply their knowledge about art and curriculum into interactive online modules; students work directly with art on campus in the Lindquist Art Collection in the College of Education and the University of Iowa Museum of Art. Same as EDTL:3215.

MUSM:3237 Politics of the Archaeological Past 3 s.h.

How control over management of material remains of the ancient past, and representations of that past, intersect with the identity of diverse groups, including archaeologists, indigenous peoples, national governments, collectors, ethnic minorities and majorities, museum curators; struggles for control of the archaeological past at different scales (artifacts, skeletal remains, sites, imagery, narratives) and in different regions of the world. Same as ANTH:3237.

MUSM:3500 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, NURS:3595, RELS:3700, SSW:3500.

MUSM:4080 Museum Internship arr.

Work experience in functions, departments, and programs of the sponsoring museum related to museum's overall mission and museum field in general.

MUSM:4081 The Art Museum: Theory and Practice 3 s.h.

Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Museum of Art collections. Same as ARTH:4081.

MUSM:4082 Distance Learning Museum Internship arr.

Work experience in functions, departments, and programs of the sponsoring museum related to museum's overall mission and museum field in general.

MUSM:4130 Museum Literacy and Historical Memory 3 s.h.

Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850. Same as HIST:4130.

MUSM:4150 Introduction to Grant Writing 3 s.h.

Comprehensive training in grant proposal writing; basics of project development and management; core principles for writing small and large proposals to public and private funding sources; finer points of grant writing to increase competitiveness of future proposals and applications; for students with limited grant writing experience. Same as EALL:4130.

MUSM:4200 Advanced Collection Care 3 s.h.

Builds on MUSM:3200; types and materials of museum objects and their care; storage and preservation of paper, books, photographs, works of art, electronic media, textiles, furniture, archaeological artifacts, and natural history specimens; collections project and hands-on practice in preservation techniques, enclosures, and supports; for students planning museum careers or professions that require care of collections. Same as EES:4200.

MUSM:4210 Museum Without Walls: Museum, Art Education, and Community Engagement in the Digital Age 3 s.h.

Collaborative work to recreate one exhibition from the University of Iowa Museum of Art that took place before the flood of 2008; creation of content that contributes to a virtual museum experience; introduction to digital tools commonly used in design of exhibitions; recreation of historical exhibitions based on documentary photographs in museum and University archives and research on the premise of the exhibition and objects on view; how digital artifacts might be used in different contexts; use of museum and digital environments as labs for lifelong and distance learning. Same as EDTL:4210, INTM:4210.

Museum Studies, Certificate

The undergraduate Certificate in Museum Studies requires 18 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate is open to current University of Iowa undergraduate students and to all individuals who are not enrolled in a UI graduate or professional degree program.

College of Liberal Arts and Sciences students who are interested in museum studies may earn the certificate, or they may use the individualized plan of study track in the interdepartmental studies major to create a museum studies concentration relevant to their academic and professional interests.

The program provides a broad foundation of knowledge increasingly valued in the museum field. Those with an interest in furthering their education in museum studies and who live outside of the Iowa City area may be interested in pursuing the certificate online.

Museum studies courses introduce students to the spectrum of museum endeavors, from organization and mission planning to institutional histories and current developments in the field. Most courses developed by the program offer hands-on experience in exhibition planning and design, collection management, educational programming, community development, and administration. Students may gain more experience through the Campus Museum Collective, a student organization dedicated to strengthening the position of campus museums within the University community.

A major in one of the natural sciences (e.g., biology, geoscience), anthropology, science education, art history, American studies, or history is recommended for students preparing for museum careers.

Students may count a maximum of 6 s.h. completed for a major, a minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Museum Studies.

Work for the certificate consists of an introductory course, a minimum of four courses on specific museum studies topics, and an internship. Students must request permission from the coordinator of the museum studies certificate to use courses that are not included in the program, and the proposed course content and requirements must fit into one of the program's defined areas.

The Certificate in Museum Studies requires the following course work.

Code	Title	Hours
	Introductory Course	3
	Museum Studies Topic Areas	12
	Museum Studies Internship	3
Total Hours		18

Introductory Course

Students should begin the certificate with MUSM:3001 Introduction to Museum Studies, which is prerequisite to some of the program's more advanced courses and is approved for the Social Sciences area of the GE CLAS Core [p. 459]. The course provides a historical overview of museum development and function while introducing students to issues such as museum governance and financing, ethics and law, collection

management, exhibition and educational programming, interpretation, and audience research.

Code	Title	Hours
MUSM:3001	Introduction to Museum Studies	3

Museum Studies Topic Areas

Students complete a minimum of four courses in museum studies topic areas, choosing from the lists below. The areas are collection care and management; exhibition development and public education; history, theory, and culture; and museum administration and management.

Students must select one course each from three of the four topic areas (9 s.h. total). They also must complete a fourth course (3 s.h.) from any of the four topic areas.

Code	Title	Hours
Collection Care and Management		
MUSM:3003	Natural History Research Collections	3
MUSM:3090	Topics in Museum Studies	1
MUSM:3200	Collection Care and Management	3
MUSM:4200	Advanced Collection Care	3
Exhibition Development and Public Education		
MUSM:3004	Exhibition Planning	3
MUSM:3105	Engaging Museum Audiences	3
MUSM:3125	Museums in a Digital World	3
MUSM:3215	The Museum of Today and Tomorrow: How Museums Enhance the K-12 Classroom	3
MUSM:4210	Museum Without Walls: Museum, Art Education, and Community Engagement in the Digital Age	3
History, Theory, and Culture		
MUSM:2850	Museums and Social Justice	3
MUSM:3120	Museum Origins	3
MUSM:3237	Politics of the Archaeological Past	3
MUSM:4081	The Art Museum: Theory and Practice	3
Museum Administration and Management		
MUSM:3100	Historic House Management and Preservation	3
MUSM:3131	Museum Evaluation and Visitor Studies	3
MUSM:3500	Nonprofit Organizational Effectiveness I	3
MUSM:4150	Introduction to Grant Writing	3

Museum Studies Internship

After completing at least 12 s.h. of the required course work above, students must complete one of the following internships, earning a minimum of 3 s.h.

The Certificate in Museum Studies coordinator works closely with students and affiliated faculty members to ensure that the internship provides students with the instruction and experience they need.

Code	Title	Hours
MUSM:4080	Museum Internship	arr.
MUSM:4082	Distance Learning Museum Internship	arr.

Music

Director, Division of Performing Arts

- Alan M. MacVey

Interim Director, School of Music

- Benjamin A. Coelho

Associate Directors

- Alan Huckleberry, Daniel Moore, David Puderbaugh

Undergraduate major: music (B.A., B.M.)

Undergraduate minor: music

Graduate degrees: M.A. in music; Ph.D. in music; D.M.A.

Graduate minor: theory pedagogy

Graduate certificate: sacred music

Faculty: <https://music.uiowa.edu/people>

Website: <https://music.uiowa.edu/>

The University of Iowa School of Music is prominent in a fine arts community of international repute. It has long been recognized as one of the excellent university-based music schools in the United States.

The school's on-campus enrollment of approximately 450 music majors is large enough to sustain strong programs in all areas of specialization, yet small enough to ensure the individual attention essential to each student's development.

The faculty consists of highly trained artist-teachers in each specialization area and scholars of international distinction. Private lessons with faculty members are offered in all band and orchestra instruments, and in voice, piano, and organ.

The school's undergraduate programs offer all qualified students, whether music majors or nonmajors, the opportunity for further study of music. In addition to its comprehensive course offerings for majors, the school provides a substantial selection of courses especially recommended for nonmajors and several approved for the GE CLAS Core [p. 459] (see "Courses for Nonmajors" below).

Graduate programs in music are designed primarily to prepare students for teaching in secondary schools, colleges, and universities and for careers in performance and music therapy.

The School of Music is a charter member of the National Association of Schools of Music. The requirements for entrance and for graduation are in accordance with the association's published standards.

The department is one of the academic units in the Division of Performing Arts [p. 334]. It participates in offering the division's Certificate in Arts Entrepreneurship [p. 118].

Courses for Nonmajors

The School of Music offers a wide range of courses that are appropriate for non-music majors. Courses about jazz, music and culture, music history, music software, and other topics are available as well as individual instruction on a number of instruments and voice; see School of Music Courses [p. 755] in this section of the Catalog.

Several School of Music courses are approved for the GE CLAS Core; look for courses with the prefix MUS under "Literary, Visual, and Performing Arts" in the GE CLAS Core [p. 459] section of the Catalog.

For course descriptions, see School of Music Courses [p. 755] in this section of the Catalog.

Participation in School of Music ensembles is open to all University of Iowa students with the ensemble director's approval. Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Women's Chorale	1
MUS:1180	All-University String Orchestra	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Other courses recommended for music nonmajors include the following.

Code	Title	Hours
MUS:1000	First-Year Seminar	1
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1002	Group Piano II: Non-Music Majors	1
MUS:1007	Garage Band: The Basics	2
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1010	Recital Attendance for Non-Majors	1
MUS:1012	Creativity in Music	3
MUS:1020	Performance Instruction for Nonmajors (interested students should consult with the instructor of their instrument)	1
MUS:1066	Introduction to Film Music	3
MUS:1100	Fundamentals of Music for Non-Music Majors	3
MUS:1201	Musicianship and Theory I	4
MUS:1301	Concepts and Contexts of Western Music	3
MUS:1302	Great Musicians	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2106	Improvisation for Classical Musicians	3
MUS:2160	Drumline Techniques	1
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3006	Popular Music in the United States	3

MUS:3850/ DANC:3850/ DPA:3850	Introduction to Laban Movement Studies	2
MUS:3851/ DANC:3851/ DPA:3851	Introduction to the Alexander Technique	3

Applied Music

Instruction in applied music consists of individual and/or class lessons, at the instructor's option, for a minimum of one hour per week (students register for 2 s.h.). Music majors are required to attend weekly performance and pedagogy seminars in applied music. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

Instruction in jazz guitar, MUS:2038 Lower Level Jazz Guitar, is only offered at the lower level; enrollment is limited.

Code	Title	Hours
MUS:2020	Lower Level Voice	2
MUS:2021	Lower Level Piano	2
MUS:2022	Lower Level Organ	2
MUS:2023	Lower Level Violin	2
MUS:2024	Lower Level Viola	2
MUS:2025	Lower Level Cello	2
MUS:2026	Lower Level String Bass	2
MUS:2027	Lower Level Flute	2
MUS:2028	Lower Level Oboe	2
MUS:2029	Lower Level Clarinet	2
MUS:2030	Lower Level Bassoon	2
MUS:2031	Lower Level Saxophone	2
MUS:2032	Lower Level Horn	2
MUS:2033	Lower Level Trumpet	2
MUS:2034	Lower Level Trombone	2
MUS:2035	Lower Level Euphonium	2
MUS:2036	Lower Level Tuba	2
MUS:2037	Lower Level Percussion	2
MUS:2038	Lower Level Jazz Guitar	2
MUS:3020	Upper Level Voice	2
MUS:3021	Upper Level Piano	2
MUS:3022	Upper Level Organ	2
MUS:3023	Upper Level Violin	2
MUS:3024	Upper Level Viola	2
MUS:3025	Upper Level Cello	2
MUS:3026	Upper Level String Bass	2
MUS:3027	Upper Level Flute	2
MUS:3028	Upper Level Oboe	2
MUS:3029	Upper Level Clarinet	2
MUS:3030	Upper Level Bassoon	2
MUS:3031	Upper Level Saxophone	2
MUS:3032	Upper Level Horn	2
MUS:3033	Upper Level Trumpet	2
MUS:3034	Upper Level Trombone	2
MUS:3035	Upper Level Euphonium	2
MUS:3036	Upper Level Tuba	2
MUS:3037	Upper Level Percussion	2
MUS:6020	Major Voice	2
MUS:6021	Major Piano	2
MUS:6022	Major Organ	2
MUS:6023	Major Violin	2

MUS:6024	Major Viola	2
MUS:6025	Major Cello	2
MUS:6026	Major String Bass	2
MUS:6027	Major Flute	2
MUS:6028	Major Oboe	2
MUS:6029	Major Clarinet	2
MUS:6030	Major Bassoon	2
MUS:6031	Major Saxophone	2
MUS:6032	Major Horn	2
MUS:6033	Major Trumpet	2
MUS:6034	Major Trombone	2
MUS:6035	Major Euphonium	2
MUS:6036	Major Tuba	2
MUS:6037	Major Percussion	2

Applied Music: Secondary Instruction for Majors

Instruction consists of one half-hour lesson per week. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

Code	Title	Hours
MUS:1120	Secondary Performance - Voice	1
MUS:1121	Secondary Performance - Piano	1
MUS:1122	Secondary Performance - Organ	1
MUS:1123	Secondary Performance - Violin	1
MUS:1124	Secondary Performance - Viola	1
MUS:1125	Secondary Performance - Cello	1
MUS:1126	Secondary Performance - String Bass	1
MUS:1127	Secondary Performance - Flute	1
MUS:1128	Secondary Performance - Oboe	1
MUS:1129	Secondary Performance - Clarinet	1
MUS:1130	Secondary Performance - Bassoon	1
MUS:1131	Secondary Performance - Saxophone	1
MUS:1132	Secondary Performance - Horn	1
MUS:1133	Secondary Performance - Trumpet	1
MUS:1134	Secondary Performance - Trombone	1
MUS:1135	Secondary Performance - Euphonium	1
MUS:1136	Secondary Performance - Tuba	1
MUS:1137	Secondary Performance - Percussion	1
MUS:1139	Secondary Performance - Composition	1

MUS:6120	Graduate Secondary Performance - Voice	1
MUS:6121	Graduate Secondary Performance - Piano	1
MUS:6122	Graduate Secondary Performance - Organ	1
MUS:6123	Graduate Secondary Performance - Violin	1
MUS:6124	Graduate Secondary Performance - Viola	1
MUS:6125	Graduate Secondary Performance - Cello	1
MUS:6126	Graduate Secondary Performance - String Bass	1
MUS:6127	Graduate Secondary Performance - Flute	1
MUS:6128	Graduate Secondary Performance - Oboe	1
MUS:6129	Graduate Secondary Performance - Clarinet	1
MUS:6130	Graduate Secondary Performance - Bassoon	1
MUS:6131	Graduate Secondary Performance - Saxophone	1
MUS:6132	Graduate Secondary Performance - Horn	1
MUS:6133	Graduate Secondary Performance - Trumpet	1
MUS:6134	Graduate Secondary Performance - Trombone	1
MUS:6135	Graduate Secondary Performance - Euphonium	1
MUS:6136	Graduate Secondary Performance - Tuba	1
MUS:6137	Graduate Secondary Performance - Percussion	1

Choral Literature

Code	Title	Hours
MUS:6561	Seminar: Choral Literature and Analysis I	1-3
MUS:6562	Seminar: Choral Literature and Analysis II	1-3
MUS:6563	Seminar: Choral Literature and Analysis III	1-3
MUS:6564	Seminar: Choral Literature and Analysis IV	1-3

Composition

Code	Title	Hours
MUS:2220	Composition	1-2
MUS:3230	Composition Seminar	0-1
MUS:4220	Orchestration	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
MUS:5220	Advanced Composition	1-2

Conducting

Also see MUS:3635 Instrumental Conducting, MUS:3640 Choral Methods, and MUS:3645 Choral Conducting and Literature under "Music Education" below.

Code	Title	Hours
MUS:3625	Techniques of Conducting	2
MUS:6579	Orchestral Conducting Lab	2
MUS:6580	Advanced Orchestral Conducting	2
MUS:6581	Advanced Choral Conducting I	1-3
MUS:6582	Advanced Choral Conducting II	1-3
MUS:6583	Advanced Choral Conducting III	1-3
MUS:6584	Advanced Choral Conducting IV	1-3
MUS:6585	Score Reading	1
MUS:6586	Orchestral Literature	2
MUS:6590	Seminar in Advanced Band Literature and Band History	1-2

Ensembles

Enrollment requires consent of instructor. Courses may be repeated.

Code	Title	Hours
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1166	Large Pep Band	1
MUS:1176	Women's Chorale	1
MUS:1180	All-University String Orchestra	1
MUS:3150	Percussion Ensemble/Steel Band	1
MUS:3151	Percussion Chamber Ensemble	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3163	Intermediate Steel Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3190	Center for New Music Ensemble	0-1
MUS:3480	Piano Accompaniment	1
MUS:3481	Piano Chamber Music	1-2
MUS:3482	String Chamber Music	1-2
MUS:3485	Wind Chamber Music	1-2
MUS:3489	Chamber Music Residency Program	1-2

Jazz Studies

Code	Title	Hours
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1711	Jazz Rhythms and Interpretation	1

MUS:1720	History of Jazz	3
MUS:2014/ AFAM:2014	Giants of Jazz: Miles, Trane, and Duke	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:3730	Jazz Band	1
MUS:3740	Small Jazz Ensembles	1
MUS:3750	Jazz Theory	3
MUS:3760	Jazz Band Techniques	1
MUS:4710	Advanced Jazz Improvisation	2
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

Music Education

The College of Education offers additional music education courses; see Teaching and Learning [p. 1245] in the Catalog for listings and descriptions. Some courses are cross-listed with both departments, one for the School of Music and the other for the College of Education. Students preparing for music teacher licensure should register under the education number.

Also see MUS:3760 Jazz Band Techniques under "Jazz Studies" above.

Code	Title	Hours
MUS:3600	Undergraduate Music Education Workshop	1
MUS:3601	Undergraduate Music Education Workshop II	1
MUS:3605/ EDTL:3605	Instrumental Techniques	2
MUS:3635/ EDTL:3635	Instrumental Conducting	3
MUS:3640/ EDTL:3640	Choral Methods	3
MUS:3645/ EDTL:3645	Choral Conducting and Literature	3
MUS:3659	Class Strings	1
MUS:3664	Introduction to Wind and Percussion Instruments	2
MUS:3665	Arranging for Band	3
MUS:3666	Marching Band Techniques	1
MUS:5600/ EDTL:5600	Graduate Music Education Workshop	1
MUS:5601/ EDTL:5601	Graduate Music Education Workshop II	1

Music History

Renaissance Music Notations (MUS:6326) and Music 1945-Present (MUS:6350) deal with periods and special topics in music history. They are offered about every two years. All of them have as prerequisites MUS:5301 Advanced History and Literature of Music I and MUS:5302 Advanced History and Literature of Music II, or the equivalents, or consent of instructor.

Several courses in music history are appropriate for non-music majors. Other music history courses appropriate for nonmajors are listed under "General Music Courses" above.

Code	Title	Hours
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
MUS:3486	Bach Performance Seminar	1
MUS:5300	Introduction to Graduate Study in Music	2
MUS:5301	Advanced History and Literature of Music I	3
MUS:5302	Advanced History and Literature of Music II	3
MUS:5310	Introduction to Musicology	1-3
MUS:6300	Musicology Colloquium	0
MUS:6310	Seminar in Musicology	3
MUS:6314	Topics in Ethnomusicology	3
MUS:6315	Foundations of Ethnomusicology	3
MUS:6325	Renaissance Music	3
MUS:6326	Renaissance Music Notations	3
MUS:6330	Seventeenth-Century Music	3
MUS:6335	Eighteenth-Century Music	3
MUS:6340	Nineteenth-Century Music	3
MUS:6345	Music 1900-1945	3
MUS:6350	Music 1945-Present	3
MUS:6355	American Music	3
MUS:6375	Music Editing	3
MUS:7380	Readings in Music History	1-3

Music and Technology

Also see MUS:4250 Composition: Electronic Media I and MUS:4251 Composition: Electronic Media II under "Composition" above.

Code	Title	Hours
MUS:3410	Fundamentals of Piano Technology	1
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3

Music Therapy

Code	Title	Hours
MUS:1687	Orientation to Music Therapy	2
MUS:2671	Music Foundations in Therapy I	2
MUS:2672	Music Foundations in Therapy II	2
MUS:3675	Music Therapy Practicum	1-2
MUS:3676	Percussion Experience for Teachers and Therapists	1
MUS:3680	Music in Special Education	3
MUS:3690	Music Therapy with Adults	3
MUS:4630/ EDTL:4630	Psychology of Music	2-3
MUS:4670	Internship in Music Therapy	arr.
MUS:4675	Senior Project in Music Therapy	1
MUS:4685	Music Therapy with Children	3
MUS:6670	Graduate Music Therapy Practicum	1-3
MUS:6675	Research in Music Therapy - Graduate	1

MUS:6680	College Teaching and Clinic Supervision in Music Therapy	1-2
MUS:6685	Theory and Research in Music Therapy	1
MUS:6690	Special Studies in Music Therapy	1-3

Orchestra and Band Instruments

Code	Title	Hours
MUS:3140	Audition Repertoire	1
MUS:3483	Baroque Seminar for Strings	1
MUS:5101	Advanced Woodwind Pedagogy and Literature I	2
MUS:5102	Advanced Woodwind Pedagogy and Literature II	3
MUS:5111	Advanced Brass Pedagogy and Literature I	2
MUS:5112	Advanced Brass Pedagogy and Literature II	2
MUS:5115	Advanced Brass Ensemble Literature	2
MUS:5121	Advanced String Methods and Literature I	2
MUS:5122	Advanced String Methods and Literature II	2
MUS:5130	Advanced Percussion Pedagogy and Literature	2
MUS:6150	Seminar in Performance and Pedagogy Research I	1
MUS:7132	Seminar in Performance and Pedagogy Research II	1

Organ and Sacred Music

Code	Title	Hours
MUS:4450	Organ Literature Survey	2
MUS:4452	Liturgics	2
MUS:4454	Service Playing and Improvisation	2
MUS:5450	History of Organ Building and Design	2-3
MUS:5452	Organ Pedagogy	2
MUS:5465	Hymnology	1-2
MUS:5475	Organ Literature Special Topics	2

Piano

Code	Title	Hours
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
MUS:2213	Group Instruction in Piano III	1
MUS:3400	Methods of Teaching Piano	2
MUS:5400	Piano Pedagogy I	2
MUS:5401	Piano Pedagogy II	2
MUS:5410	Piano Literature I	2
MUS:5411	Piano Literature II	2
MUS:7400	Special Studies Piano Literature	1-2

MUS:7401	Special Studies in Piano Accompaniment and Chamber Music	1-2
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Recital and Thesis

Code	Title	Hours
MUS:3990	Special Studies	0-4
MUS:4900	Senior Recital	1
MUS:4910	Bachelor's Thesis	0-1
MUS:4995	Honors in Music	1-4
MUS:6900	M.A. Recital	1-2
MUS:6920	M.A. Performance Project	1-2
MUS:6950	M.A. Thesis	1-3
MUS:7130	Seminar in Performance and Pedagogy Research	1
MUS:7135	Seminar in Music Recording and Research	1
MUS:7900	D.M.A. Recital	1-2
MUS:7950	Ph.D. Thesis	1-4
MUS:7960	Composition Ph.D. Thesis	1-4
MUS:7970	D.M.A. Essay	1-4

Theory

Code	Title	Hours
MUS:1200	Fundamentals of Music for Majors	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2206	Form and Analysis	3
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:5200	Basic Analytical Techniques	3
MUS:5235	Tonal Analysis	3
MUS:5236	Post-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6200	Music Theory Colloquium	0
MUS:6210	History of Music Theory I	3
MUS:6211	History of Music Theory II	3
MUS:6215	Music Theory Pedagogy	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Post-Tonal Theory and Analysis	3
MUS:7280	Readings in Music Theory	0-1

Voice and Opera

Code	Title	Hours
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3410	Fundamentals of Piano Technology	1
MUS:3500	Opera Workshop	2
MUS:3501	Opera Theater Chorus	1
MUS:3502	Opera Production	2-4

MUS:3503	Vocal/Operatic Coaching	1
MUS:3511	Interpretation of Non-German Art Song	1
MUS:3520/ DANC:3130/ THTR:3130	Singing for Actors and Dancers	2
MUS:3521/ DANC:3521/ THTR:3521	Acting for Singers and for Dancers	2
MUS:3530/ THTR:3530	Musical Theatre Workshop	2
MUS:5510	Graduate Diction	2
MUS:5555/ CSD:5213	Voice Habilitation	2
MUS:6520/ CSD:6202	Methods of Teaching Voice	3
MUS:6530	Topics in Vocal Performance	2
MUS:6535	Opera Theater Directing Seminar	3
MUS:6540	Survey of Operatic Literature	3
MUS:6541	Survey of Song Literature I	3
MUS:6542	Survey of Song Literature II	3

Programs

Undergraduate Programs of Study

Majors

- Major in Music (Bachelor of Arts) [p. 767]
- Major in Music (Bachelor of Music) [p. 770]

Minor

- Minor in Music [p. 778]

Graduate Programs of Study

Majors

- Master of Arts in Music [p. 779]
- Doctor of Philosophy in Music [p. 781]
- Doctor of Musical Arts [p. 782]

Minor

- Minor in Theory Pedagogy [p. 783]

Certificate

- Certificate in Sacred Music [p. 784]

Facilities

The School of Music is housed in the Voxman Music Building, a state-of-the-art facility in the heart of the downtown campus. The 190,000 square-foot building opened in the fall of 2016, and includes a 700-seat concert hall, 200-seat recital hall, organ performance hall; opera and chamber music rehearsal spaces; faculty studios; classrooms; practice rooms; specialized facilities for music therapy, electronic music, and percussion; and light-filled public and social spaces. The building features the latest instructional and recording technology, and superior acoustic ambience and isolation.

Center for New Music

The Center for New Music is a vital component of the School of Music's composition program. Since its founding in 1966, the center has been both laboratory and showcase for late 20th- and 21st-century music. It presents at least four concerts of contemporary works each academic season. It also provides a forum for visiting composers and other creative artists, bringing new music to a variety of outreach venues. Audition, rehearsal, and programming information is available on the Center for New Music website.

Rita Benton Music Library

The Rita Benton Music Library is located on the first floor of the Voxman Music Building. The Music Library holds more than 90,000 scores, including chamber music sets; 60,000 books, including bound journals; 3,500 microforms, chiefly manuscripts and early printed books; and 44,000 media items in all formats. It maintains subscriptions to about 300 journals. The Arthur and Miriam Canter Rare Book Room holds over 3,000 rare books and scores and has particular strengths in 18th- and 19th-century music theory treatises and instrumental methods, and an outstanding collection of keyboard and chamber music of Ignaz Pleyel. Additional music collections of note are housed in Special Collections and University Archives, including the Goldman Band Collection; the University of Iowa's Center for New Music papers; and papers of composers Philip Greeley Clapp, William Hibbard, and Donald Martin Jenni.

The Library's online subscriptions include research tools such as Grove Music Online, RILM, RISM, Music Index, IIMP, and the Oxford Music Bibliographies. Streaming media resources include Naxos Music Jazz and Video Libraries, Met Opera on Demand for Students, Classical Music Library, Opera in Video, Smithsonian Global Sound, and DRAM.

Materials circulate to University of Iowa faculty and students and to institutions that have reciprocal agreements with the University. Individuals not affiliated with the University may qualify for borrower's permits.

Courses

Several School of Music courses are especially appropriate for non-music majors. Some are approved for the GE CLAS Core; look for them (prefix MUS) under "Literary, Visual, and Performing Arts" in the GE CLAS Core [p. 459] section of the Catalog.

Applied music instruction consists of individual and/or class lessons, at the instructor's option, for a minimum of one hour per week (students register for 2 s.h.), or one half-hour per week (students register for 1 s.h.). Music majors are required to attend weekly performance and pedagogy seminars in applied music. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

Music Courses

MUS:1000 First-Year Seminar 1 s.h.

An aspect of performance, creativity, musical literature, or scholarship; seminar format with classroom participation, papers, projects, other assignments; may require attendance at lectures, rehearsals, or performances. Requirements: first- or second-semester standing.

- MUS:1001 Group Piano I: Non-Music Majors** 1 s.h.
Reading, technical study, chording, playing by ear, improvisation; for beginners. Requirements: non-music major. GE: Literary, Visual, and Performing Arts.
- MUS:1002 Group Piano II: Non-Music Majors** 1 s.h.
Continuation of MUS:1001. Requirements: non-music major.
- MUS:1007 Garage Band: The Basics** 2 s.h.
Application of GarageBand software (Mac platform) using midi keyboards; composition and music theory for projects using drag-and-drop looping, multitrack recording, sound effects, mixing, importing music for composition. GE: Engineering Be Creative.
- MUS:1008 Jazz Masters** 3 s.h.
Major 20th-century jazz leaders of varied styles and recordings; developments between 1917 and present.
- MUS:1009 Jazz Cultures in America and Abroad** 3 s.h.
How to listen to jazz and recognize a variety of processes that are taking place in performances and recordings; historical, social, and political issues, including race and gender; the unique blend of jazz of a particular region; attendance at live performances, meet and interview musicians, critics, and educators. GE: Literary, Visual, and Performing Arts; Values and Culture.
- MUS:1010 Recital Attendance for Non-Majors** 1 s.h.
Musical experience through student, faculty recitals.
- MUS:1012 Creativity in Music** 3 s.h.
Where does music come from? When, why, and how did people first start making music? How do music creators turn raw inspiration into finished pieces? How do improvisers create music on the spot? Can anyone create music or is that something only for composers? Development of music creation from long ago to present day; presentations by guest composers and performers who will demonstrate how they compose or improvise their music. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.
- MUS:1020 Performance Instruction for Nonmajors** 1 s.h.
Bassoon, cello, clarinet, euphonium, flute, horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, or voice. Requirements: non-music major. GE: Literary, Visual, and Performing Arts.
- MUS:1030 Writing Rap: The Basics** 3 s.h.
Focus on the craft of writing raps; students listen, attempt to dissect, and evaluate a broad range of hip-hop music while learning the basics of crafting and composing lyrics; songwriting methods and theoretical approaches to composing larger works—such as a mixtape, album or extended play record (EP)—through an examination of music, film, literature, and criticism; previous experience writing raps is not required.
- MUS:1066 Introduction to Film Music** 3 s.h.
Major styles and composers of film music from early 20th century to the present; focus on case studies to understand different roles music can play in cinema; opportunities to employ critical thinking and listening skills to analyze particular films or key scenes. GE: Literary, Visual, and Performing Arts.
- MUS:1100 Fundamentals of Music for Non-Music Majors** 3 s.h.
Notation of pitch and rhythm, intervals, scales, key signatures, triads, and seventh chords. Requirements: non-music major.
- MUS:1120 Secondary Performance - Voice** 1 s.h.
Requirements: music major.
- MUS:1121 Secondary Performance - Piano** 1 s.h.
Requirements: music major.
- MUS:1122 Secondary Performance - Organ** 1 s.h.
Seminar and lessons arranged. Requirements: music major.
- MUS:1123 Secondary Performance - Violin** 1 s.h.
- MUS:1124 Secondary Performance - Viola** 1 s.h.
- MUS:1125 Secondary Performance - Cello** 1 s.h.
- MUS:1126 Secondary Performance - String Bass** 1 s.h.
- MUS:1127 Secondary Performance - Flute** 1 s.h.
- MUS:1128 Secondary Performance - Oboe** 1 s.h.
- MUS:1129 Secondary Performance - Clarinet** 1 s.h.
- MUS:1130 Secondary Performance - Bassoon** 1 s.h.
- MUS:1131 Secondary Performance - Saxophone** 1 s.h.
- MUS:1132 Secondary Performance - Horn** 1 s.h.
- MUS:1133 Secondary Performance - Trumpet** 1 s.h.
- MUS:1134 Secondary Performance - Trombone** 1 s.h.
- MUS:1135 Secondary Performance - Euphonium** 1 s.h.
- MUS:1136 Secondary Performance - Tuba** 1 s.h.
- MUS:1137 Secondary Performance - Percussion** 1 s.h.
- MUS:1139 Secondary Performance - Composition** 1 s.h.
Individual lessons for non-composition majors that help to prepare a portfolio for entrance into the composition area. Corequisites: MUS:1201 and MUS:1202 and MUS:2203 and MUS:2204.
- MUS:1160 University Band** 1 s.h.
Participation in University Band.
- MUS:1165 Hawkeye Marching Band** 1 s.h.
Offered fall semesters.
- MUS:1166 Large Pep Band** 1 s.h.
Performing ensemble for basketball games and wrestling meets. Requirements: membership by audition.
- MUS:1176 Women's Chorale** 1 s.h.
- MUS:1180 All-University String Orchestra** 1 s.h.
Repertoire, rehearsal pacing, and performance expectation geared to general students. Open to all UI students with no audition.
- MUS:1200 Fundamentals of Music for Majors** 0 s.h.
Rudiments of music—notation of pitch and rhythm, meter, scales, keys, intervals, triads. Corequisites: MUS:1201. Requirements: successful completion of placement exam A or concurrent enrollment in MUS:1201.
- MUS:1201 Musicianship and Theory I** 4 s.h.
Principles of harmony; emphasis on aural skills, theoretical concepts, notation. Offered fall semesters. Requirements: MUS:1200 or successful completion of music theory diagnostic exam, and concurrent enrollment in MUS:1211 or successful completion of piano proficiency exam.
- MUS:1202 Musicianship and Theory II** 4 s.h.
Continuation of MUS:1201. Offered spring semesters. Prerequisites: MUS:1201. Requirements: MUS:1212 or successful completion of piano proficiency exam.
- MUS:1210 Recital Attendance** 1 s.h.
Requirements: music major.

MUS:1211 Group Instruction in Piano I 1 s.h.

Beginning instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; skill development in sight reading, technique, harmonization, transposition, improvisation, simple literature. Corequisites: MUS:1201. Requirements: music major.

MUS:1212 Group Instruction in Piano II 1 s.h.

Elementary to early intermediate instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; continued skill development begun in MUS:1211; introduction of easy solo and ensemble literature. Corequisites: MUS:1202. Requirements: MUS:1211 or successful completion of proficiency examination.

MUS:1301 Concepts and Contexts of Western Music 3 s.h.

Ideas, social and historical contexts, emergence of genres and styles, diverse performing traditions in music making of Europe and North America. Recommendations: non-music major. GE: Literary, Visual, and Performing Arts.

MUS:1302 Great Musicians 3 s.h.

Lives and works of important composers, performers. Recommendations: non-music major. GE: Literary, Visual, and Performing Arts.

MUS:1303 Roots, Rock, and Rap: A History of Popular Music 3 s.h.

Historical narrative of popular music; focus on understanding and analyzing music of past and present in relation to major issues central to popular culture and society; production, dissemination, and reception of popular music; interpretation of ways in which music forms individual and collective identities and how contemporary musical experiences are shaped by historical processes. GE: Historical Perspectives.

MUS:1310 World Music 3 s.h.

Varied perspectives on the relationship of music and culture, drawing from musical cultures around the world. GE: Literary, Visual, and Performing Arts.

MUS:1510 Diction for Singers I 2 s.h.

Italian and German pronunciation for singing; basics of international phonetic alphabet; no previous background required.

MUS:1687 Orientation to Music Therapy 2 s.h.

Theory, practice; typical clients and places of employment in music therapy.

MUS:1711 Jazz Rhythms and Interpretation 1 s.h.

Methods for sight-reading and interpreting jazz notation. Requirements: music major or audition.

MUS:1712 Jazz Rhythms and Interpretation II 1 s.h.

Connection of rhythm-body principle—where movement and motion connects directly with rhythmic motifs and patterns; advanced rhythmic concepts (e.g., odd meters, borrowed note-groupings, unconventional notation); Latin, West African, and non-Western concepts of rhythm; for B.M. jazz majors and music majors wanting more in-depth, advanced interaction with jazz rhythms and phrasing; second in a two-course sequence. Requirements: music major.

MUS:1720 History of Jazz 3 s.h.

Major 20th-century styles, artists, seminal works, and recordings; developments between 1917 and 1972. GE: Literary, Visual, and Performing Arts; Values and Culture.

MUS:1800 World of the Beatles 3 s.h.

How the Beatles' music was influenced by American pop music, the drug culture, and the avant-garde, nonwestern instruments and philosophy, anti-war sentiments, world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. GE: Literary, Visual, and Performing Arts. Same as DPA:1800.

MUS:2005 Issues in Popular Music: Women Who Rock 3 s.h.

History of popular female musicians and the influence of their lyrics, music, and performances on American and British cultures; how women's musical careers have been influenced by civil rights, the British invasion (Beatles, Rolling Stones), second-wave feminism, postfeminism, Vietnam, counterculture, social injustice, music education, rock festivals, charity concerts. GE: Literary, Visual, and Performing Arts.

MUS:2014 Giants of Jazz: Miles, Trane, and Duke 3 s.h.

Miles Davis, John Coltrane and Duke Ellington as figureheads of the Jazz music style; how they changed the trajectory of modern music along with sidemen (B. Strayhorn and H. Hancock); Ellington's resolute defiance of stereotypical views of African Americans; Miles' brazen protests against civil injustices; how these icons are much more than mere musicians; cultural impact of landmark albums including "Kind of Blue," "A Love Supreme," and "The Birth of the Cool"; focus on their life, music and sociopolitical impact. Same as AFAM:2014.

MUS:2020 Lower Level Voice arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:2021 Lower Level Piano arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval of the area following a successful audition.

MUS:2022 Lower Level Organ arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:2023 Lower Level Violin arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:2024 Lower Level Viola arr.

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

- MUS:2025 Lower Level Cello** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2026 Lower Level String Bass** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2027 Lower Level Flute** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2028 Lower Level Oboe** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2029 Lower Level Clarinet** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2030 Lower Level Bassoon** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2031 Lower Level Saxophone** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2032 Lower Level Horn** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2033 Lower Level Trumpet** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2034 Lower Level Trombone** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2035 Lower Level Euphonium** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2036 Lower Level Tuba** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2037 Lower Level Percussion** arr.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2038 Lower Level Jazz Guitar** 2 s.h.
Requirements: audition required.
- MUS:2106 Improvisation for Classical Musicians** 3 s.h.
Theory and practice in beginning nonjazz improvisation; development of aural and rhythmic skills, creation of rhythms and melodies, use of timbres and extended techniques in expression, development of instrumental technique for improvisation, practical understanding of harmony and form, experience in solo and accompaniment roles, creation of short pieces as vehicles for improvisation. Requirements: one year of music theory.
- MUS:2160 Drumline Techniques** 1 s.h.
Training and experience in contemporary marching percussion and rudimental drumming techniques.
- MUS:2203 Musicianship and Theory III** 4 s.h.
Continuation of MUS:1201 and MUS:1202; focus on common-practice repertory. Offered fall semesters. Prerequisites: MUS:1202.
- MUS:2204 Musicianship and Theory IV** 4 s.h.
Continuation of MUS:1201, MUS:1202, and MUS:2203; focus on late 19th- and early 20th-century repertoires. Offered spring semesters. Prerequisites: MUS:2203.
- MUS:2206 Form and Analysis** 3 s.h.
Analysis of musical forms and procedures, including 18th- and 19th-century tonal repertoires. Prerequisites: MUS:2204. Requirements: undergraduate standing.
- MUS:2213 Group Instruction in Piano III** 1 s.h.
Varies by semester: skills for the music therapy profession, sight-reading, harmonization, transposition, reading from a fake book, and improvisation (fall); skills for the music education profession, sight-reading, harmonization, transposition, score, and hymn reading (spring). Requirements: music therapy, music education, or piano major.
- MUS:2220 Composition** 1-2 s.h.
Individual lessons with a composition faculty member. Corequisites: MUS:3230. Requirements: admission to B.M. composition concentration.
- MUS:2301 History of Music I** 3 s.h.
Requirements: MUS:1202 and MUS:2203 for music majors. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- MUS:2302 History of Music II** 3 s.h.
Requirements: MUS:1202 and MUS:2203 for music majors. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

MUS:2311 Music of Latin America and the Caribbean**3 s.h.**

Folk and popular musical traditions and their social contexts in Latin America, the Caribbean; listening skills; video/film screenings. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as LAS:2311.

MUS:2510 Diction for Singers II**2 s.h.**

French and English pronunciation for singing. Prerequisites: MUS:1510.

MUS:2671 Music Foundations in Therapy I**2 s.h.**

Skill development on social instruments such as guitar, autoharp, piano; percussion, song-leading skills, and repertoire development for use in clinical music therapy sessions. Prerequisites: MUS:1687. Requirements: music therapy major.

MUS:2672 Music Foundations in Therapy II**2 s.h.**

Advanced skill development on guitar for use in clinical music therapy sessions; percussion techniques, and related skills used in therapeutic settings. Prerequisites: MUS:2671. Requirements: music therapy major.

MUS:2800 Digital Arts: An Introduction**3 s.h.**

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, DIGA:2800, THTR:2800.

MUS:3001 Introduction to Jazz Improvisation**3 s.h.**

Introduction to the practice of improvisation through performance of repertoire and the development of practicing strategies; exercises in melody, harmony, rhythm and transcription that together form an integrated approach to developing improvisations. Prerequisites: MUS:1201. Requirements: audition.

MUS:3006 Popular Music in the United States**3 s.h.**

Popular music and culture in the United States from early 20th century to present; basic musical style and performance analysis, social meaning and use.

MUS:3020 Upper Level Voice**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3021 Upper Level Piano**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval following a successful audition.

MUS:3022 Upper Level Organ**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3023 Upper Level Violin**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3024 Upper Level Viola**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3025 Upper Level Cello**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3026 Upper Level String Bass**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3027 Upper Level Flute**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3028 Upper Level Oboe**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3029 Upper Level Clarinet**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3030 Upper Level Bassoon**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3031 Upper Level Saxophone**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

MUS:3032 Upper Level Horn**arr.**

Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

- MUS:3033 Upper Level Trumpet** arr. 1 s.h.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3034 Upper Level Trombone** arr. 1 s.h.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3035 Upper Level Euphonium** arr. 1 s.h.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3036 Upper Level Tuba** arr. 1 s.h.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3037 Upper Level Percussion** arr. 1 s.h.
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3140 Audition Repertoire** 1 s.h.
Practicum on passages frequently requested at professional auditions.
- MUS:3150 Percussion Ensemble/Steel Band** arr. 1 s.h.
Range of styles and idioms, primarily written during the 20th and 21st centuries; historical or cultural aspects such as ancient rudimental drumming styles, ragtime, jazz, popular music, and music from Africa, the Caribbean, Brazil, Cuba, China.
- MUS:3151 Percussion Chamber Ensemble** 1 s.h.
Advanced percussion ensemble experience to complement work in larger format percussion ensemble; preparation and performance of most important repertoire for percussion ensemble; new works brought to light in a small chamber group setting. Requirements: upper-level undergraduate or graduate percussion major.
- MUS:3154 Introduction to Afro-Cuban Drumming** 1 s.h.
Drumming, dance, songs from folkloric and ceremonial Afro-Cuban forms; emphasis on drumming; may include participation in Afro-Cuban drum and dance ensemble. Same as DPA:3154.
- MUS:3160 Symphony Band/Concert Band** 1 s.h.
Participation in Symphony Band or Concert Band. Requirements: (for concert band) membership by audition.
- MUS:3162 All University Steel Band** 1-3 s.h.
Musical and cultural introduction to steel band music of Trinidad and other Caribbean musical styles, including calypso, soca, ska, and reggae.
- MUS:3163 Intermediate Steel Band** 1 s.h.
Small group steel band experience for more advanced players with experience playing steel pans.
- MUS:3170 Kantorei** 1 s.h.
- MUS:3172 Camerata Singers** 1 s.h.
- MUS:3174 University Choir** 1 s.h.
- MUS:3180 Orchestra** 1 s.h.
- MUS:3182 Chamber Orchestra** 1 s.h.
Requirements: upper-level undergraduate standing.
- MUS:3190 Center for New Music Ensemble** 0-1 s.h.
Participation in the Center for New Music; focus on contemporary composition and performance, 20th- and 21st-century repertoire and styles.
- MUS:3230 Composition Seminar** 0-1 s.h.
Corequisites: MUS:2220 and MUS:5220.
- MUS:3240 Advanced Compositional Concepts and Techniques** 1-2 s.h.
Acquisition, development, and application of advanced techniques and concepts in composition; topics will vary, depending on faculty and student interests; topics may include algorithmic methods, interactive performance systems, sound diffusion/spatialization, tuning systems, mathematical group theory, signal processing, advanced coding, and study and compositional application of new digital technologies and software, as well as analog systems from the past 50 years. Prerequisites: MUS:2220 or MUS:5220.
- MUS:3280 Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis** 3 s.h.
Fourier, fast Fourier transform (FFT), and inverse FFT, including spectral analysis and processing in Max; for composers, performers, and music theorists interested in the nature of sounds and their manipulation.
- MUS:3285 New Musical Instruments: From Design to Performance** 3 s.h.
Acoustic principles of selected traditional instruments (e.g., winds, strings, percussion) as well as principles of electroacoustic sound production (e.g., analog synthesizers, microphones, transducers); students work in teams to build, test, and improve their own musical instrument and experiment with its playing modes; projects may include inharmonic variations upon classical instruments, musical bots, guitar or voice-processing pedals, transducer-driven DIY Gamelans, and more; for composers, performers, engineers, and sound enthusiasts who want to design, build, and/or perform with new musical instruments. GE: Engineering Be Creative.
- MUS:3400 Methods of Teaching Piano** 2 s.h.
Methods, materials, and teaching techniques for preschool students, precollege students, and adult learners. Requirements: keyboard major.
- MUS:3410 Fundamentals of Piano Technology** 1 s.h.
Offered spring semesters. Requirements: music major.
- MUS:3480 Piano Accompaniment** arr.
- MUS:3481 Piano Chamber Music** arr.
- MUS:3482 String Chamber Music** arr.
- MUS:3483 Baroque Seminar for Strings** 1 s.h.
Introduction to Baroque performance practices and techniques on period string instruments; ensembles. Requirements: enrollment in upper-level or graduate-level applied studies.
- MUS:3485 Wind Chamber Music** arr.
Preparation, performance of representative literature; sections for woodwinds, brass, flute, clarinet, horn, saxophone, double reed, trumpet, trombone, brass choir, tuba/euphonium ensemble.

- MUS:3486 Bach Performance Seminar** 1 s.h.
Performance practice and interpretation of J.S. Bach's music and late German Baroque period using modern instruments; differences between Baroque performance on period and modern instruments; concept of historically informed practice (HIP) and its application in performing Bach's masterpieces; master-class format culminating in a public recital of repertoire studied during semester.
- MUS:3489 Chamber Music Residency Program** 1-2 s.h.
Focused exploration of chamber music literature through small ensemble experiences; students are assigned a group to work with and groups rehearse independently a minimum of two hours per week; weekly one-hour coaching with a faculty member; attendance at weekly seminars; opportunity to explore the national chamber music scene and learn about various aspects of pursuing a chamber music career through interactions with faculty, guest lecturers, and master classes provided by visiting performers of the UI String Quartet Residency Program.
- MUS:3500 Opera Workshop** 2 s.h.
Opera performing techniques, including acting, aria interpretation, scene work. Requirements: vocal major or audition.
- MUS:3501 Opera Theater Chorus** 1 s.h.
Requirements: audition.
- MUS:3502 Opera Production** 2-4 s.h.
Preparation and rehearsals leading up to performance of full production; may include one-act opera, chamber opera, musical theater production, or full-length opera. Corequisites: MUS:3503. Requirements: audition.
- MUS:3503 Vocal/Operatic Coaching** 1 s.h.
Professional-level vocal coaching in preparation for opera productions, opera workshop, degree recitals. Corequisites: MUS:3502.
- MUS:3510 Interpretation of German Art Song** 1 s.h.
Schubert, Schumann, Brahms, Wolf, Strauss, Mahler; appropriate diction, style. Prerequisites: MUS:1510 and MUS:2510.
- MUS:3511 Interpretation of Non-German Art Song** 1 s.h.
Art songs in English, French, Italian, Spanish; appropriate diction, style. Prerequisites: MUS:1510 and MUS:2510.
- MUS:3520 Singing for Actors and Dancers** 2 s.h.
Skill development for healthy, effective singing in the musical theatre style; techniques of vocal production through breath management, resonance, articulation, flexibility; song interpretation and repertoire. Recommendations: for MUS:3520—concurrent registration in MUS:1020. Same as DANC:3130, THTR:3130.
- MUS:3521 Acting for Singers and for Dancers** 2 s.h.
Fundamentals of acting technique, with attention to demands on performers in opera, musical theater, and dance. Same as DANC:3521, THTR:3521.
- MUS:3530 Musical Theatre Workshop** 2 s.h.
Development of musical theatre performance skills through participation; students learn how to project intentions, attitudes, and personality traits of characters they portray; fundamentals of stagecraft, acting, movement, relaxation, and concentration; accurate musical coaching, including clear diction and solidly built dramatic musical interpretation. Same as THTR:3530.
- MUS:3600 Undergraduate Music Education Workshop** 1 s.h.
Topics vary; for inservice music teachers.
- MUS:3601 Undergraduate Music Education Workshop II** 1 s.h.
Topics vary; for inservice music teachers.
- MUS:3605 Instrumental Techniques** 2 s.h.
Same as EDTL:3605.
- MUS:3625 Techniques of Conducting** 2 s.h.
Basic elements, score analysis.
- MUS:3635 Instrumental Conducting** 3 s.h.
Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: MUS:3625. Same as EDTL:3635.
- MUS:3640 Choral Methods** 3 s.h.
Organization, implementation of effective choral music programs for all ages. Same as EDTL:3640.
- MUS:3645 Choral Conducting and Literature** 3 s.h.
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under EDTL:3645. Prerequisites: MUS:3625. Same as EDTL:3645.
- MUS:3650 Instrumental Methods and Materials** 3 s.h.
Elementary and secondary instrumental music methods course required for K-12 music teacher certification. Same as EDTL:3650.
- MUS:3659 Class Strings** 1 s.h.
String playing and basic principles of string pedagogy; for band and string students. Offered fall semesters for band; offered fall and spring semesters for string. Requirements: teacher education student in music.
- MUS:3664 Introduction to Wind and Percussion Instruments** 2 s.h.
Survey of wind and percussion instruments; for music education string majors.
- MUS:3665 Arranging for Band** 3 s.h.
Scoring and arranging techniques for concert, marching bands.
- MUS:3666 Marching Band Techniques** 1 s.h.
Administration, show design. Offered fall semesters.
- MUS:3675 Music Therapy Practicum** 1-2 s.h.
Supervised clinical training with adult clients and children in variety of health care and educational settings. Prerequisites: MUS:1687. Requirements: music therapy major.
- MUS:3676 Percussion Experience for Teachers and Therapists** arr.
Hands-on learning experiences in percussion techniques used by music teachers, special education teachers, music therapists, or social workers; basics of hand drumming centering on West African djembe and Trinidadian steel band; skills necessary for interacting with students and clients in educational and clinical settings.
- MUS:3680 Music in Special Education** 3 s.h.
Music methods and materials appropriate for students with disabilities in special educational settings; overview of individualized educational planning for students with disabilities. Requirements: music therapy or music education major.
- MUS:3690 Music Therapy with Adults** 3 s.h.
Techniques, procedures for work with adult clients with disabilities. Prerequisites: MUS:1687. Requirements: music therapy major.

- MUS:3700 iPad for Musicians** 2 s.h.
Opportunity to discover the many hardware and software applications available for the iPad; for music majors, especially of interest for music education and music therapy students. Requirements: music major.
- MUS:3710 Intermediate Jazz Improvisation** 2 s.h.
Improvisation in the jazz repertoire of standards, bebop, and major composers such as Thelonious Monk, Wayne Shorter; memorization and use of melodies, knowledge of chords to the thirteenth, chromatic harmony, development of rhythmic motifs/alteration, strategies for multiple chorus improvisations; separate section for drummers. Prerequisites: MUS:3750 and MUS:3001. Requirements: audition.
- MUS:3730 Jazz Band** 1 s.h.
Jazz performance ensembles, rehearsals, and concerts on and off campus.
- MUS:3740 Small Jazz Ensembles** 1 s.h.
Development of repertoire from standard jazz literature, arrangements and compositions by ensemble members; rehearsals (three hours per week) and performances on and off campus. Requirements: audition.
- MUS:3750 Jazz Theory** 3 s.h.
Development of skills for interpreting melodies and chord symbols in mainstream practice of jazz harmony at the piano; application of scales, development of voice leading for jazz harmonies, reharmonization, and analysis. Requirements: MUS:1201 or audition.
- MUS:3760 Jazz Band Techniques** 1 s.h.
Development of skills for sight-reading and interpreting notated jazz. Prerequisites: MUS:1711.
- MUS:3780 Audio Recording I** 3 s.h.
Introduction to audio fundamentals, including basic acoustics and audio systems; survey of important equipment and practices, use of microphones and mixers; introduction to AVID's Pro Tools digital audio workstation; students with no background in audio production brought up to an operational proficiency level with basic recording systems; related technical topics develop an understanding of common equipment and conventional application in modern recording studio setting; recording techniques used in MUS:3781.
- MUS:3781 Audio Recording II** 3 s.h.
Survey of Pro Tools; fundamental digital audio concepts applied to hands-on music recording and postproduction projects on digital audio workstations; Pro Tools 101 content with supplementary readings and recording sessions; operational knowledge of Pro Tools software and hardware configurations; basic processes of software-based digital audio recording through recording sessions and sample projects; development of functional understanding of postproduction concepts. Prerequisites: MUS:3780.
- MUS:3800 Reed Class** 1 s.h.
Development of reed-making skills; focus on steps to complete reeds from tube cane to a finished reed; different ways of reed making; practical, pedagogical, and historical approaches; producing various reed styles. Requirements: music major.
- MUS:3850 Introduction to Laban Movement Studies** 2 s.h.
Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DANC:3850, DPA:3850.
- MUS:3851 Introduction to the Alexander Technique** 3 s.h.
The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DANC:3851, DPA:3851.
- MUS:3990 Special Studies** 0-4 s.h.
- MUS:4200 Counterpoint Before 1600** 3 s.h.
Two- and three-part counterpoint; Renaissance polyphony. Requirements: MUS:2203 for undergraduates; MUS:5200 for graduate students or exemption by Graduate Advisory Exam.
- MUS:4201 Counterpoint After 1600** 3 s.h.
Two- and three-part writing in the style of J.S. Bach; fugue. Requirements: MUS:2204 for undergraduates; MUS:5200 or exemption on Graduate Advisory Exam for graduate students.
- MUS:4210 Keyboard Harmony** 1-2 s.h.
Melody harmonization and figured-bass realization at the keyboard. Requirements: MUS:2204 for undergraduates; MUS:5200 or exemption by Graduate Advisory Exam for graduate students; and keyboard proficiency for all students.
- MUS:4220 Orchestration** 3 s.h.
Instrumental capabilities and combinations in solo, chamber, and large ensemble literature; application in composition.
- MUS:4250 Composition: Electronic Media I** 3 s.h.
Composition using analog, digital technology. Offered fall semesters.
- MUS:4251 Composition: Electronic Media II** 3 s.h.
Advanced interactive techniques in composition in association with analog, digital technologies. Offered spring semesters.
- MUS:4450 Organ Literature Survey** 2 s.h.
Fifteenth century to present. Requirements: advanced undergraduate or graduate standing.
- MUS:4452 Liturgics** 2 s.h.
History of liturgies and survey of liturgical music from Judaism to present.
- MUS:4454 Service Playing and Improvisation** 2 s.h.
Hymn playing, accompanying, basic improvisation techniques. Requirements: organ major.
- MUS:4630 Psychology of Music** 2-3 s.h.
Cognition of music, affective response, aesthetic response, musical ability. Same as ECTL:4630.

- MUS:4670 Internship in Music Therapy** arr. 3 s.h.
Clinical training under direction of board certified music therapist. Requirements: core music therapy requirements.
- MUS:4675 Senior Project in Music Therapy** 1 s.h.
- MUS:4685 Music Therapy with Children** 3 s.h.
Techniques, procedures for use in clinical, educational settings. Prerequisites: MUS:1687. Requirements: music therapy major.
- MUS:4710 Advanced Jazz Improvisation** 2 s.h.
Builds on the skills learned in MUS:3710; contemporary techniques and styles used by current practitioners of improvisation; free improvisation, bitonal harmonies, through-composed forms, collective improvisation, nonwestern approaches. Prerequisites: MUS:3710 and MUS:3750. Requirements: audition.
- MUS:4750 Transcription** 2 s.h.
Individual projects to transcribe improvisations, small ensemble arrangements, large ensemble arrangements, or nonwestern techniques; use of computer notation programs and midi-realizations. Prerequisites: MUS:3750 and MUS:3710.
- MUS:4760 Jazz Composition and Arranging** 2 s.h.
Experience writing and arranging original jazz material for small and large ensembles, and presenting scores in computer notation; individual lessons. Prerequisites: MUS:3750.
- MUS:4900 Senior Recital** 1 s.h.
- MUS:4910 Bachelor's Thesis** 0-1 s.h.
- MUS:4995 Honors in Music** 1-4 s.h.
Requirements: honors standing.
- MUS:5101 Advanced Woodwind Pedagogy and Literature I** 2 s.h.
Saxophone and clarinet solo and study literature; integration of pedagogical topics.
- MUS:5102 Advanced Woodwind Pedagogy and Literature II** 3 s.h.
Oboe, bassoon, and flute solo and study literature; integration of pedagogical topics.
- MUS:5111 Advanced Brass Pedagogy and Literature I** 2 s.h.
Tuba, euphonium, and trombone literature; pedagogical topics.
- MUS:5112 Advanced Brass Pedagogy and Literature II** 2 s.h.
Trumpet and horn literature; pedagogical topics.
- MUS:5115 Advanced Brass Ensemble Literature** 2 s.h.
Brass chamber music literature, including mixed and like-instrument ensembles.
- MUS:5121 Advanced String Methods and Literature I** 2 s.h.
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- MUS:5122 Advanced String Methods and Literature II** 2 s.h.
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- MUS:5130 Advanced Percussion Pedagogy and Literature** 2 s.h.
Percussion literature, styles, notation, performance techniques, composition; survey.
- MUS:5200 Basic Analytical Techniques** 3 s.h.
Theories and strategies of analysis applied to tonal and post-tonal music.
- MUS:5220 Advanced Composition** 1-2 s.h.
Corequisites: MUS:3230.
- MUS:5235 Tonal Analysis** 3 s.h.
Requirements: MUS:5200 or exemption on Graduate Advisory Exam.
- MUS:5236 Post-Tonal Analysis** 3 s.h.
Requirements: MUS:5200 or exemption on Graduate Advisory Examination.
- MUS:5240 Special Topics in Theory and Analysis** 3 s.h.
Requirements: MUS:5200 or exemption on Graduate Advisory Exam for graduate students.
- MUS:5300 Introduction to Graduate Study in Music** 2 s.h.
Music library; reference materials; bibliography; research problems, methods; writing research papers. Offered fall and spring semesters.
- MUS:5301 Advanced History and Literature of Music I** 3 s.h.
History and style of Medieval, Renaissance, and Baroque music (750-1750). Offered fall semesters.
- MUS:5302 Advanced History and Literature of Music II** 3 s.h.
History and style of Classical, 19th-, 20th-, and 21st-century music (1750-present). Offered spring semesters.
- MUS:5310 Introduction to Musicology** 1-3 s.h.
Methods, materials of research in historical musicology; field of musicology. Requirements: for 1 s.h.—MUS:5300; for 3 s.h.—concurrent enrollment in MUS:5300.
- MUS:5400 Piano Pedagogy I** 2 s.h.
In-depth study of techniques and materials needed to teach intermediate and advanced piano students; judging competitions; conducting master classes; writing curriculum vitae and cover letters in preparation for academic job searches.
- MUS:5401 Piano Pedagogy II** 2 s.h.
History of the piano and its technique and pedagogy; national schools of piano playing; relationship of technological changes in piano construction to piano technique, pedagogy, and composition; major methods and treatises, historical recordings and video clips; research leading to understanding of students' individual piano lineage.
- MUS:5410 Piano Literature I** 2 s.h.
Baroque era to Mozart or Chopin through 1900.
- MUS:5411 Piano Literature II** 2 s.h.
Beethoven through Schumann or 20th century.
- MUS:5450 History of Organ Building and Design** 2-3 s.h.
Development of organ design from Middle Ages to present; basic concepts of construction, maintenance.
- MUS:5452 Organ Pedagogy** 2 s.h.
History, theory, practice from Renaissance to present; methods, literature appropriate for various levels.
- MUS:5465 Hymnology** 1-2 s.h.
Survey of historic hymnody: ancient odes, Latin hymns, Reformation hymns and psalms; current developments in hymnody and hymnals; may be special topic study.
- MUS:5475 Organ Literature Special Topics** 2 s.h.
Specialized study in selected areas of organ literature.

MUS:5510 Graduate Diction 2 s.h.
Advanced pronunciation of singing languages. Requirements: grade of B or higher in undergraduate diction in French, German, and Italian.

MUS:5555 Voice Habilitation 2 s.h.
Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Same as CSD:5213.

MUS:5600 Graduate Music Education Workshop 1 s.h.
For inservice music teachers; topics vary. Same as EDTL:5600.

MUS:5601 Graduate Music Education Workshop II 1 s.h.
Varied topics; for inservice music teachers. Same as EDTL:5601.

MUS:6020 Major Voice arr.

MUS:6021 Major Piano arr.

MUS:6022 Major Organ arr.

MUS:6023 Major Violin arr.

MUS:6024 Major Viola arr.

MUS:6025 Major Cello arr.

MUS:6026 Major String Bass arr.

MUS:6027 Major Flute arr.

MUS:6028 Major Oboe arr.

MUS:6029 Major Clarinet arr.

MUS:6030 Major Bassoon arr.

MUS:6031 Major Saxophone arr.

MUS:6032 Major Horn arr.

MUS:6033 Major Trumpet arr.

MUS:6034 Major Trombone arr.

MUS:6035 Major Euphonium arr.

MUS:6036 Major Tuba arr.

MUS:6037 Major Percussion arr.

MUS:6120 Graduate Secondary Performance - Voice 1 s.h.

MUS:6121 Graduate Secondary Performance - Piano 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6122 Graduate Secondary Performance - Organ 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6123 Graduate Secondary Performance - Violin 1 s.h.

MUS:6124 Graduate Secondary Performance - Viola 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6125 Graduate Secondary Performance - Cello 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6126 Graduate Secondary Performance - String Bass 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6127 Graduate Secondary Performance - Flute 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6128 Graduate Secondary Performance - Oboe 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6129 Graduate Secondary Performance - Clarinet 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6130 Graduate Secondary Performance - Bassoon 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6131 Graduate Secondary Performance - Saxophone 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6132 Graduate Secondary Performance - Horn 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6133 Graduate Secondary Performance - Trumpet 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6134 Graduate Secondary Performance - Trombone 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6135 Graduate Secondary Performance - Euphonium 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6136 Graduate Secondary Performance - Tuba 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6137 Graduate Secondary Performance - Percussion 1 s.h.
Required seminar and lessons to be arranged. Requirements: music major.

MUS:6139 Graduate Secondary Performance - Composition 1 s.h.
Individual lessons; for non-composition music majors. Requirements: music major.

MUS:6150 Seminar in Performance and Pedagogy Research I 1 s.h.
Research in the student's area; selection of a research topic. Offered spring semesters.

MUS:6200 Music Theory Colloquium 0 s.h.

MUS:6210 History of Music Theory I 3 s.h.
Requirements: MUS:5200 or exemption on Graduate Advisory Exam.

- MUS:6211 History of Music Theory II** 3 s.h.
Requirements: MUS:5200 or exemption by Graduate Advisory Exam.
- MUS:6215 Music Theory Pedagogy** 3 s.h.
Methods and techniques of teaching college-level music theory, including harmony, sight singing, ear training. Corequisites: MUS:6200. Requirements: MUS:5200 or exemption by Graduate Advisory Exam.
- MUS:6250 Advanced Tonal Theory and Analysis** 3 s.h.
Prerequisites: MUS:5235.
- MUS:6251 Advanced Post-Tonal Theory and Analysis** 3 s.h.
Prerequisites: MUS:5236.
- MUS:6300 Musicology Colloquium** 0 s.h.
- MUS:6310 Seminar in Musicology** 3 s.h.
One or more selected areas of music history.
- MUS:6314 Topics in Ethnomusicology** 3 s.h.
Perspectives on analysis and representation of selected musical cultures from around the world.
- MUS:6315 Foundations of Ethnomusicology** 3 s.h.
Ethnomusicology in relation to domains of musical, humanistic, social science scholarship on expressive culture and artistic processes. Requirements: senior standing.
- MUS:6325 Renaissance Music** 3 s.h.
Requirements: MUS:5301 or exemption by Graduate Advisory Exam.
- MUS:6326 Renaissance Music Notations** 3 s.h.
Renaissance white notation, keyboard tablatures, musical paleography; transcription of early vocal, instrumental notations; editorial problems. Requirements: MUS:5301 or exemption by Graduate Advisory Exam.
- MUS:6330 Seventeenth-Century Music** 3 s.h.
Requirements: MUS:5301 or exemption by Graduate Advisory Exam.
- MUS:6335 Eighteenth-Century Music** 3 s.h.
Requirements: MUS:5302 or exemption by Graduate Advisory Exam.
- MUS:6340 Nineteenth-Century Music** 3 s.h.
Requirements: MUS:5302 or exemption by Graduate Advisory Exam.
- MUS:6345 Music 1900-1945** 3 s.h.
Requirements: MUS:5302 or exemption by Graduate Advisory Exam.
- MUS:6350 Music 1945-Present** 3 s.h.
Requirements: MUS:5302 or exemption by Graduate Advisory Exam.
- MUS:6355 American Music** 3 s.h.
Requirements: MUS:5302 or exemption by Graduate Advisory Exam.
- MUS:6375 Music Editing** 3 s.h.
Principles and methods of music editing; use of primary source materials, establishment of music text, preparation of critical apparatus; project to prepare a critical edition of music for publication.
- MUS:6520 Methods of Teaching Voice** 3 s.h.
Attitude, musicianship, foreign language aptitude, physical and emotional characteristics; mental images used to modify respiratory, phonatory, articulatory behavior; vocal hygiene; performance anxiety; student-teacher relationships; administration in vocal schools, professional organizations. Same as CSD:6202.
- MUS:6530 Topics in Vocal Performance** 2 s.h.
Selected areas of vocal performance.
- MUS:6535 Opera Theater Directing Seminar** 3 s.h.
Exploration, discussion, and experience using techniques unique to directing opera. Score and libretto analysis, fundamentals of stagecraft, casting and management skills.
- MUS:6540 Survey of Operatic Literature** 3 s.h.
Important operatic scores examined from standpoint of performers, directors; production problems.
- MUS:6541 Survey of Song Literature I** 3 s.h.
German language lieder from 18th century to present; French mélodie from Meyerbeer to present. Offered fall semesters of odd years.
- MUS:6542 Survey of Song Literature II** 3 s.h.
British, American, Italian, Spanish, Latin American, Scandinavian, and Russian art song from 18th century to present. Offered fall semesters of even years.
- MUS:6561 Seminar: Choral Literature and Analysis I** 1-3 s.h.
Choral music of the Renaissance. Corequisites: MUS:6581.
- MUS:6562 Seminar: Choral Literature and Analysis II** 1-3 s.h.
Choral music of the Baroque era. Corequisites: MUS:6582.
- MUS:6563 Seminar: Choral Literature and Analysis III** 1-3 s.h.
Choral music of the Classical and Romantic eras. Corequisites: MUS:6583.
- MUS:6564 Seminar: Choral Literature and Analysis IV** 1-3 s.h.
Choral music of the 20th and 21st centuries. Corequisites: MUS:6584.
- MUS:6579 Orchestral Conducting Lab** 2 s.h.
Introduce, improve, and refine gestural skills, emphasizing score analysis; class discussions and laboratory orchestra experiences.
- MUS:6580 Advanced Orchestral Conducting** 2 s.h.
- MUS:6581 Advanced Choral Conducting I** 1-3 s.h.
Music of the Renaissance. Corequisites: MUS:6561.
- MUS:6582 Advanced Choral Conducting II** 1-3 s.h.
Music of the Baroque era. Corequisites: MUS:6562.
- MUS:6583 Advanced Choral Conducting III** 1-3 s.h.
Music of the Classical and Romantic eras. Corequisites: MUS:6563.
- MUS:6584 Advanced Choral Conducting IV** 1-3 s.h.
Music of the 20th and 21st centuries. Corequisites: MUS:6564.
- MUS:6585 Score Reading** 1 s.h.
- MUS:6586 Orchestral Literature** 2 s.h.
- MUS:6589 Advanced Wind Conducting** 1 s.h.
Advanced conducting technique, score study, and literature as related to symphonic band and chamber wind ensembles.
- MUS:6590 Seminar in Advanced Band Literature and Band History** 1-2 s.h.
Band literature; history.
- MUS:6670 Graduate Music Therapy Practicum** arr.
Seminar, clinical fieldwork. Requirements: undergraduate music therapy practicum.
- MUS:6675 Research in Music Therapy - Graduate** 1 s.h.
Research methodology; foundation for subsequent semesters of research on capstone project in music therapy.

MUS:6680 College Teaching and Clinic Supervision in Music Therapy 1-2 s.h.

Principles of college teaching, curriculum development, clinical supervision in music therapy.

MUS:6685 Theory and Research in Music Therapy 1 s.h.

Historical background, current principles and practices associated with theories of music therapy, common uses with specific populations; research methodologies associated with testing; theories and clinical practices, assigned research publications; information covered over several semesters with each semester covering three to four common theories; seminar includes strengths and limitations of each theory and its place within clinical practice. Requirements: undergraduate core courses in music therapy.

MUS:6690 Special Studies in Music Therapy 1-3 s.h.

Seminar. Requirements: music therapy or music education graduate standing.

MUS:6900 M.A. Recital 1-2 s.h.**MUS:6910 M.F.A. Thesis 1-2 s.h.****MUS:6920 M.A. Performance Project 1-2 s.h.****MUS:6950 M.A. Thesis 1-3 s.h.****MUS:7130 Seminar in Performance and Pedagogy Research 1 s.h.**

Exploration of pedagogy, literature research, and research methodologies that pertain to student's performance areas and to initiate selection of a research topic and preparation of a proposal for the D.M.A. thesis/essay; preparation for the profession including applying and interviewing for college teaching positions, developing a research plan, and other topics related to career development. Offered spring semesters.

MUS:7132 Seminar in Performance and Pedagogy Research II 1 s.h.

Continuation of MUS:6150; thesis proposal preparation; survey of related literature. Offered spring semesters.

MUS:7135 Seminar in Music Recording and Research 1 s.h.

Review of existing projects, preparation, and vetting of recording project proposals; discussion of recording technology, preparation and planning of recording projects, and recording session protocols and best practices; preparation for the D.M.A. thesis recording option and taken before or during the semester in which the D.M.A. candidate intends to defend the topic proposal.

MUS:7280 Readings in Music Theory 0-1 s.h.**MUS:7380 Readings in Music History arr.****MUS:7400 Special Studies Piano Literature 1-2 s.h.**

Individual research in special aspects of piano literature; primarily for D.M.A. students.

MUS:7401 Special Studies in Piano Accompaniment and Chamber Music arr.

Advanced collaborative arts practicum.

MUS:7900 D.M.A. Recital 1-2 s.h.**MUS:7950 Ph.D. Thesis 1-4 s.h.****MUS:7960 Composition Ph.D. Thesis 1-4 s.h.****MUS:7970 D.M.A. Essay 1-4 s.h.**

Music, B.A.

Learning Outcomes

Graduates of the B.A. program in music will be able to:

- demonstrate the ability to hear, identify, and work conceptually with the rhythmic, melodic, harmonic, and structural elements of music;
- identify compositional processes, aesthetic properties of style, and artistic and cultural forces in music;
- demonstrate a broad acquaintance with music literature, musical genres, and cultural sources;
- demonstrate the ability to read and write critically about music; and
- demonstrate the ability to sight read, prepare for performance, interpret, and perform both solo and ensemble music in a variety of musical styles.

Overview

The Bachelor of Arts with a major in music is intended for undergraduates who have a strong background in music, and who wish to major in music as part of a broad liberal arts education irrespective of specific career aspirations. The curriculum includes musicianship, performance, and electives.

The program is designed for students who have solid abilities and interest in music but are not planning on careers as musicians, or for those who wish to pursue a double major or earn more than one bachelor's degree. Students must audition and be accepted into a performance area. They develop musicianship, performance skills, and select from a wide variety of music electives.

Students in many areas, from engineering and physics to history, art, and English, find that a B.A. in music is a good addition to their studies. Other students pursue the degree to complement course work in business (especially the minor in business administration), a world language and literature, or interdisciplinary fields such as American studies. Some students combine their B.A. with undergraduate preparation to study law or medicine.

Requirements

The Bachelor of Arts with a major in music requires a minimum of 120 s.h., including 42-47 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. B.A. students majoring in music may count a maximum of 56 s.h. earned in music courses toward their degree and they must earn at least 64 s.h. in course work outside of the School of Music in order to graduate. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students must satisfy all requirements for graduation; contact the School of Music and the Academic Advising Center to learn more.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into a performance area through audition either in person or by recording before they register. All entering students must complete the online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses.

Transfer students admitted to the School of Music must complete a minimum of one year of applied music (lower or upper level) and one year of major ensemble at the University of Iowa in order to earn a degree in music. Transfer students who have not completed the equivalent of the four-semester sequence of Musicianship and Theory I-IV (MUS:1201, MUS:1202, MUS:2203, and MUS:2204) must complete a theory diagnostic exam to determine appropriate placement in the musicianship and theory sequence. Transfer students who have not completed the equivalent of two semesters of class piano or a piano proficiency exam must meet piano proficiency requirements at the University of Iowa.

All music majors with scholarships must participate in a major ensemble and studio lessons each semester.

The B.A. with a major in music requires the following course work.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I or already have completed that course or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II or already have completed that course or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

Code	Title	Hours
All of these:		
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
Lower-level applied music		4
Major ensemble (minimum of four semesters)		4

Major ensembles include MUS:1176 Women's Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the associate director for undergraduate studies.

Code	Title	Hours
Two of these:		
MUS:1720	History of Jazz	3
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
At least 6 s.h. from these:		
MUS:1310	World Music	3

MUS:1720	History of Jazz	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Music I	3
MUS:2302	History of Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	3
MUS:3750	Jazz Theory	3
MUS:4200	Counterpoint Before 1600	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2
All of these:		
Performance electives (lower- or upper-level applied music, ensembles, or improvisation)		6
Music electives		6

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Members of the School of Music honors program must have a g.p.a. of at least 3.80 in music course work.

To graduate with honors, students must complete at least 6 s.h. of honors work in music, normally in their junior and senior years. They must earn a minimum of 3 s.h. of the required honors work in MUS:4995 Honors in Music by completing one or more honors projects, such as solo or ensemble recitals; compositions, transcriptions, orchestrations, or arrangements; and essays, research papers, editions, or translations. Honors projects must be in addition to the projects normally required for graduation with a major in music.

Students also may earn honors credit in other honors courses (normally upper-level undergraduate courses) or in approved graduate courses (music history and music theory are particularly recommended).

For complete details about requirements for graduation with honors in the music major, visit Honors in Music on the School of Music website and consult the school's honors advisor.

National Honor Society

The School of Music sponsors a chapter of Pi Kappa Lambda, the national music honor society. Students of exceptional ability are recommended for membership by faculty members. For more information, consult the School of Music honors advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the music major.

Financial Support

A number of music performance-based merit scholarships are available to qualified undergraduate music majors. All music majors with scholarships must enroll in a major ensemble and studio lessons each semester. For information, contact the School of Music.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

In addition to the requirements listed under the checkpoints, all students must complete 2 s.h. in applied music and 1 s.h. in a major ensemble each semester.

The Bachelor of Arts in music requires 42-47 s.h. in School of Music courses.

Before the third semester begins: 15-18 s.h. of course work in the major, including MUS:1201 Musicianship and Theory I, MUS:1202 Musicianship and Theory II, MUS:1211 Group Instruction in Piano I, and MUS:1212 Group Instruction in Piano II

Before the fifth semester begins: at least 23-32 s.h. of course work in the major

Before the seventh semester begins: at least 33-41 s.h. of course work in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least 40-46 s.h. of course work in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Music, B.A.

Course	Title	Hours
First Year		
Fall		
Audition: Entering students who plan to major in music must be accepted into a performance area through audition before they register.		
MUS:1201	Musicianship and Theory I	4
MUS:1200	Fundamentals of Music for Majors ^a	0
MUS:1210	Recital Attendance ^b	1
MUS:1211	Group Instruction in Piano I	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: lower-level applied lessons ^c		2
Major: major ensemble ^d		1
Elective course ^e		1

CSI:1600	Success at Iowa	2
	Hours	15-16
Spring		
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance ^b	1
MUS:1212	Group Instruction in Piano II	1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: lower-level applied lessons ^c		2
Major: major ensemble ^d		1
GE CLAS Core: Diversity and Inclusion ^f		3
Elective course ^e		1
	Hours	16-17
Second Year		
Fall		
MUS:2301	History of Music I ^g	3
Major: lower-level applied lessons ^c		2
Major: major ensemble ^d		1
GE CLAS Core: World Languages First Level Proficiency or elective course ^h		4 - 5
Elective course ^e		3
Elective course ^e		3
	Hours	16-17
Spring		
MUS:1720 or MUS:2302	History of Jazz or History of Music II	3
Major: lower-level applied lessons ^c		2
Major: major ensemble ^d		1
GE CLAS Core: Values and Culture ^{f, i}		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^h		4 - 5
Elective course ^e		3
	Hours	16-17
Third Year		
Fall		
Major: musicianship elective course		2 - 4
Major: major ensemble ^d		1
Major: performance elective ^j		1 - 2
GE CLAS Core: Quantitative or Formal Reasoning ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^h		4 - 5
Elective course ^e		3
Elective course ^e		1
	Hours	15-19
Spring		
Major: musicianship elective course		2 - 4
Major: major ensemble ^d		1
Major: performance elective ^j		1 - 2
GE CLAS Core: Natural Sciences without Lab ^f		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^h		4 - 5
Elective course ^e		3
Elective course ^e		1
	Hours	15-19
Fourth Year		
Fall		
Major: music elective course		3

Major: major ensemble ^d	1
Major: performance elective ^j	1 - 2
GE CLAS Core: International and Global Issues ^f	3
GE CLAS Core: Natural Sciences with Lab ^f	4
Elective course ^e	3
Hours	15-16
Spring	
Major: performance elective ^j	1 - 2
Major: music elective course	3
Major: major ensemble ^d	1
GE CLAS Core: Social Sciences ^f	3
Elective course ^e	3
Elective course ^e	3
Elective course ^e	1
Hours	15-16
Total Hours	123-137

- a This course is required for students enrolled in MUS:1201 who do not pass Placement Examination A.
- b Students must complete two semesters of MUS:1210.
- c Students must complete at least 4 s.h. in lower-level applied lessons.
- d Students must complete a minimum of four semesters of major ensemble.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Fulfills a major requirement and may fulfill a GE requirement.
- h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- i If not completed with a MUS course. MUS:1009, MUS:1720, MUS:2311 fulfill the GE CLAS Core Values and Culture requirement.
- j Students must complete at least 6 s.h. in performance electives.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Music, B.M.

Learning Outcomes

Bachelor of Music Graduates

The Bachelor of Music degree is the primary professional degree in music, and it emphasizes the development of the skills, concepts, and sensitivities essential to the professional life of the musician. Bachelor of Music students in performance programs develop comprehensive capabilities in the major-performing medium and the ability to integrate musical knowledge and performance skills in preparation for entering the profession or advanced study in graduate school.

All graduates of the Bachelor of Music program in music will be able to demonstrate the following.

- **Performance.** Students will acquire the ability to sight read, reach technical proficiency, apply historically and stylistically informed performance practices, gain a broad knowledge of the repertoire of their performance area, perform a cross-section of that repertoire, and gain collaborative skills through ensemble experiences.
- **Keyboard Competency.** Students will acquire the functional ability to play piano, including the ability to perform major and minor scales, arpeggios, and chord progressions in all keys; and to harmonize melodies, transpose, and improvise.
- **Conducting, Leadership, and Collaboration.** Students will acquire the ability to work as leaders and in collaboration on matters of musical preparation, rehearsal techniques, and interpretation. Students will demonstrate competent conducting technique.
- **Musical Repertoire and Style.** Students will acquire a basic knowledge of music history and repertoire through the present; an acquaintance with repertoires beyond the area of specialization; the ability to place music in historical, cultural, and stylistic contexts; and the ability to write and speak about music history and style in a coherent manner.
- **Music Theory, Analysis, and Compositional Processes.** Students will acquire aural skills sufficient to hear melodic, rhythmic, harmonic, and formal elements of music; analytical skills sufficient to understand the melodic, rhythmic, harmonic, and formal elements of music; knowledge of basic compositional techniques; and the ability to write and speak about musical processes in a coherent manner.

Teacher Education Program Graduates

All graduates of the Teacher Education Program will be able to:

- demonstrate competent conducting, and musical leadership of performing groups and in general classroom situations;
- apply knowledge of analytical and historical knowledge to curriculum development, lesson planning, and daily classroom and performance activities;
- demonstrate the ability to arrange and adapt music from a variety of sources to meet the needs and ability levels of individuals and groups;
- demonstrate functional performance abilities in keyboard, voice, and instruments appropriate to the teaching specialization;

- demonstrate pedagogical skills appropriate to the area of specialization sufficient to teach students individually and in groups; and
- demonstrate knowledge and skills in student learning, diverse learning, planning instruction, instructional strategies, the learning environment, communication, assessment and evaluation, collaboration, ethics, and relationships.

Bachelor of Music in Composition Graduates

In addition to the learning outcomes listed above, all graduates of the Bachelor of Music in composition will:

- demonstrate the ability to compose solo, chamber, vocal, and electronic music;
- acquire a basic knowledge of acoustics; and
- demonstrate the ability to use technologies applicable to musical composition, such as sound synthesis, recording and processing, and computer notation.

Bachelor of Music in Music Therapy Graduates

The undergraduate music therapy program provides the required academic and clinical course work necessary to become professionally certified as a music therapist. The program, which is approved by the American Music Therapy Association, prepares students to pass the Certification Board for Music Therapists national exam, which is required for entry-level music therapy positions.

In addition to the learning outcomes listed above, all graduates of the Bachelor of Music in music therapy will display:

- Functional musical and arranging skills in voice, keyboard, guitar, and percussion to accompany self and group singing, with basic repertory of traditional, folk, popular songs in several keys, with and without written music.
- Knowledge of basic principles of human development, exceptionality, psychopathology, principles of therapy, and the therapeutic relationship.
- Knowledge of basic principles of music therapy including history and philosophy; the psychological, physiological, and sociological bases for the use of music as therapy; music therapy techniques and materials and their application with various client populations.
- Knowledge of various client populations, the therapeutic process (client assessment, treatment planning, therapeutic implementation, evaluation, and documentation of progress); knowledge of research methods and ability to interpret research findings.
- Knowledge of professional issues (standards, ethics, interdisciplinary collaboration, supervision, and administration).
- Clinical skills with a variety of client populations to enable students to function as entry-level music therapists. Students will acquire knowledge of the technological developments applicable to the field of music therapy.

Overview

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into a performance area through audition either in person or by recording before they register. All entering students must complete the

online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses.

Transfer students admitted to the School of Music must complete a minimum of one year of applied music (lower or upper level) and one year of major ensemble at the University of Iowa in order to earn a degree in music. Transfer students who have not completed the equivalent of the four-semester sequence of Musicianship and Theory I-IV (MUS:1201, MUS:1202, MUS:2203, and MUS:2204) must complete a theory diagnostic exam to determine appropriate placement in the musicianship and theory sequence. Transfer students who have not completed the equivalent of two semesters of class piano or a piano proficiency exam must meet piano proficiency requirements at the University of Iowa.

Requirements

The Bachelor of Music requires a minimum of 120 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The program offers concentrations in composition, music therapy, and performance. Students seeking licensure/certification in music education or music therapy should enroll in the B.M. program.

Many students earn more than 120 s.h. in fulfilling the requirements for their majors—for instance, those who choose the music therapy concentration or seek teacher certification. The College of Liberal Arts and Sciences maximum hours rule does not apply to the Bachelor of Music, so B.M. students may count more than 56 s.h. of course work in music toward the degree.

The Bachelor of Music requires the following School of Music course work.

General Course Requirements

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I or already have completed that course or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II or already have completed that course or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

Six semesters of MUS:1210 Recital Attendance are required for all B.M. students, except music therapy students, who are required to take four semesters. Transfer students should plan to enroll in this course each of their remaining semesters, or until the requirement is met.

To complete the senior recital, students must have achieved upper-level applied status or be enrolled in upper-level applied music courses (see "Applied Music" below). Music therapy students may complete a senior recital or a senior research project. Composition students substitute MUS:4910 Bachelor's Thesis for the senior recital. The senior recital, research project, or thesis must be completed at the University of Iowa.

Code	Title	Hours
MUS:1200	Fundamentals of Music for Majors (or successful completion of the online theory diagnostic examination for MUS:1201)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or successful completion of proficiency exam I)	1
MUS:1212	Group Instruction in Piano II (or successful completion of proficiency exam I)	1
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Music I (western music of the Middle Ages, Renaissance, and Baroque)	3
MUS:2302	History of Music II (western music 1750-present)	3
MUS:3625	Techniques of Conducting	2
MUS:4900	Senior Recital	1
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
At least 3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:3750	Jazz Theory	3
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	2
MUS:4710	Advanced Jazz Improvisation	2
MUS:4750	Transcription	2

Applied Music

Students must complete four years of applied music. Instruction is provided on two levels, lower and upper. Students must achieve upper-level status before they may present their senior recital. Readiness for upper-level applied music is determined by a jury examination in the area. The eighth semester of applied music may be waived for students who have successfully completed a senior recital, are enrolled in the Teacher Education Program (TEP), and are student teaching. Students are allowed a maximum of six semesters (not including summer) in lower-level applied instruction. Those who want to continue lessons beyond the maximum allowable lower-level registration must do so under the nonmajor category.

Composition students are required to take 6 s.h. of lower-level applied music and 2 s.h. of secondary piano.

Music therapy students who complete a senior research project rather than a senior recital are required to take three years of lower-level applied music.

Ensemble Participation

Students must complete eight semesters of major ensemble participation. They normally enroll in a major ensemble during consecutive semesters, beginning early in their degree work, to ensure timely completion of the requirement. Ensemble assignments are made at the discretion of the major teacher and ensemble director. String students participate in University Orchestra and Chamber Orchestra. Wind and percussion students participate in Symphony Band, Concert Band, and University Band. Voice students participate in Camerata Singers, University Choir, Kantorei, and Women's Chorale. Keyboard students may substitute accompaniment for major ensemble participation for two semesters during their junior and/or senior years, with their major applied-music teacher's consent. Composition students may, with their advisor's consent, substitute two semesters of other ensembles during their junior and/or senior year.

Music therapy students who complete a senior research project rather than a senior recital are required to complete 6 s.h. of major ensemble participation.

Any student who wants to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the associate director for undergraduate studies.

Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Women's Chorale	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Electives

Students may take advanced electives in performance (including chamber music and piano accompaniment), theory, composition, music education, music therapy, music history, diverse music cultures, music literature, conducting, and orchestration.

Performance Concentrations

A performance concentration is available in these areas—brass, jazz, organ, percussion, piano, strings, voice, and woodwinds. Students must take at least an additional 17 s.h. beyond the School of Music general course requirements. This course work includes required courses and electives unique to each performance area. Course listings for each of the respective areas are available from the School of Music office.

Music Therapy Concentration

Admission to the music therapy concentration is based on successful completion (grade of C-plus or higher) of MUS:1687 Orientation to Music Therapy. Students must earn a B-minus or higher in all remaining music therapy core courses. In

addition to the core courses in music therapy listed below, specific courses are required in biology, anatomy, psychology, and music.

A six-month, full time internship in an American Music Therapy Association (AMTA) approved off-campus clinical facility is required for completion of the degree. There are a limited number of approved music therapy internships in the Iowa City area, and many internship placements require relocation to a different city. Students are eligible to begin applying for their internship one year prior to the start of the internship. Securing an internship typically involves completing application materials, interviewing on site or via electronic platform, and demonstrating musical competencies. Students are not automatically placed in internships, but must work with the clinical advisor to select and apply for appropriate programs. Following successful completion of the internship, students are eligible to take the board certification examination in music therapy. This exam is offered through the Certification Board for Music Therapists. This leads to national board certification as a music therapist, with the credential music therapist-board certified (MT-BC).

Since music therapists work with vulnerable populations, the School of Music is required to run a criminal background check on all students when they begin their clinical experiences. Criminal convictions could negatively impact a student's ability to continue in the music therapy program and/or gain placement at an internship site. For more information, contact the director of the music therapy program.

The music therapy concentration requires the following course work.

Code	Title	Hours
All of these:		
MUS:1687	Orientation to Music Therapy	2
MUS:3675	Music Therapy Practicum (section 1 taken twice for 2 s.h. and section 2 taken once for 1 s.h.)	5
MUS:3680	Music in Special Education	3
MUS:3690	Music Therapy with Adults	3
MUS:4670	Internship in Music Therapy	arr.
MUS:4685	Music Therapy with Children	3
EDTL:4630/ MUS:4630	Psychology of Music	2-3
EDTL:4640	Introduction to Music Research	2-3
At least two of these (total of 4 s.h.):		
MUS:2671	Music Foundations in Therapy I	2
MUS:2672	Music Foundations in Therapy II	2
MUS:3676	Percussion Experience for Teachers and Therapists	1
All of these:		
MUS:1120	Secondary Performance - Voice (taken two semesters for 1 s.h. each)	2
MUS:1210	Recital Attendance (taken four semesters for 1 s.h. each)	4
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1

MUS:2213	Group Instruction in Piano III	1
One of these:		
MUS:3850/ DANC:3850/ DPA:3850	Introduction to Laban Movement Studies	2
MUS:3851/ DANC:3851/ DPA:3851	Introduction to the Alexander Technique	3
DANC:1085/ DPA:1085	Introduction to Afro- Caribbean Dance Techniques	2
One of these:		
MUS:1007	Garage Band: The Basics	2
MUS:3665	Arranging for Band	3
One of these:		
MUS:1121	Secondary Performance - Piano	1
MUS:3001	Introduction to Jazz Improvisation	3
One of these:		
PSY:2930	Abnormal Psychology: Health Professions	3
PSY:3320	Abnormal Psychology	3
One of these:		
ANTH:1101/IS:1101	Cultural Anthropology	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
One of these:		
PSQF:4106	Child Development	3
PSY:2401	Introduction to Developmental Science	3
One of these:		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
CSD:2140	Manual Communication	1
PSQF:1075	Educational Psychology and Measurement	3
RCE:4178	Microcounseling	1-3
RCE:4199	Counseling for Related Professions	3
SSW:1800/ ASP:1800/ CSD:1800/ NURS:1800/ TR:1800	Aging Matters: Introduction to Gerontology	3
One of these:		
MUS:4675	Senior Project in Music Therapy	1
MUS:4900	Senior Recital	1

Music therapy students who elect the senior recital/ performance option must take four years of applied music and attain upper-level status; they also must take 8 s.h. of major ensemble participation. Vocal majors choosing this option also must take MUS:1510 Diction for Singers I and MUS:2510 Diction for Singers II.

Music therapy students who elect the senior project/clinical option must take three years of applied music and 6 s.h. of major ensemble. They also must take an additional 4 s.h. of music performance courses in areas such as MUS:1120 Secondary Performance - Voice, MUS:1121 Secondary Performance - Piano, MUS:1137 Secondary Performance - Percussion, MUS:3154 Introduction to Afro-Cuban Drumming, MUS:3163 Intermediate Steel Band, or other courses approved by the advisor.

In order to satisfy national certification requirements, all music therapy students must fulfill certain GE CLAS Core requirements with specific courses. Students should consult their music therapy advisor before selecting GE CLAS Core courses.

Composition Concentration

The composition concentration is open to students who have been admitted to a performance area in the School of Music. Before admission to the concentration, students normally must complete the following four-semester sequence.

Code	Title	Hours
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4

The last course in the sequence, MUS:2204, is a prerequisite for MUS:2220 Composition (undergraduate composition lessons).

Applicants to the composition concentration must submit a portfolio of creative work to the composition faculty for evaluation and acceptance into the program. Students who wish to prepare a portfolio may register for MUS:1139 Secondary Performance - Composition.

Composition students must satisfy the degree requirements stated under "General Course Requirements" above. The composition concentration requires additional course work in composition and music theory; contact the School of Music office.

The course MUS:4910 Bachelor's Thesis replaces the recital required of applied music students. It consists of one or more compositions, approved by a committee of three faculty members and performed in regularly scheduled School of Music recitals.

Teacher Licensure

Majors who intend to earn licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the Bachelor of Music major and all requirements for graduation.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Undergraduate students seeking teacher licensure/ certification must be enrolled in a Bachelor of Music program in performance and must complete the appropriate licensure program (e.g., band, choral, string). Students must be admitted to the TEP before they may take required professional education courses. See "Admission to the Teacher Education Program" below.

All students must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. In addition to the B.M. requirements in music, TEP students must take GE CLAS Core

courses that fulfill licensure requirements. The certification program requires courses in music methods and techniques, professional education courses, and student teaching.

The following courses are required for all music TEP students.

Code	Title	Hours
EDTL:3002	Technology in the Classroom	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3610	Introduction and Practicum: Music	2
EDTL:3620	Methods and Materials: General Music	3
EDTL:4087	Seminar: Curriculum and Student Teaching (section 61)	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School (section 61)	6
EDTL:4192	Special Area Student Teaching (section 20)	6
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:1075	Educational Psychology and Measurement	3

One college-level mathematics course, excluding MATH:0100, MATH:0300, MATH:1005, and PHIL:1636

Woodwind, Percussion, or Keyboard Students (Band Emphasis)

The following courses are required.

Code	Title	Hours
MUS:1165	Hawkeye Marching Band	1
MUS:1711	Jazz Rhythms and Interpretation	1
MUS:3659	Class Strings (section 1)	1
MUS:3666	Marching Band Techniques	1
MUS:3760	Jazz Band Techniques	1
EDTL:3605/ MUS:3605	Instrumental Techniques (taken three times; section 1 for percussion/flute; section 2 for brass; section 3 for woodwinds)	6
EDTL:3635/ MUS:3635	Instrumental Conducting	3
EDTL:3640/ MUS:3640	Choral Methods	3
EDTL:3650/ MUS:3650	Instrumental Methods and Materials	3

Keyboard (Choral Music Emphasis) Students

Keyboard majors with a choral music emphasis must include choral ensembles in their major ensemble experience.

Code	Title	Hours
EDTL:3640/ MUS:3640	Choral Methods	3
EDTL:3645/ MUS:3645	Choral Conducting and Literature	3
EDTL:3650/ MUS:3650	Instrumental Methods and Materials	3
MUS:1120	Secondary Performance - Voice (taken two semesters for 1 s.h. each)	2
MUS:1510	Diction for Singers I (Italian/German)	2
MUS:2510	Diction for Singers II (English/French)	2
MUS:3664	Introduction to Wind and Percussion Instruments	2

String Students

String majors in the Teacher Education Program (TEP) take one semester of secondary performance on each of three string instruments other than their primary instrument (total of 3 s.h.).

The following courses are required.

Code	Title	Hours
MUS:3659	Class Strings (section 2, taken three times for 1 s.h. each)	3
MUS:3664	Introduction to Wind and Percussion Instruments	2
EDTL:3635/ MUS:3635	Instrumental Conducting	3
EDTL:3640/ MUS:3640	Choral Methods	3
EDTL:3650/ MUS:3650	Instrumental Methods and Materials	3

Vocal Students

The following courses are required.

Code	Title	Hours
MUS:1121	Secondary Performance - Piano	1
MUS:2213	Group Instruction in Piano III	1
MUS:3664	Introduction to Wind and Percussion Instruments	2
EDTL:3640/ MUS:3640	Choral Methods	3
EDTL:3645/ MUS:3645	Choral Conducting and Literature	3
EDTL:3650/ MUS:3650	Instrumental Methods and Materials	3

Keyboard Students (Nonvocal)

Keyboard students who plan to teach in nonvocal areas complete the requirements in either the brass-woodwind-percussion area or the string area, as stated above.

Admission to the Teacher Education Program

Application forms for admission to the Teacher Education Program (TEP) are available from the Office of Student Services at the College of Education. Application deadlines for

the secondary TEP are October 1 for entry the following spring and March 1 for entry the following summer or fall. The TEP in music accepts a limited number of applicants; meeting the minimum requirements (stated below) does not guarantee admission.

Minimum requirements for admission to the music TEP are:

- admission to the School of Music;
- a University of Iowa g.p.a. and a cumulative g.p.a. of at least 3.00 at the time of admission to the program;
- a g.p.a. of at least 3.00 in all music course work;
- successful completion of MUS:1201 Musicianship and Theory I and MUS:1202 Musicianship and Theory II;
- completion of at least 30 s.h. of college credit;
- completion of a 10-hour volunteer practicum in a K-12 school setting (volunteer verification form on the TEP application website);
- a completed application form;
- two recommendations (with original signatures; forms are on the TEP application website);
- transcript(s) of all college courses;
- an essay, typewritten on a separate sheet, of no more than 500 words on the topic of a contemporary teaching challenge faced by teachers nationally and how the applicant would address it;
- a résumé, typewritten on a separate sheet, of paid or volunteer work experience, including jobs, employers, and dates of employment; and
- an acceptable score on either the Praxis I exam (Pre-Professional Skills Tests, combined test, test code 5750) with a cumulative score of at least 522 and no score below 170 on the reading, writing, and mathematics tests, or Praxis Core (combined test, test code 5751) for reading (156), writing (162), and mathematics (150).

First-year students interested in seeking music licensure, who earned a high school g.p.a. of at least 3.20 and who are accepted into the School of Music, are directly admitted into the TEP. By the last day (Friday) of finals week in the fall semester, any student who has been directly admitted through early admission must also complete the following:

- achieve passing scores on a standardized test, either Praxis I (PPST or CPPST) with a cumulative score of at least 522, and no score below 170 on reading, writing, and mathematics tests, or Praxis Core for reading (156), writing (162), and mathematics (150);
- at least 10 hours of volunteer work (if not done prior to admission) and submission of the verification form; and
- a criminal background check.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Members of the School of Music honors program must have a g.p.a. of at least 3.80 in music course work.

Students must complete at least 6 s.h. of honors work in music, normally in their junior and senior years. They must earn a minimum of 3 s.h. of the required honors work in MUS:4995 Honors in Music by completing one or more honors

projects, such as solo or ensemble recitals; compositions, transcriptions, orchestrations, or arrangements; and essays, research papers, editions, or translations. Honors projects must be in addition to the projects normally required for graduation with a major in music.

Students also may earn honors credit in other honors courses (normally upper-level undergraduate courses) or in approved graduate courses (music history and music theory are particularly recommended).

For complete details about requirements for graduation with honors in the music major, visit Honors in Music on the School of Music website and consult the school's honors advisor.

National Honor Society

The School of Music sponsors a chapter of Pi Kappa Lambda, the national music honor society. Students of exceptional ability are recommended for membership by faculty members. For more information, consult the School of Music honors advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the music major.

Financial Support

A number of music performance-based merit scholarships are available to qualified undergraduate music majors. All music majors with scholarships must enroll in a major ensemble and studio lessons each semester. For information, contact the School of Music.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

In addition to the requirements listed under the checkpoints, all students must complete 2 s.h. in applied music and 1 s.h. in a major ensemble each semester.

The Four-Year Graduation Plan is not available for music therapy and music education students.

Students may apply more than 56 s.h. earned in School of Music courses toward the minimum 120 s.h. required for the B.M.

Before the third semester begins: 18 s.h. of course work in the major, including MUS:1201 Musicianship and Theory I, MUS:1202 Musicianship and Theory II, MUS:1211 Group Instruction in Piano I, and MUS:1212 Group Instruction in Piano II

Before the fifth semester begins: at least 34 s.h. of course work in the major, including MUS:2203 Musicianship and Theory III and MUS:2204 Musicianship and Theory IV

Before the seventh semester begins: at least 50 s.h. of course work in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least 56 s.h. of course work in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Music, B.M.

Course	Title	Hours
First Year		
Fall		
Audition: Entering students who plan to major in music must be accepted into a performance area through audition before they register.		
MUS:1201	Musicianship and Theory I	4
MUS:1200	Fundamentals of Music for Majors ^a	0
MUS:1210	Recital Attendance ^b	1
MUS:1211	Group Instruction in Piano I ^c	1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: lower-level applied lessons ^d		2
Major: major ensemble		1 - 2
CSI:1600	Success at Iowa	2
Hours		14-16
Spring		
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance ^b	1
MUS:1212	Group Instruction in Piano II ^c	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: lower-level applied lessons ^d		2
Major: major ensemble		1 - 2
GE CLAS Core: Diversity and Inclusion ^e		3
Hours		15-17
Second Year		
Fall		
MUS:1210	Recital Attendance ^b	1
MUS:2203	Musicianship and Theory III	4
MUS:3625	Techniques of Conducting	2
Major: lower-level applied lessons ^d		2
Major: major ensemble		1 - 2
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
Major: Music specialization area or Music elective course		1
Hours		18-20
Spring		
MUS:1210	Recital Attendance ^b	1
MUS:2204	Musicianship and Theory IV	4

Major: diverse musical culture course ^g	3
Major: lower-level applied lessons ^d	2
Major: major ensemble	1 - 2
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
Major: Music specialization area or Music elective course	1 - 3
Hours	16-20

Third Year

Fall

MUS:1210	Recital Attendance ^b	1
MUS:2301	History of Music I ^h	3
Major: major ensemble		1 - 2
Major: theory-based course		3
Major: upper-level applied lessons ⁱ		2
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Major: Music specialization area or Music elective course		1 - 3
Hours		15-19

Spring

MUS:1210	Recital Attendance ^b	1
MUS:2302	History of Music II ^h	3
Major: major ensemble		1 - 2
Major: music elective course		3
Major: upper-level applied lessons		2
GE CLAS Core: Values and Culture ^{e, j}		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Hours		17-19

Fourth Year

Fall

Major: major ensemble		1 - 2
Major: music elective course		2 - 4
Major: upper-level applied lessons		2
Major: music elective course or elective course if music electives have been met		3
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: Natural Sciences with Lab ^e		4
Hours		15-18

Spring

MUS:4900	Senior Recital ^k	1
Major: upper-level applied lessons		2
Major: major ensemble		1 - 2
Major: music elective courses		3 - 4
GE CLAS Core: Natural Sciences without Lab ^e		3
GE CLAS Core: Social Sciences ^e		3
Major: music elective course or elective course if music electives have been met		3
Hours		16-18
Total Hours		126-147

a This course is required for students enrolled in MUS:1201 who do not pass Placement Examination A.

b Students must complete six semesters of MUS:1210.

c Unless excused by exam.

d A maximum of six semesters (12 s.h.) in lower-level applied instruction is allowed.

- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g MUS:1009, MUS:2311, and MUS:1720 fulfill GE CLAS Core requirements for Literary, Visual, & Performing Arts and Values and Culture. MUS:1310 fulfills the GE CLAS Core Literary, Visual, & Performing Arts requirement.
- h Fulfills a major requirement and may fulfill a GE requirement.
- i Readiness for upper-level applied music is determined by a jury examination in the area.
- j If not completed with a MUS course. MUS:1009, MUS:1720, MUS:2311 fulfill the GE CLAS Core Values and Culture requirement.
- k Students must achieve upper-level status before they may present their senior recital.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Music, Minor

The undergraduate minor in music requires 15 s.h. of course work taken in the School of Music (prefix MUS), including at least 8 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor. Courses used to satisfy minor requirements may not be taken pass/nonpass.

Work for the minor includes courses in three areas: music theory, music history, and performance. The remaining 5 s.h. in elective course work must be chosen from School of Music courses. Transfer credit may be accepted toward the minor, with approval of the School of Music; credit must be in music theory, music history, or elective music course work. Music performance courses must be taken at the University of Iowa.

Some School of Music courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course.

Music, M.A.

Advisory Examinations

Before they register, entering Master of Arts students must take two School of Music advisory examinations: one in music theory and one in music history and literature. M.A. students in music therapy are not required to take the advisory examinations. These examinations are given on the Friday and Saturday preceding the opening of classes.

Preliminary Procedures for Music Therapy Graduate Students

Since music therapists work with vulnerable populations, the School of Music is required to run a criminal background check on all students when they begin their clinical experiences. Criminal convictions could negatively impact a student's ability to continue in the music therapy program and/or gain placement at an internship site. For more information, contact the director of the music therapy program.

Ensemble Participation

Graduate students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. Students normally enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director.

Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Women's Chorale	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Keyboard majors may substitute piano accompaniment for major ensemble participation, at their major applied teacher's discretion. Jazz studies majors substitute MUS:3730 Jazz Band for major ensemble participation. Theory, composition, music education, and music therapy majors have no major ensemble requirement. The M.A. in music requires one semester of any ensemble.

Any student who wants to request adjustment of this requirement must submit a request in writing to a review committee consisting of the major ensemble director(s) involved, the major teacher, and the School of Music associate director for graduate studies.

Requirements

The Master of Arts program in music requires a minimum of 30-37 s.h. of graduate credit. The M.A. concentrations in performance, conducting, jazz studies, composition, music theory, musicology, music therapy, and music education require a recital, capstone project, or thesis. Performance majors present a public recital in place of a written thesis. Music therapy majors complete a capstone research project.

Jazz studies majors present a public recital and a separate performance project. The Master of Arts in music education is offered with thesis and nonthesis options.

All M.A. programs—except music therapy and music education—require the following course work.

Introductory Course

Code	Title	Hours
MUS:5300	Introduction to Graduate Study in Music	2

Music Theory

Students must earn 6 s.h. as indicated from the following.

Code	Title	Hours
This course:		
MUS:5200	Basic Analytical Techniques (unless exempt by advisory exam)	3

Students exempted from MUS:5200 through the advisory examination in music theory must substitute an additional theory elective chosen from the following:

MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:5235	Tonal Analysis	3
MUS:5236	Post-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3

Students also must choose one elective from these:

MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:5235	Tonal Analysis	3
MUS:5236	Post-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6210	History of Music Theory I	3
MUS:6211	History of Music Theory II	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Post-Tonal Theory and Analysis	3

Music History

Students must earn 6 s.h. as indicated from the following.

Code	Title	Hours
Both of these:		
MUS:5301	Advanced History and Literature of Music I	3
MUS:5302	Advanced History and Literature of Music II	3

Students exempted from MUS:5301 and/or MUS:5302 through the advisory examination in music history must substitute a music history course from the following list for each of the exemptions:

MUS:6310	Seminar in Musicology	3
MUS:6314	Topics in Ethnomusicology	3

MUS:6315	Foundations of Ethnomusicology	3
MUS:6325	Renaissance Music	3
MUS:6326	Renaissance Music Notations	3
MUS:6330	Seventeenth-Century Music	3
MUS:6335	Eighteenth-Century Music	3
MUS:6340	Nineteenth-Century Music	3
MUS:6345	Music 1900-1945	3
MUS:6350	Music 1945-Present	3
MUS:6355	American Music	3
MUS:6375	Music Editing	3

Admission

Individuals applying to graduate programs in music must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission and curriculum requirements for each area in the School of Music is available from the school's academic office or on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Qualified graduate students are invited to apply for teaching and research assistantships. Inquiries should be directed to the School of Music office.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Music, Ph.D.

Advisory Examinations

Before they register, entering Doctor of Philosophy students must take two School of Music advisory examinations: one in music theory and one in music history and literature. These examinations are given on the Friday and Saturday preceding the opening of classes.

Ensemble Participation

Students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. They normally enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director.

Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Women's Chorale	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Keyboard majors may substitute piano accompaniment for major ensemble participation, at their major applied teacher's discretion. Jazz studies majors substitute MUS:3730 Jazz Band for major ensemble participation. Theory, composition, music education, and music therapy majors have no major ensemble requirement.

Any student who wants to request adjustment of this requirement must submit a request in writing to a review committee consisting of the major ensemble director(s) involved, the major teacher, and the School of Music associate director for graduate studies.

Requirements

The Doctor of Philosophy program in music requires a minimum of 72 s.h. of graduate credit. Ph.D. concentration areas include composition, musicology, music education, music theory, and vocal pedagogy and literature. The vocal pedagogy and literature program is designed for students who already have achieved a professional level of musical performance; they are required to audition in their major performance area.

Information about specific admission and curricular requirements for each area is available from the School of Music office.

Ph.D. students in composition, musicology, music theory, and vocal pedagogy and literature must complete the courses required for the M.A. (see the M.A. in music [p. 779] in the Catalog). They also must complete the following course work.

Code	Title	Hours
One or more additional music theory course(s) listed in the M.A. requirements		
And one of these:		

MUS:7950	Ph.D. Thesis	1-4
MUS:7960	Composition Ph.D. Thesis	arr.

Proficiency in one or more foreign languages is required for Ph.D. students in composition, musicology, music theory, and music literature. Ph.D. students in music education should contact the School of Music for requirements.

Admission

Applicants must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission and curriculum requirements for each area in the School of Music is available from the school's academic office or on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Qualified graduate students are invited to apply for teaching and research assistantships. Inquiries should be directed to the School of Music office.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Doctor of Musical Arts, D.M.A.

Advisory Examinations

Before they register, entering Doctor of Musical Arts students must take two School of Music advisory examinations: one in music theory and one in music history and literature. These examinations are given on the Friday and Saturday preceding the opening of classes.

Ensemble Participation

Students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. Students normally enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director.

Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Women's Chorale	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Keyboard majors may substitute piano accompaniment for major ensemble participation, at their major applied teacher's discretion. Theory, composition, music education, and music therapy majors have no major ensemble requirement.

Any student who wants to request adjustment of this requirement must submit a request in writing to a review committee consisting of the major ensemble director(s) involved, the major teacher, and the School of Music associate director for graduate studies.

Requirements

The Doctor of Musical Arts is offered with two concentrations: conducting, and performance and pedagogy. Requirements for the D.M.A. are the same as for the Ph.D. (see the Ph.D. in Music [p. 781] in the Catalog), except that the D.M.A. requires three recitals or programs (MUS:7900 D.M.A. Recital and MUS:7970 D.M.A. Essay) instead of the Ph.D. thesis. At the performance area's discretion, a concerto performance with orchestra or other appropriate ensemble from the School of Music may be substituted for one of the recitals. Some performance areas allow one or more lecture recitals, with faculty approval. Singers may substitute one major opera role or one major solo contribution to an orchestra performance for one of their recitals. See the school's associate director for graduate programs for specific area requirements.

Admission

Applicants must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission and

curriculum requirements for each area in the School of Music is available from the school's academic office or on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Qualified graduate students are invited to apply for teaching and research assistantships. Inquiries should be directed to the School of Music office.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Theory Pedagogy, Graduate Minor

The graduate minor in theory pedagogy requires 18 s.h. of credit. The program is open to students who have been admitted to a graduate degree program in the School of Music.

The minor requires the following courses.

Code	Title	Hours
One of these:		
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
Both of these:		
MUS:6200	Music Theory Colloquium (taken twice)	0
MUS:6215	Music Theory Pedagogy	3
One of these:		
MUS:5235	Tonal Analysis	3
MUS:6250	Advanced Tonal Theory and Analysis	3
One of these:		
MUS:5236	Post-Tonal Analysis	3
MUS:6251	Advanced Post-Tonal Theory and Analysis	3
Two of these:		
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6210	History of Music Theory I	3
MUS:6211	History of Music Theory II	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Post-Tonal Theory and Analysis	3

Sacred Music, Graduate Certificate

The graduate Certificate in Sacred Music requires 25 s.h. of credit. It is an interdisciplinary program with courses in sacred music, choral conducting and literature, keyboard, voice, religion, and art and art history. Students may earn the certificate while working toward a graduate degree. Individuals not enrolled in a graduate program also may complete the certificate, but they must be admitted to the Graduate College and have the consent of a faculty advisor.

The Certificate in Sacred Music requires the following course work.

Liturgy, History of Church Music Hymnology, and Keyboard Studies

This area requires at least 10 s.h. of course work.

Code	Title	Hours
Both of these:		
MUS:4452	Liturgics	2
MUS:4454	Service Playing and Improvisation	2
At least 3 s.h. from these:		
MUS:3021	Upper Level Piano	2
MUS:3022	Upper Level Organ	2
MUS:4210	Keyboard Harmony	1-2
MUS:6021	Major Piano	2
MUS:6022	Major Organ	2
At least 3 s.h. from these:		
MUS:4450	Organ Literature Survey	2
MUS:5450	History of Organ Building and Design	2-3
MUS:5452	Organ Pedagogy	2
MUS:5465	Hymnology	1-2
MUS:5475	Organ Literature Special Topics	2

Choral Conducting, Literature, and Vocal Studies

This area requires 7-8 s.h. of course work.

Code	Title	Hours
Required (if no previous conducting study):		
MUS:3625	Techniques of Conducting	2
At least 3 s.h. from these:		
MUS:3020	Upper Level Voice	2
MUS:3645/ EDTL:3645	Choral Conducting and Literature	3
MUS:5510	Graduate Diction	2
MUS:6020	Major Voice	2
MUS:6520/ CSD:6202	Methods of Teaching Voice	3
MUS:6561	Seminar: Choral Literature and Analysis I	1-3
MUS:6562	Seminar: Choral Literature and Analysis II	1-3

MUS:6563	Seminar: Choral Literature and Analysis III	1-3
MUS:6564	Seminar: Choral Literature and Analysis IV	1-3
MUS:6581	Advanced Choral Conducting I	1-3
MUS:6582	Advanced Choral Conducting II	1-3
MUS:6583	Advanced Choral Conducting III	1-3
MUS:6584	Advanced Choral Conducting IV	1-3

Religion, History, and Art History

This area requires 6 s.h. of course work.

Code	Title	Hours
ARTH:3070	Themes in Baroque-Era Art	3
ARTH:3390	Early Medieval Art	3
ARTH:3391	Themes in Medieval Art	3
ARTH:3550	Leonardo, Raphael, Michelangelo: Rivalry and the Rise of the Artist in the Italian Renaissance	3
ARTH:3720	The Romantic Revolution	3
ARTH:3730	Impressionism and the Visual Revolution	3
ARTH:3820	Modern Art	3
ARTH:3840	Contemporary Art	3
HIST:4241/ RELS:4741	Varieties of American Religion	3
HIST:4412/ MDVL:4412	History of the Medieval Church	3
HIST:4417/ MDVL:4417	Medieval Intellectual History 300-1150	3
HIST:4418/ MDVL:4418	Medieval Intellectual History 1150-1500	3
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3

Other courses numbered 3000 or above approved by Certificate in Sacred Music advisor

Optional Electives

Students must complete additional course work to total 25 s.h. of credit for the certificate.

Code	Title	Hours
MUS:3601	Undergraduate Music Education Workshop II	1

Other electives numbered 3000 or above approved by the Certificate in Sacred Music advisor

Native American and Indigenous Studies

Chair

- Lauren Rabinovitz

Coordinators

- Tom Arne Midtrød (History), Jacki T. Rand (History)

Undergraduate minor: Native American and Indigenous studies

Undergraduate certificate: Native American and Indigenous studies

Graduate certificate: Native American and Indigenous studies

Faculty: <https://clas.uiowa.edu/nais/people/faculty>

Website: <https://clas.uiowa.edu/nais/>

Native American and Indigenous Studies (NAIS) is an interdisciplinary program that focuses on the histories, cultures, literatures, and contemporary legal and political issues of Native North Americans and other indigenous peoples of the Americas.

Students taking NAIS courses begin to understand historical and contemporary social issues among indigenous peoples of the Americas, within the international and global context of settler colonialism and its legacies. Courses provide students with a better understanding of ethnic, social, and political diversity. The curriculum increasingly enables students to encounter innovative teaching methods that cross conventional disciplinary boundaries, that involve visiting and learning more about regional Native American communities in Iowa and the Midwest, and that focus on communicating knowledge to audiences both within and beyond the classroom. Students thereby gain expertise for employment in advocacy, social services, health care, education, and other areas that require cross-cultural understanding and communication with diverse public audiences. Students also gain a background for more specialized or advanced study in a variety of disciplines, including anthropology, economics, education, ethnic studies, geography, history, political science, psychology, and religious studies.

A certificate or minor in NAIS also complements preprofessional and professional training in areas such as health care, business, social work, and law.

The College of Liberal Arts and Sciences grants the undergraduate certificate and minor. The Graduate College confers the graduate certificate. The Native American and Indigenous Studies Program is administered by the Department of American Studies [p. 40].

Programs

Undergraduate Programs of Study

Minor

- Minor in Native American and Indigenous Studies [p. 787]

Certificate

- Certificate in Native American and Indigenous Studies [p. 788]

Graduate Program of Study

Certificate

- Certificate in Native American and Indigenous Studies [p. 789]

Courses

Native American and Indigenous Studies Courses

NAIS:1049 Introduction to American Indian and Native Studies 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as AMST:1049, HIST:1049.

NAIS:1290 Native American Foods and Foodways 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, GHS:1290, HIST:1290.

NAIS:1500 Topics in Native American and Indigenous Studies 3 s.h.

Native American and indigenous peoples; concepts, problems, and issues.

NAIS:2165 Native Peoples of North America 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as AMST:2165, ANTH:2165.

NAIS:2292 Introduction to American Indian History and Policy 3 s.h.

Survey of relationships among American Indian tribes, the United States government, and the American settler society; consequences of contact and colonialism through the study of an individual tribe, the impacts of U.S. federal policy and settler colonialism on tribal communities, and how tribes responded variously to these challenges. Same as HIST:2292.

NAIS:2300 Native Americans in Film 3 s.h.

Representations of Native Americans in film from the western to science fiction and animation. Same as AMST:2300.

NAIS:2500 Indigenous Art, Land, and Social Justice 3 s.h.

Examples, readings, discussions, and special projects examine contemporary visual, performance, and multimedia art by Native North American and other Indigenous artists as a component of broader indigenous activism for social justice and defense of land.

NAIS:2700 Sacred World of Native Americans 3 s.h.

GE: Values and Culture. Same as RELS:2700.

NAIS:3110 Health of Indigenous Peoples 3 s.h.

Health problems and services for indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101. Same as ANTH:3110, GHS:3110.

NAIS:3211 Native North America I: Precontact-1789 3 s.h.

Same as HIST:3211.

NAIS:3212 Native North America II: 1789-Present 3 s.h.

Same as HIST:3212.

NAIS:3257 North American Archaeology 3 s.h.

Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as ANTH:3257.

NAIS:3258 Southwestern Archaeology 3 s.h.

Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as ANTH:3258.

NAIS:3270 Colonial North America, ca. 1600-1775 3 s.h.

Introduction to major themes in colonial American history prior to the American Revolution; Native American history; colonialism and Native resistance; slavery; material culture; religion and spirituality; immigration; gender and sexuality in cross-cultural perspective. Same as HIST:3270.

NAIS:3272 Native Americans in the Age of Empires, ca. 1500-1815 3 s.h.

Overview of major issues in Native American history during the period of European Imperialism; colonialism, diplomacy and alliance building, warfare, captivity, religious and spiritual exchanges, revolution, and the disintegration of Native-European alliances in the early 19th century. Same as HIST:3272.

NAIS:3276 American Indian Environmentalism 3 s.h.

Clean water, plant diversity, animal health as worldwide issues; Native American relationships and responsibilities to the living things of their homelands—from the earth itself to the raindrops that fall from the sky—and how those relationships have been altered in the last 150 years; explore innovative Native American efforts to restore their relationships to plants, animals, and landscapes that have been damaged by resource development, manufacturing, population growth, and political interests. Same as RELS:3976.

NAIS:3289 The Atlantic World c. 1450-1850 3 s.h.

Interactions between peoples of Europe, Africa, and the Americas between the 15th and mid-19th centuries, interconnected system of exchange that defied national and imperial boundaries; encounters between Native Americans, Africans, and Europeans in different parts of the Americas; forced and voluntary resettlement of Africans and Europeans overseas; development of plantation slave societies; biological consequences of transatlantic contact; circulation of people, goods, and ideas; development of creole societies; era of revolutions; abolition of slavery. Same as HIST:3289.

NAIS:3441 Native American Literature 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3441.

NAIS:3554 Native Histories and Endurance in the Greater Midwest 3 s.h.

Indigenous histories in the Great Lakes region; colonization and decolonization as ongoing processes rather than historic events.

NAIS:4500 Special Topics in Native American and Indigenous Studies 3 s.h.

Native American and indigenous peoples; concepts, problems, and issues.

NAIS:4502 History of Mexico 3 s.h.

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as HIST:4502, LAS:4502.

NAIS:4990 Independent Study arr.**NAIS:5099 American Indian and Native Studies Proseminar 1 s.h.**

Intensive reading on designated topics with multidisciplinary relevance in American Indian and Native studies; may include screenings, field trips, guest speakers, special events.

NAIS:6050 Seminar: Topics in Native American and Indigenous Studies 3 s.h.

Native American and indigenous peoples; concepts, problems, and issues.

NAIS:6099 Independent Study Project arr.

Completion of a significant scholarly project that addresses the scope, goals, and ongoing development of American Indian and native studies as an academic field; findings presented on campus (e.g., AINSP steering committee or in association with an AINSP-sponsored event) or at an academic conference.

NAIS:6620 Readings in Native American Literatures 3 s.h.

Same as ENGL:6620.

NAIS:7202 Readings: 20th-Century Native American History arr.

Examination of the indigenous 20th century through a series of themes including settler colonialism, sovereignty and self-determination, federal Indian policy, and indigenous feminism; readings focus primarily on secondary sources, but attention is given to key primary sources; students are required to carry out specified research tasks. Same as HIST:7202.

Native American and Indigenous Studies, Minor

The undergraduate minor in Native American and Indigenous studies (NAIS) requires a minimum of 15 s.h., including 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students may count a maximum of 6 s.h. of course work from a major toward the NAIS minor.

A student may earn the minor or the certificate in Native American and Indigenous studies, but not both.

The minor in Native American and Indigenous studies requires the following course work.

Required Courses

Code	Title	Hours
Both of these:		
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to American Indian and Native Studies	3
NAIS:2165/ AMST:2165/ ANTH:2165	Native Peoples of North America	3

Elective Courses

Students must choose at least one course from two of the three lists below (6 s.h. total) and earn at least 9 s.h. in elective course work.

Indigenous Cultures and Literatures

Code	Title	Hours
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
NAIS:2300/ AMST:2300	Native Americans in Film	3
NAIS:2700/ RELS:2700	Sacred World of Native Americans	3
NAIS:3257/ ANTH:3257	North American Archaeology	3
NAIS:3258/ ANTH:3258	Southwestern Archaeology	3
NAIS:3276/ RELS:3976	American Indian Environmentalism	3
NAIS:3441/ ENGL:3441	Native American Literature	3
FREN:4090	Quebecois Literature	3

Indigenous Histories in the Americas

Code	Title	Hours
NAIS:2292/ HIST:2292	Introduction to American Indian History and Policy	3
NAIS:3211/ HIST:3211	Native North America I: Precontact-1789	3
NAIS:3212/ HIST:3212	Native North America II: 1789-Present	3

NAIS:3270/ HIST:3270	Colonial North America, ca. 1600-1775	3
NAIS:4502/ HIST:4502/ LAS:4502	History of Mexico	3

Indigenous Peoples in Global Perspective

Code	Title	Hours
NAIS:3110/ ANTH:3110/ GHS:3110	Health of Indigenous Peoples	3
NAIS:3272/ HIST:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
NAIS:3289/ HIST:3289	The Atlantic World c. 1450-1850	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:3515	Topics in Postcolonial Studies	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3

Applied Research

It is highly recommended, but not required, that students have an in-depth Native American research experience before they complete their undergraduate requirements. This may be completed through NAIS:4990 Independent Study. Students should consult NAIS faculty advisors about available options.

Native American and Indigenous Studies, Certificate

The undergraduate Certificate in Native American and Indigenous Studies (NAIS) requires a minimum of 18 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students plan their programs in close cooperation with Native American and Indigenous Studies faculty advisors. They may count a maximum of 6 s.h. completed for a major, a minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Native American and Indigenous Studies. Courses applied toward the NAIS certificate also may be used to complete the GE CLAS Core [p. 459].

A student may earn the certificate or the minor in Native American and Indigenous studies, but not both.

The Certificate in Native American and Indigenous Studies requires the following course work.

Required Courses

Students are required to complete the following two courses.

Code	Title	Hours
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to American Indian and Native Studies	3
NAIS:2165/ AMST:2165/ ANTH:2165	Native Peoples of North America	3

Elective Courses

Students must choose at least one course from two of the three lists below (6 s.h. total) and earn at least 12 s.h. in elective course work.

Indigenous Cultures and Literatures

Code	Title	Hours
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
NAIS:2300/ AMST:2300	Native Americans in Film	3
NAIS:2700/ RELS:2700	Sacred World of Native Americans	3
NAIS:3257/ ANTH:3257	North American Archaeology	3
NAIS:3258/ ANTH:3258	Southwestern Archaeology	3
NAIS:3276/ RELS:3976	American Indian Environmentalism	3
NAIS:3441/ ENGL:3441	Native American Literature	3
FREN:4090	Quebécois Literature	3

Indigenous Histories in the Americas

Code	Title	Hours
NAIS:2292/ HIST:2292	Introduction to American Indian History and Policy	3
NAIS:3211/ HIST:3211	Native North America I: Precontact-1789	3
NAIS:3212/ HIST:3212	Native North America II: 1789-Present	3
NAIS:3270/ HIST:3270	Colonial North America, ca. 1600-1775	3
NAIS:4502/ HIST:4502/ LAS:4502	History of Mexico	3

Indigenous Peoples in Global Perspective

Code	Title	Hours
NAIS:3110/ ANTH:3110/ GHS:3110	Health of Indigenous Peoples	3
NAIS:3272/ HIST:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
NAIS:3289/ HIST:3289	The Atlantic World c. 1450-1850	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:3515	Topics in Postcolonial Studies	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3

Native American and Indigenous Studies, Graduate Certificate

The graduate Certificate in Native American and Indigenous Studies (NAIS) requires a minimum of 18 s.h. in courses approved for the Native American and Indigenous Studies Program and numbered 3000 or above (see the list below and NAIS Courses [p. 785] in this section of the Catalog). Students must maintain a g.p.a. of at least 3.00 in work toward the certificate. They may count a maximum of 6 s.h. of course work from their major field of study toward the NAIS certificate.

Graduate students must apply to the academic coordinator to be admitted to the NAIS graduate certificate program. A course of study should be developed in consultation with the NAIS coordinator.

Students who earned an undergraduate certificate in the program may not receive a graduate certificate.

NAIS accepts the following courses as electives. Although these courses are not offered by NAIS, they are concerned in part with Native North Americans or other indigenous peoples of the Americas. Students may petition the NAIS faculty for permission to use other relevant courses as electives for the certificate.

Code	Title	Hours
American Studies		
AMST:6140/ HIST:6140	Engaged Scholarship in the Humanities	3
Anthropology		
ANTH:3265	Archaeology of the Great Plains	3
Art and Art History		
ARTH:3120/ LAS:3120	The Art of Ancient Mexico	3
ARTH:3990	Topics in Art History (when content is appropriate)	3
Education		
EPLS:5123	History of Ethnic/Minority Education	3
English		
ENGL:3418	Literature and Culture of America Before 1800	3
ENGL:3419	Literature and Culture of Nineteenth-Century America	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:6620	Readings in Native American Literatures	3
History		
HIST:4221	The Frontier in American History 1840-Present	3
HIST:4510	Colonial Latin America	3
Spanish and Portuguese		
SPAN:4330	Colonial Spanish American Literature	3

Neuroscience

Chair, Department of Biology

- Diane C. Slusarski

Undergraduate major: neuroscience (B.S.)

Faculty: <https://biology.uiowa.edu/people/faculty>

Website: <https://biology.uiowa.edu/>

The Departments of Biology and Psychological and Brain Sciences collaborate to offer the Bachelor of Science in Neuroscience. The neuroscience program also is closely aligned with the Iowa Neuroscience Institute (INI). The program is administered by the Department of Biology [p. 147].

Programs

Undergraduate Program of Study

Major

- Major in Neuroscience (Bachelor of Science) [p. 791]

Neuroscience, B.S.

Learning Outcomes

Students will:

- learn how molecules and cells generate brain circuits that build human behavior and cognition;
- design effective experiments;
- think critically about scientific data;
- communicate effectively about neuroscience; and
- be prepared for graduate education in neuroscience or related life-science fields; for medical school or other health-related programs such as public health or nursing; or for a first step in a career, including work in biomedical industries, academic laboratories, and science education.

Requirements

The Bachelor of Science with a major in neuroscience requires a minimum of 120 s.h., including at least 63 s.h. of work for the major. Course work includes neuroscience, chemistry, biochemistry, mathematics, and physics courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students who major in neuroscience may not earn a major in biology or psychology, but may earn a minor in biology or psychology as long as no more than 3 s.h. are double counted.

The B.S. with a major in neuroscience requires the following course work.

Code	Title	Hours
Cognate Requirements		23-26
Introductory Courses		8
Core Courses		19
Laboratory Course		4-5
Neuroscience Electives		9-12
Total Hours		63-70

Cognate Requirements

Code	Title	Hours
One of these options:		
BIOC:3110	Biochemistry	3
BIOC:3120 & BIOC:3130	Biochemistry and Molecular Biology I-II (both of these)	6
This sequence:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (preferred)	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
One of these:		
MATH:1460	Calculus for the Biological Sciences (preferred)	4
MATH:1380	Calculus and Matrix Algebra for Business	4

MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

Introductory Courses

Code	Title	Hours
Both of these:		
BIOL:1411	Foundations of Biology	4
PSY:2701	Introduction to Behavioral Neuroscience	4

Core Courses

Code	Title	Hours
All of these:		
BIOL:3253	Neurobiology	4
BIOL:3343	Animal Physiology	3
BIOL:3753	Developmental Neurobiology	3
PSY:2811-PSY:2812	Research Methods and Data Analysis in Psychology I-II	6
PSY:2975	Introduction to Cognitive Neuroscience	3

Laboratory Course

Code	Title	Hours
One of these:		
BIOL:3244	Animal Behavior (with lab)	5
BIOL:3656	Neurobiology Laboratory	4

Neuroscience Electives

Code	Title	Hours
A minimum of three courses (9 s.h.) from these:		
BIOL:1412	Diversity of Form and Function	4
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2603	Mechanisms of Aging	3
BIOL:2723	Cell Biology	3
BIOL:4333	Genes and Development	3
BIOL:4353	Neurophysiology: Cells and Systems	3-4
PHIL:3510	Neuroethics	3
PSY:3040	Psychology of Learning	3
PSY:3065	The Aging Mind and Brain	3
PSY:3230	Psychopharmacology	3
PSY:3240	Motivation, Addiction, and the Brain	3
PSY:3250	Neuroscience of Learning and Memory	3
PSY:3270	Neurobiology of Stress	3

Honors

Honors in the Major

Students majoring in neuroscience have the opportunity to graduate with honors in the major. Departmental honor students must maintain a major g.p.a. and a UI g.p.a. of at least 3.33.

In order to earn honors in the neuroscience major, students must complete the following:

A minimum of 6 s.h. over two or more semesters of an independent laboratory research project undertaken in the laboratory of an Iowa Neuroscience Institute (INI) faculty member chosen from a list of approved mentors. Students enroll in BIOL:4995/PSY:4995 Honors Research in Neuroscience.

A brief initial research proposal summarizing the background and goals of the planned honors investigations research, submitted to the honors coordinator, typically at the end of the semester immediately prior to the final semester of honors research.

An acceptable honors thesis describing the research submitted to the honors coordinator near the end of the final semester of enrollment in BIOL:4995/PSY:4995 Honors Research in Neuroscience.

An oral presentation of the honors research findings during the student's final semester.

Honors students also are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships, including the Iowa Neuroscience Institute (INI) Summer Scholars Fellowships.

Neuroscience majors interested in graduating with honors in the major should contact the honors coordinator as early as possible, preferably during their sophomore or junior year.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the neuroscience major also satisfy the Level Two: Learning by Doing requirement of the University honors curriculum.

Membership in the UI Honors Program is not required to earn honors in the neuroscience major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: BIOL:1411 Foundations of Biology, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1380 Calculus and Matrix Algebra for Business or MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, and PSY:2701 Introduction to Behavioral Neuroscience

Before the fifth semester begins: BIOL:3343 Animal Physiology, PHYS:1511 College Physics I or PHYS:1611 Introductory Physics I, PSY:2811 Research Methods and Data Analysis in Psychology I, PSY:2812 Research Methods and

Data Analysis in Psychology II, and PSY:2975 Introduction to Cognitive Neuroscience

Before the seventh semester begins: BIOC:3110 Biochemistry, or BIOC:3120 Biochemistry and Molecular Biology I and BIOC:3130 Biochemistry and Molecular Biology II; BIOL:3253 Neurobiology; BIOL:3244 Animal Behavior (with lab) or BIOL:3656 Neurobiology Laboratory; BIOL:3753 Developmental Neurobiology; and PHYS:1512 College Physics II or PHYS:1612 Introductory Physics II

Before the eighth semester begins: two required neuroscience electives

During the eighth semester: one required neuroscience elective, enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Neuroscience, B.S.

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
PSY:1001	Elementary Psychology ^{a, c}	3
PSY:2701	Introduction to Behavioral Neuroscience	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
BIOL:1411	Foundations of Biology ^a	4
CHEM:1120	Principles of Chemistry II ^a	4
MATH:1460	Calculus for the Biological Sciences ^{a, d}	4
GE CLAS Core: Diversity and Inclusion ^e		3
	Hours	15
Second Year		
Fall		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
PSY:2975	Introduction to Cognitive Neuroscience	3
PHYS:1511	College Physics I	4
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
	Hours	17-18
Spring		
BIOL:3343	Animal Physiology	3
PHYS:1512	College Physics II	4
PSY:2812	Research Methods and Data Analysis in Psychology II	3
GE CLAS Core: Values and Culture ^e		3

GE CLAS Core: World Languages Second Level Proficiency or elective course^f 4 - 5

Hours 17-18

Third Year

Fall

BIOL:3253 Neurobiology 4

BIOC:3110 Biochemistry 3
or BIOC:3120 or Biochemistry and Molecular Biology I

ENGL:1200 The Interpretation of Literature 3 - 4
or RHET:1030 or Rhetoric

GE CLAS Core: World Languages Second Level Proficiency or elective course^f 4 - 5

Hours 14-16

Spring

BIOL:3753 Developmental Neurobiology 3

Major: neuroscience elective course 3

GE CLAS Core: Historical Perspectives^e 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course^f 4 - 5

BIOC:3130 Biochemistry and Molecular Biology II^g 3

Hours 16-17

Fourth Year

Fall

Major: neuroscience elective course 3

BIOL:3244 Animal Behavior^h 3, 5

GE CLAS Core: International and Global Issues^e 3

Elective courseⁱ 3

Elective courseⁱ 3

Hours 15-17

Spring

Major: neuroscience elective course 3

BIOL:3656 Neurobiology Laboratory^h 4

Elective courseⁱ 3

Elective courseⁱ 3

Hours 13

Total Hours 123-131

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c It is strongly recommended that neuroscience majors take this course as their GE CLAS Core: Social Science requirement and that they do so in their first semester.
- d Enrollment in math courses requires completion of a placement exam.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g If BIOC:3120 is taken, students will also have to complete BIOC:3130 to meet this requirement.
- h Students choose Animal Behavior or Neurobiology Lab for the major lab requirement.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

The major provides students with a rigorous and broad background in neuroscience, from the cellular and molecular levels to the behavioral and cognitive levels. Students earning a degree in neuroscience will be well prepared to pursue graduate work in neuroscience or related life sciences, to attend medical school, or to enter other health-related programs such as a physician's assistant program, public health, or nursing. Graduates also will be prepared to directly enter the workforce in biotechnology industries, academic life science laboratories, or in science education, and science writing.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Optical Science and Technology Center

Director

- Marc P. Armstrong (Geographical and Sustainability Sciences)

Faculty: <https://ostc.uiowa.edu/members>

Website: <https://ostc.uiowa.edu/>

The Optical Science and Technology Center consists of faculty members from the Departments of Chemical and Biochemical Engineering [p. 1328], Civil and Environmental Engineering [p. 1343], and Electrical and Computer Engineering [p. 1362] (College of Engineering), and the Departments of Biology [p. 147], Chemistry [p. 176], and Physics and Astronomy [p. 807] (College of Liberal Arts and Sciences). Among the faculty are distinguished scientists who have developed international reputations for innovative research on the frontiers of optical science and engineering. Funding to support research in the Center comes from a variety of federal, state, and private sources, including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the Office of Naval Research (ONR), the National Institutes of Health (NIH), and the ACS Petroleum Research Fund.

Current research areas include laser spectroscopy and photochemistry, photonics and optoelectronics, ultrafast laser development, condensed matter physics, materials growth techniques, device physics/engineering, surface chemistry, chemical sensors, environmental chemistry, polymer science, plasma physics, and nonlinear optics.

Much of the research is housed in the modern Iowa Advanced Technology Laboratories. The laboratories in this environmentally controlled building are devoted primarily to research in areas of optical science and technology. These world-class research laboratories offer state-of-the-art equipment including a variety of novel laser systems (such as widely tunable, ultrafast lasers), materials growth and characterization facilities, optoelectronics device fabrication and characterization, UHV surface science laboratories, and supersonic molecular beam time-of-flight mass spectrometer systems. Scientists also have access to University and department diagnostic support facilities, including nuclear magnetic resonance, mass spectrometry, Fourier transform infrared spectroscopy, X-ray diffraction, and electron microscopy.

Courses

Optical Science and Technology Center Course

OSTC:3750 Fundamentals of Micro and Nanofabrication

3 s.h.

Fundamentals of micro- and nano-fabrication processes; physical principles of photo and electron beam lithography, alternative nano-lithography techniques, thin film deposition, molecular beam epitaxy, atomic layer deposition, self-assembly; metrology methods; physical and chemical processes of wet and plasma etching; cleanroom science, operations, safety protocols; sequential micro- and nano-fabrication processes involved in manufacture of semiconductor, photonic, nanoscale devices; imaging and characterization of micro- and nano-structures; scientific and technological applications of emerging micro- and nano-devices and systems. Prerequisites: BIOL:1141 or CHEM:1120 or PHYS:1612 or CHEM:1110 or CHEM:1060 or PHYS:1702 or PHYS:1611. Requirements: undergraduate lab course in chemistry, biology, physics, or engineering. Same as PHYS:3750.

Philosophy

Chair

- David Cunning

Undergraduate major: philosophy (B.A.)

Undergraduate minor: philosophy

Graduate degrees: M.A. in philosophy; Ph.D. in philosophy

Faculty: <https://clas.uiowa.edu/philosophy/people/faculty>

Website: <https://clas.uiowa.edu/philosophy/>

The Department of Philosophy offers programs of study for undergraduate and graduate students. A major in philosophy develops abilities useful for work in many fields and for any situation requiring clear, systematic thinking.

The department also administers the interdisciplinary undergraduate major in ethics and public policy, which it offers jointly with the Departments of Economics and Sociology; see Ethics and Public Policy [p. 431] in the Catalog.

Programs

Undergraduate Programs of Study

Major

- Major in Philosophy (Bachelor of Arts) [p. 800]

Minor

- Minor in Philosophy [p. 804]

Graduate Programs of Study

Majors

- Master of Arts in Philosophy [p. 805]
- Doctor of Philosophy in Philosophy [p. 806]

Courses

For more detailed descriptions of undergraduate and graduate courses offered during a given semester or summer session, visit the University's MyUI website before early registration.

Philosophy Courses

PHIL:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, RELS:1010, THTR:1001.

PHIL:1010 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

PHIL:1033 The Meaning of Life 3 s.h.

Philosophical investigation of the nature of human life and of what makes human life valuable and/or meaningful. GE: Historical Perspectives.

PHIL:1034 Liberty and the Pursuit of Happiness 3 s.h.

Examination of conflict between state power and individual liberty; philosophical and historical examination of theories from Plato through today. GE: Historical Perspectives.

PHIL:1401 Matters of Life and Death 3 s.h.

Contemporary ethical controversies with life and death implications; topics may include famine, brain death, animal ethics, abortion, torture, terrorism, capital punishment. GE: Values and Culture.

PHIL:1636 Principles of Reasoning: Argument and Debate 3 s.h.

Critical thinking and its application to arguments and debates. GE: Quantitative or Formal Reasoning.

PHIL:1861 Introduction to Philosophy 3 s.h.

Varied topics; may include personal identity, existence of God, philosophical skepticism, nature of mind and reality, time travel, and the good life; readings, films. GE: Values and Culture.

PHIL:1902 Philosophy Lab: The Meaning of Life 1 s.h.

Further exploration of PHIL:1033 course material with the professor in a smaller group.

PHIL:1904 Philosophy Lab: Liberty and the Pursuit of Happiness 1 s.h.

Further exploration of PHIL:1034 course material with the professor in a smaller group.

PHIL:1950 Philosophy Club 1-3 s.h.

Relevant philosophical debates as they are exhibited in current events, text, and film; participation through discussions and film screenings.

PHIL:2111 Ancient Philosophy 3 s.h.

Ancient Greek philosophy from Thales to Aristotle; pre-Socratic cosmologists, Socrates, ancient medicine and religion, rivalry between sophists and philosophers; primary focus on reaction of Plato and Aristotle to this intellectual inheritance culminating in their greatest achievement, the invention of systematic philosophy.

PHIL:2214 Seventeenth-Century Philosophy 3 s.h.

Varied topics; may include free will, the mind-body problem, existence of God, relationship between God and creatures, science and religion, stoicism, early feminism; Francis Bacon, Rene Descartes, Margaret Cavendish, Baruch Spinoza, Anne Conway, G.W. Leibniz, Mary Astell, John Locke.

PHIL:2215 Modern Philosophy 3 s.h.

Varied topics; may include free will, the mind-body problem, existence of God, creation versus evolution, subjectivity of perception, limits of cognition, the good life; Rene Descartes, Margaret Cavendish, Baruch Spinoza, Anne Conway, G.W. Leibniz, Mary Astell, John Locke, George Berkeley, David Hume, Immanuel Kant.

PHIL:2216 Eighteenth-Century Philosophy 3 s.h.

Varied topics; may include appearance versus reality, empiricism and science, the mind-body problem, existence of God, creation versus evolution, subjectivity of perception, limits of cognition, the good life, early feminism; Mary Astell, John Locke, George Berkeley, David Hume, Immanuel Kant.

PHIL:2343 Philosophy East and West 3 s.h.

A comparative study of Eastern and Western theories and arguments concerning the nature and existence of the self.

PHIL:2352 Chinese Philosophy 3 s.h.

Introduction to Chinese philosophy; Confucius and Mencius; human flourishing in accordance with nature; Daoism; Laozi and Zhuangzi; virtues and lives in ancient China and Greece; human nature and good and evil; moral sentiment and desire for profit.

PHIL:2402 Introduction to Ethics 3 s.h.

Analytical and historical introduction to ethical theories; issues such as the nature of the goodness, distinction between right and wrong. GE: Values and Culture.

PHIL:2415 Bioethics 3 s.h.

Recent developments in biotechnology and medicine; designer babies and cloning, genetic screening for disease, distributive justice in health care, animal experimentation, physician-assisted suicide, and euthanasia. Same as GHS:2415.

PHIL:2429 War, Terrorism, and Torture 3 s.h.

Examination of some of the most compelling ethical and legal questions surrounding the topic of war: Can a war ever be just? If so, under which conditions is one justified in waging war? Are there limitations on permissible ways to fight a war? How are acts of terrorism different from acts of war? Is torture ever justified?

PHIL:2432 Introduction to Political Philosophy 3 s.h.

Survey of central problems in political philosophy; focus on liberty, equality, justice, and purpose of the state; core philosophers may include John Locke, Jean-Jacques Rousseau, Thomas Hobbes, John Stuart Mill, and John Rawls.

PHIL:2435 Philosophy of Law 3 s.h.

Examination of jurisprudential theories and their answers to the question, "What is law?"; intersection between law and morality, legal punishment, political obligation, constitutional interpretation.

PHIL:2436 The Nature of Evil 3 s.h.

The nature of evil explored through philosophical texts, videos and films, case studies of individuals.

PHIL:2437 Introduction to Metaphysics 3 s.h.

Questions about the ultimate nature of reality and our place in it: What is the nature of space and time? Is time travel possible? What is the self and how does it persist through time and change? What is the nature of causation? Do we have free will?

PHIL:2442 Knowledge and the Threat of Skepticism 3 s.h.

Skeptical doubt and distinction between appearance and reality; nature of knowledge and what, if anything, can we know.

PHIL:2480 Language and Its Social Roles 3 s.h.

Introduction to basic concepts in philosophy of language and speech act theory; social and political uses of language including nature of speech, silencing, oppressive and hate speech, propaganda and dehumanizing language, lying and misleading with language.

PHIL:2534 Philosophy of Religion 3 s.h.

Historical to contemporary treatments of central issues; nature of faith, existence and nature of God, science and religion, ethics and religion, miracles, religious experience, interpretation of religious texts. Requirements: sophomore or higher standing. Same as RELS:2834.

PHIL:2538 Minds and Machines 3 s.h.

Questions concerning artificial intelligence: What is a mind? What is the relationship between minds and machines? What distinguishes real minds from artificial minds? Could computers or robots think or have feelings? If we create something whose intelligence surpasses that of humans, do we have a right to control it? Are your smart electronic devices parts of your mind? How has the internet changed our lives? Do we survive, perhaps immortally, if we upload contents of our minds to the internet or cloud?

PHIL:2542 Minds and Brains 3 s.h.

Nature of mind in the age of the brain; exploration of questions (How is the mind related to the brain? What do brain scans show? How does the brain process information? What is conscious experience? Is free will threatened by neuroscience? How are intuitive conceptions of memory, emotion, and other mental capacities changing?).

PHIL:2603 Introduction to Symbolic Logic 3 s.h.

Main ideas and techniques of modern natural deduction with quantifiers (all, some, most, exactly one); relations and identity; topics in philosophy of logic including nature of logic, nature of functions, logical necessity, identity as a relation, and how we know logic.

PHIL:3002 Ancient Skepticism 3 s.h.

Introduction to skeptical philosophy of Greek philosopher and physician, Sextus Empiricus (c. 160-210 A.D.); skepticism as a way of life and a form of philosophical therapy, skeptic's avoidance of dogmatism by suspension of belief, attaining suspension through discovery of opposing arguments on either side of any philosophical problem, skeptic's attack on ancient theories of ethics and logic, search for a criterion of truth, relation of skepticism to rival contemporary schools of medicine (Empiricists, Rationalists, Methodists); influence of the rediscovery of Sextus' writings on 17th century thinkers.

PHIL:3112 Medieval Philosophy 3 s.h.

Introduction to St. Thomas Aquinas, William of Ockham, and Duns Scotus, three of the most brilliant philosophers of the high middle ages (11th through 13th centuries); their writing as Christians in (fascinated) reaction to philosophical systems of their pagan predecessors; how medieval philosophers wrestled with problems concerning possibility of free will and responsibility in face of divine omniscience and foreknowledge; existence of abstract universals in a world that is nonabstract and particular; nature and existence of God; skepticism and limits of human knowledge; nature of good and evil. Same as HIST:3412.

PHIL:3143 Existentialism and Freedom 3 s.h.

Main ideas of existentialism, including free will, authenticity, power, nihilism; emphasis on Jean Paul Sartre, Simone de Beauvoir, Friedrich Nietzsche, Martin Heidegger, Soren Kierkegaard, Albert Camus.

PHIL:3318 Twentieth-Century Philosophy 3 s.h.

Exploration of fundamental issues that shaped philosophy in the past century; impact of the theory of evolution on philosophy; whether philosophy is a science; nature of truth and meaning; nature of necessity; nature of space, time, and being; John Dewey, Bertrand Russell, Gottlob Frege, Ludwig Wittgenstein, W.V.O. Quine, Saul Kripke, David Lewis.

PHIL:3342 Multiculturalism and Toleration 3 s.h.

Evaluation of multiculturalism as a political policy and as a personal attitude of respect; individual and collective identity, gender justice, autonomy, toleration, multiculturalism and education; contested practices.

PHIL:3430 Philosophy of Human Rights 3 s.h.

Examination of the concept of human rights; sources of human rights; how we justify calling some, while not other rights, "human rights"; applied issues in women's, children's, and anti-poverty rights.

PHIL:3431 Aesthetics 3 s.h.

Issues regarding art, aesthetic judgment, and role of art in society; investigation of questions: What is art and what is good art? What is conceptual art? Are aesthetic judgments just a matter of taste, or are some opinions about art better than others? What features of artworks matter for making such judgments, and which don't?; issues pertaining to various arts including painting and sculpture, music, fiction and poetry, performance arts; introduction to artworks and artists.

PHIL:3510 Neuroethics 3 s.h.

Issues that arise from advances in knowledge of brain-mind relations: cognitive neuroenhancement, neuroimaging-based lie detection and privacy, changing standards of moral and legal responsibility, justification of punishment, admissibility of neuroimaging in legal contexts.

PHIL:3604 Introduction to Philosophy of Science 3 s.h.

Examination of basic questions regarding nature of science and scientific knowledge: When is a field of inquiry a science? What counts as evidence in a science, and why? In what sense, if any, is science objective? What are scientific laws, theories, and explanations? If scientific theories are never proven with certainty, are we justified in believing them to be true? Recommendations: background in science (psychology, biology, chemistry, physics).

PHIL:3633 Philosophy of History 3 s.h.

Major problems; objectivity, historiographic methods and theory of interpretation, nature of historical explanations, historical laws and free will, reducibility of group phenomena to individual actions.

PHIL:3845 Buddhist Philosophy 3 s.h.

Theories and arguments concerning the Buddhist path to enlightenment. Same as RELS:3645.

PHIL:3847 Philosophical Issues 3-4 s.h.

A philosophical topic or controversy.

PHIL:3849 Undergraduate Seminar in Philosophy 3 s.h.

Selected problems.

PHIL:3902 Workshop: Analytical Skills for the LSAT 3 s.h.

Guided preparation for pre-law students who plan to take the Law School Admission Test (LSAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.

PHIL:3904 Workshop: Analytical Skills for the GMAT 3 s.h.

Guided preparation for undergraduate students who plan to enroll in a graduate business program and take the Graduate Management Admission Test (GMAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.

PHIL:3906 Workshop: Analytical Skills for the MCAT 3 s.h.

Guided preparation for students who plan to take the Medical College Admission Test (MCAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.

PHIL:3908 Workshop: Analytical Skills for the GRE 3 s.h.

Guided preparation for students who plan to take the Graduate Record Examination (GRE) and attend graduate school; exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.

PHIL:3920 Philosophy in Public 1-3 s.h.

Engagement and service-learning; philosophical concepts are applied to and extracted from internship work in the community and beyond.

PHIL:3950 Readings in Philosophy arr.

Independent study. Requirements: sophomore or higher standing.

PHIL:4050 Topics in Buddhist Philosophy 3 s.h.

Buddhist theories and arguments concerning nature and existence of the self.

PHIL:4152 Plato 3 s.h.

Introduction to metaphysics, epistemology, and moral theory of Plato; topics may include the philosophy of Socrates, Plato's theory of Forms, the tripartite soul, nature of virtue and moral education; Plato's cosmology and assimilation of human nature to the divine; close reading and interpretation of specific texts.

PHIL:4153 Aristotle 3 s.h.

Introduction to metaphysics, epistemology, and moral theory of Aristotle; topics may include Aristotle's theories of matter and form, causation, motion, change, space, void, time; Aristotle's philosophy of biology and theory of the soul; unity of virtue, nature of action and choice; the syllogism; combines survey with close reading and interpretation of specific texts.

PHIL:4258 Descartes 3 s.h.

Descartes' systematic philosophy and impact on current debates; topics may include skepticism, the confusion of everyday experience, the mind-body problem, innate ideas and empiricism, free will, nature and existence of God, science and religion, problem of evil, stoicism.

PHIL:4260 Spinoza and Leibniz 3 s.h.

Comparative and critical examination of metaphysical and epistemological views of 17th-century rationalists, Baruch Spinoza and G.W. Leibniz; topics may include monism, panpsychism, space and time, free will and necessity, the confusion of everyday experience, incomplete versus complete ideas, nature and existence of God, stoicism, passions and emotions as objects of detached scientific investigation.

PHIL:4263 Berkeley and Hume 3 s.h.

Comparative and critical examination of metaphysical and epistemological views of 18th-century empiricists, George Berkeley and David Hume; topics may include the theory of ideas, perception, skepticism, limits of knowledge, the mind-body problem, scientific and philosophical method, role of God in Berkeley's and Hume's philosophical systems.

PHIL:4266 Kant 3 s.h.

Main ideas and major texts of Kant's metaphysics and epistemology; particular attention given to *Critique of Pure Reason*.

PHIL:4346 Frege and Russell**3 s.h.**

Major issues concerning Frege's revolution in logic, Cantor's taming of the infinite, and Russellian synthesis of these revolutions to form Logicist thesis that all of pure mathematics (including geometry) is a branch of the science of logic; central issues in the philosophy of language and analysis of logical form; Russell's theory of definite descriptions and his logicism as a paradigm for a philosophical solution to mysteries of existence, number, infinite, motion, and Zeno paradoxes.

PHIL:4373 Heidegger**3 s.h.**

Main ideas and major texts of Martin Heidegger; early and later periods; particular attention given to *Being and Time*; focus on Heidegger's analyses of Being and being-in-the-world.

PHIL:4375 Rawls's Political Philosophy**3 s.h.**

Major works by John Rawls, selected secondary readings; contractarianism, concept of justice, justice as fairness as an alternative to utilitarianism, Kantian foundations, comprehensive and political liberalism.

PHIL:4377 Wittgenstein**3 s.h.**

Main ideas and major texts of Ludwig Wittgenstein; early and later periods; particular attention given to *Tractatus*, *Philosophical Investigations*, and development of Wittgenstein's thought.

PHIL:4379 Quine**3 s.h.**

Evaluation of Quine's attempt to restructure philosophy so that ontological questions are questions of "what there is" and methods for answering such questions are methods of natural (empirical) sciences; central issues pertaining to Quine's thesis that this naturalization program also applies to physics, mathematics, logic; comparison of Dewey's pragmatist and evolutionary reconstruction in philosophy to that of Quine and others (e.g., Carnap, Russell, Wittgenstein); major themes involving Quine on set theory, modal logic, the *a priori*; and the thesis that meaning is translation and translation is indeterminate.

PHIL:4480 Analytic Ethics**3 s.h.**

Exploration of central meta-ethical questions: Are there objective values, and if there are, can we gain knowledge of what has such value? Should we always act so as to bring about the best consequences? If not, why not? Can we derive moral conclusions from scientifically established facts about the world? If not, does this undermine the idea that we can offer sensible arguments for ethical conclusions?

PHIL:4481 Issues in Philosophy of Law**3 s.h.**

Nature of law and legal interpretation; natural law theory and positivism; critical legal theories.

PHIL:4482 History of Ethics**3 s.h.**

Thomas Hobbes' 1651 publication, *Leviathan*, set British moral philosophy on a new course, rejecting most of the presuppositions of theistic natural law theory, shocked and outraged many of his contemporaries, and set in motion a debate about the nature of morality that continues today in philosophical ethics; focus on debate between sentimentalists (Francis Hutcheson, David Hume, Adam Smith) who regarded morality as a matter of human attitudes and emotions, and rationalists (Samuel Clarke, Ralph Cudworth, Richard Price) who regarded morality as analogous to mathematics.

PHIL:4485 Political Philosophy**3 s.h.**

Political philosophy topics; may include obligation to obey the law, secession, nature of rights, limits of state power, just distribution of property, feminist criticisms.

PHIL:4586 Topics in Metaphysics**3 s.h.**

In-depth exploration of metaphysical problems: material constitution, persistence of objects and persons through time, problem of universals, mind-body problem, free will and determinism.

PHIL:4587 Epistemology**3 s.h.**

Theories of nature, structure, and extent of knowledge and rational belief; investigation of questions: Do we really know as much as we are inclined to think we do? Can we rule out the possibility that we are dreaming or being systematically deceived right now? And if we can't, what reason do we have for thinking that things are as they seem to us to be?

PHIL:4588 Philosophy of Mind**3 s.h.**

Foundational questions about the mind: What is the mind, and how is it related to the brain? What makes minds so special? How do we know if other animals, or even other people, have minds? Can things without brains, such as aliens or computers, think? What is consciousness? Are we mere machines, lacking free will, if neuroscientists can explain the mind?; recent research in related sciences including neuroscience, psychology, cognitive ethology (animal cognition).

PHIL:4589 Philosophy of Language**3 s.h.**

Main issues in contemporary philosophy of language; topics may include theories of meaning, truth, belief, interpretation, translation, speech acts, performatives, rule following, reference, naming, propositional attitudes, metaphor. Same as LING:4589.

PHIL:4590 Foundations of Cognitive Science**3 s.h.**

Cognitive science defined as the study of individual agency; its nature, mechanisms, and patterns; development of cognitive science from historical roots in psychology, computer science, neuroscience, philosophy, linguistics; key issues; motivations for and varieties of cognitive explanations; models of cognitive architecture; nature of information processing; relation between cognitive processes and experimental tasks; relation between cognitive and neural theories, models, explanations.

PHIL:4691 Mathematical Logic**3 s.h.**

Presentation of logic as the science that studies kinds of structure; different axiom systems, decidability, model theoretic semantics, Gödel's incompleteness theorems; topics include nature of logic, mathematics, type-theories, set-theoretical paradoxes.

PHIL:4692 Modal Logic**3 s.h.**

Presentation of systems of logic designed to capture concepts of necessity and possibility; different axiom systems, semantics, nonexistent objects; topics include nonclassical systems, nature of possible worlds, relevant entailment, transworld identity, and counterparts inhabiting parallel worlds.

PHIL:4694 Philosophy of Science**3 s.h.**

Issues in the nature of science and scientific knowledge considered in greater depth; nature of causation, kinds of relations that might hold between sciences and scientific theories, and varieties of explanation. Requirements: prior course work in philosophy.

PHIL:4696 Philosophy of the Human Sciences**3 s.h.**

Explanation and understanding, theorizing about human nature, reducibility of collective facts to facts about individuals, values and ideology, freedom and causality.

PHIL:4798 Topics in Philosophy**3 s.h.**

A single philosopher or philosophical problem.

PHIL:4920 Research Practicum	3 s.h.
Collaborative research between student and faculty member.	
PHIL:6100 Seminar: Ancient Philosophy	3 s.h.
PHIL:6200 Seminar: Modern Philosophy	3 s.h.
PHIL:6300 Seminar: Philosophical Analysis	3 s.h.
PHIL:6400 Seminar: Ethics	3 s.h.
PHIL:6510 Seminar: Metaphysics	3 s.h.
PHIL:6520 Seminar: Epistemology	3 s.h.
PHIL:6540 Seminar: Philosophy of Language	3 s.h.
PHIL:6620 Seminar: Philosophy of Science	3 s.h.
PHIL:6920 Philosophy Colloquium	1-3 s.h.
Attendance and participation at departmental colloquia and precolloquium meetings; lunch with visiting speakers; weekly meetings to discuss background to topic and larger issues of professionalization.	
PHIL:7200 Research: History of Philosophy	arr.
PHIL:7400 Research: Value Theory	arr.
PHIL:7500 Research: Metaphysics and Epistemology	arr.
PHIL:7600 Research: Logic and Philosophy of Science	arr.
PHIL:7900 Thesis	arr.

Philosophy, B.A.

Learning Outcomes

The goals of philosophical training are:

- to think critically and make well-grounded arguments, both orally and in written work;
- to understand key philosophical problems and major traditions;
- to learn variegated approaches to solving problems;
- to notice problems before they become problems, leaving extra time to address them;
- critical listening;
- a step-by-step approach to the mastery of public speaking; and
- reading and interpreting all forms of text—news reports, books, film, television, etc.

Department of Philosophy Initiatives

- Applying philosophical concepts to everyday affairs.
- Creating community through movie nights, the philosophy club, public lectures, optional lab sections to work more closely with research faculty, and the undergraduate journal—Labrynth.
- Outreach and engagement; for example, through the service-learning course, PHIL:3920 Philosophy in Public, the K-12 Iowa Lyceum Summer Philosophy Institute, and outreach with the Johnson County Senior Center.
- Prompt and helpful advising.
- Career guidance and support.
- An annual newsletter that connects students with successful alumni.

Overview

Undergraduate courses in philosophy are designed to impart knowledge of fundamental issues and main developments in philosophy while strengthening logical and analytic skills.

The department sponsors an active Philosophy Club that hosts informal discussion meetings, movie nights, outreach events, a 1 s.h. course, PHIL:1950 Philosophy Club, as well as other activities. The department also offers a service-learning course, PHIL:3920 Philosophy in Public.

Requirements

The Bachelor of Arts with a major in philosophy requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. A minimum of 15 s.h. for the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students should discuss the requirements for the major with an advisor as soon as possible. The advisor can suggest the most effective order for taking courses, based on each student's interests and on the relation of the course topics to each other.

The major requires 30 s.h. of philosophy courses (prefix PHIL), of which at least two courses must be numbered 4000 or above. Credit earned in PHIL:4920 Research Practicum

does not count toward the major, but the grade earned in this course becomes part of a student's major grade-point average.

The B.A. with a major in philosophy requires the following course work.

Code	Title	Hours
Value Theory Courses		6
Metaphysics/Epistemology Courses		6
Ancient Philosophy Course		3
Modern Philosophy Course		3
Introductory Logic Course		3
Philosophy Electives		9
Total Hours		30

1000-Level Course Options

Only 6 s.h. of the total hours required for the major can be taken in course work numbered at the 1000 level (see the list below for options).

Code	Title	Hours
May take two courses from these:		
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:1861	Introduction to Philosophy	3

Value Theory

Code	Title	Hours
Must take at least two of these:		
PHIL:2402	Introduction to Ethics	3
PHIL:2415	Bioethics	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3
PHIL:3342	Multiculturalism and Toleration	3
PHIL:3430	Philosophy of Human Rights	3
PHIL:3431	Aesthetics	3
PHIL:3510	Neuroethics	3
PHIL:3845	Buddhist Philosophy	3
PHIL:3847	Philosophical Issues (if content is applicable; check with instructor)	3
PHIL:3849	Undergraduate Seminar in Philosophy (if content is applicable; check with instructor)	3
PHIL:4152	Plato (if content is applicable; check with instructor)	3
PHIL:4153	Aristotle (if content is applicable; check with instructor)	3
PHIL:4375	Rawls's Political Philosophy	3

PHIL:4480	Analytic Ethics	3
PHIL:4481	Issues in Philosophy of Law	3
PHIL:4482	History of Ethics	3
PHIL:4485	Political Philosophy	3
PHIL:4798	Topics in Philosophy (if content is applicable; check with instructor)	3

Metaphysics/Epistemology

Code	Title	Hours
Must take at least two of these:		
PHIL:2343	Philosophy East and West	3
PHIL:2437	Introduction to Metaphysics	3
PHIL:2442	Knowledge and the Threat of Skepticism	3
PHIL:2480	Language and Its Social Roles	3
PHIL:2534	Philosophy of Religion	3
PHIL:2538	Minds and Machines	3
PHIL:2542	Minds and Brains	3
PHIL:3002	Ancient Skepticism	3
PHIL:3112	Medieval Philosophy	3
PHIL:3318	Twentieth-Century Philosophy	3
PHIL:3604	Introduction to Philosophy of Science	3
PHIL:3633	Philosophy of History	3
PHIL:3847	Philosophical Issues (if content is applicable; check with instructor)	3
PHIL:3849	Undergraduate Seminar in Philosophy (if content is applicable; check with instructor)	3
PHIL:4050	Topics in Buddhist Philosophy	3
PHIL:4152	Plato (if content is applicable; check with instructor)	3
PHIL:4153	Aristotle (if content is applicable; check with instructor)	3
PHIL:4258	Descartes	3
PHIL:4260	Spinoza and Leibniz	3
PHIL:4263	Berkeley and Hume	3
PHIL:4266	Kant	3
PHIL:4346	Frege and Russell	3
PHIL:4373	Heidegger	3
PHIL:4377	Wittgenstein	3
PHIL:4379	Quine	3
PHIL:4586	Topics in Metaphysics	3
PHIL:4587	Epistemology	3
PHIL:4588	Philosophy of Mind	3
PHIL:4589	Philosophy of Language	3
PHIL:4590	Foundations of Cognitive Science	3
PHIL:4694	Philosophy of Science	3
PHIL:4696	Philosophy of the Human Sciences	3

PHIL:4798	Topics in Philosophy (if content is applicable; check with instructor)	3
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Ancient Philosophy

Code	Title	Hours
This course:		
PHIL:2111	Ancient Philosophy	3

Modern Philosophy

Code	Title	Hours
At least one of these:		
PHIL:2214	Seventeenth-Century Philosophy	3
PHIL:2215	Modern Philosophy	3
PHIL:2216	Eighteenth-Century Philosophy	3

Introductory Logic

Code	Title	Hours
This course:		
PHIL:2603	Introduction to Symbolic Logic	3

Honors

Honors in the Major

Students majoring in philosophy have the opportunity to graduate with honors in the major. In order to be admitted to the departmental honors program, a student must have taken and passed three courses required for the philosophy major. To graduate with honors in the major, students must complete the requirements for the major with a g.p.a. of at least 3.40 in philosophy course work and must write an acceptable honors thesis on a significant topic in philosophy of interest to them. Students also must enroll in PHIL:4920 Research Practicum while working on their honors thesis. Contact the department's director of undergraduate studies for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the philosophy major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: at least one course in the major

Before the seventh semester begins: at least five courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: at least six courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Philosophy, B.A.

Course	Title	Hours
First Year		
Fall		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
PHIL:1861	Introduction to Philosophy ^{a, b, c}	3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^g		3
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
PHIL:1636	Principles of Reasoning: Argument and Debate ^e	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Social Sciences ^d		3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^f		3
Hours		16-17
Second Year		
Fall		
PHIL:2603	Introduction to Symbolic Logic	3
PHIL:2111	Ancient Philosophy	3
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^g		4 - 5
Elective course ^f		3
Hours		16-17
Spring		
Major: value theory course ^h		3
Elective course ^f		3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g		4 - 5
Elective course ^f		3
Hours		16-17
Third Year		
Fall		
PHIL:2215 or PHIL:2214 or PHIL:2216	Modern Philosophy or Seventeenth-Century Philosophy or Eighteenth-Century Philosophy	3

Major: metaphysics or epistemology course ^h	3
GE CLAS Core: Natural Sciences without Lab ^d	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^g	4 - 5
Elective course ^f	3
Hours	16-17

Spring

Major: metaphysics or epistemology course ^h	3
Major: value theory course ^h	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^g	4 - 5
Elective course ^f	3
Elective course ^f	3
Hours	16-17

Fourth Year

Fall

Major: upper-level course numbered 4000 or above (prefix PHIL) ^h	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Hours	15

Spring

Major: upper-level course numbered 4000 or above (prefix PHIL) ^h	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Elective course ^f	3
Hours	15
Total Hours	124-130

- a Choose from PHIL:1033, PHIL:1034, PHIL:1401, PHIL:1636, or PHIL:1861.
- b Students may take up to two 1000-level PHIL courses to count toward the major.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e This course is recommended for the GE CLAS Core Quantitative or Formal Reasoning requirement. It is not a major requirement.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Students complete 30 s.h. of philosophy courses (prefix PHIL), of which at least two courses must be numbered 4000 or above.

Career Advancement

Philosophy graduates have a variety of career options. Many continue their education by studying law or pursuing graduate work in philosophy or other disciplines. Philosophy graduates also enter into such fields as business, medicine, scientific research, government, consulting, journalism, and K-12 education, among others.

Undergraduates are encouraged to enroll in PHIL:3920 Philosophy in Public at least one time before graduating in order to get a head start on their career trajectory. Students

who intend to teach philosophy in a college setting must earn a graduate degree.

Philosophy majors earn among the very highest scores on the Law School Admission Test (LSAT), the Graduate Management Admission Test (GMAT), the Medical College Admission Test (MCAT), and the Graduate College Record Exam (GRE) General Test.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Philosophy, Minor

The undergraduate minor in philosophy requires a minimum of 15 s.h. in philosophy courses, including at least 9 s.h. in courses numbered 2000 or above. At least 12 s.h. for the minor must be taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Contact the undergraduate studies director for more information.

Philosophy, M.A.

Requirements

The Master of Arts program in philosophy requires a minimum of 30 s.h. of graduate credit and is offered without thesis.

The M.A. is not offered as a terminal degree; it is awarded to students as they work successfully toward the Ph.D.

Requirements include courses in metaphysics, epistemology, history of philosophy, ethics, logic, philosophy of science, and value theory. There is no world language requirement. Students must take an oral final examination. Contact the graduate studies director for more information.

Combined Programs

M.A./J.D.

The Department of Philosophy and the College of Law offer a combined Juris Doctor/Master of Arts degree program.

M.A./J.D. students may count 12 s.h. earned in the combined program toward both degrees. They must earn 18 of the 30 s.h. required for the M.A. in graduate-level philosophy courses (the usual requirement is 24 s.h.). They also must earn a minimum of 36 s.h. in undergraduate and graduate philosophy courses, combined (the usual requirement is 42 s.h.).

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

For more information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The graduate program is designed to train teachers and scholars in philosophy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Philosophy, Ph.D.

The main areas of concentration in the graduate curriculum are metaphysics, epistemology, history of philosophy, social and political philosophy, logic, and value theory.

Requirements

The Doctor of Philosophy program in philosophy requires a minimum of 72 s.h. of graduate credit. Candidacy for the doctoral program is determined by a formal vote of the entire Department of Philosophy faculty, usually after a student has completed three semesters of graduate study in residence.

Requirements include courses in metaphysics, epistemology, history of philosophy, logic, philosophy of science, and value theory. Students are required to take a comprehensive examination that covers their area of specialization and includes both written and oral components. Upon successfully completing the exam, they begin work on a prospectus for their dissertation. There is no world language requirement. Contact the graduate studies director for more information.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The graduate program is designed to train teachers and scholars in philosophy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Physics and Astronomy

Chair

- Frederick N. Skiff

Associate Chair

- Cornelia Lang

Undergraduate majors: physics (B.A., B.S.); applied physics (B.S.); astronomy (B.A., B.S.)

Undergraduate minors: physics; astronomy

Graduate degrees: M.S. in physics; M.S. in astronomy; Ph.D. in physics

Faculty: <https://physics.uiowa.edu/people>

Website: <https://physics.uiowa.edu/>

The Department of Physics and Astronomy provides comprehensive and rigorous instruction in all basic aspects of its subjects. It also provides research facilities and guidance in selected specialties for advanced individual scholarly work.

In addition to its undergraduate and graduate programs of study, the department offers several courses that undergraduate students in all majors may use to satisfy the GE CLAS Core Natural Sciences requirement. Look for courses with prefixes ASTR and PHYS under "Natural Sciences" in the GE CLAS Core [p. 459] section of the Catalog. The department also offers a First-Year Seminar designed for entering undergraduates.

The department also participates in an interdisciplinary doctoral program, the Program in Applied Mathematical and Computational Sciences [p. 1426] (Graduate College).

All of the department's courses and advanced laboratories are taught by faculty members. Faculty members also supervise associated laboratories taught by graduate students. Enrollment in courses beyond the elementary level is typically 15 to 20 students; there is ample opportunity for individual work. Special introductory courses are offered for students majoring in physics and astronomy and for others with a special interest in these subjects.

Total enrollment in physics and astronomy courses is approximately 2,200 each semester of the academic year and 150 during the summer session. The department has around 120 undergraduate majors, half of whom are honors students, and 75 graduate students.

Programs

Undergraduate Programs of Study

Majors

- Major in Physics (Bachelor of Arts) [p. 813]
- Major in Astronomy (Bachelor of Arts) [p. 816]
- Major in Physics (Bachelor of Science) [p. 819]
- Major in Applied Physics (Bachelor of Science) [p. 822]
- Major in Astronomy (Bachelor of Science) [p. 826]

Minors

- Minor in Physics [p. 829]
- Minor in Astronomy [p. 830]

Graduate Programs of Study

Majors

- Master of Science in Physics [p. 831]
- Master of Science in Astronomy [p. 832]
- Doctor of Philosophy in Physics [p. 833]

Facilities

The department has a number of well-equipped laboratories and observatories. Faculty, students, and staff access national supercomputers via the internet, and have access to high performance computing clusters on campus. The central machine shop is fully equipped and staffed by skilled instrument makers and machinists, and there are electronics and machine shops for use by advanced students and research staff.

Experimental research is conducted in astronomy (optical, radio, and X-ray), atomic and molecular physics, condensed matter physics, elementary particle physics, laser physics, medical physics, plasma physics, and space physics. Extensive facilities are available for construction of specialized research equipment and for data processing and analysis.

State-of-the-art semiconductor materials and devices are grown in two molecular beam epitaxy machines. Ultrafast laser techniques are developed and used to probe electron transport, energy relaxation, recombination, and spin dynamics in the novel nanostructures grown in these machines. Experiments also are conducted on laser-induced coherent phenomena and coherent control of charge carriers in semiconductor nanostructures. The experimental condensed matter program is closely coordinated with the condensed matter theory group.

Plasma physics is an active area of experimental and theoretical research. Laboratory experiments studying plasma processes of importance in various space and astrophysical plasmas are performed in a Q machine, including experiments on waves and instabilities in dusty plasmas. Additional laboratory and microgravity experiments with dusty plasmas include studies of Coulomb crystals, shocks, and complex fluids. Glow discharges for plasma processing applications are studied using laser diagnostics and numerical simulations. Wave propagation and plasma particle dynamics also are studied in collisionless plasmas through laboratory experiments. Laser techniques are developed for measuring plasma flow and following particle orbits. Plasma theory efforts include analytical and numerical investigations of magnetic reconnection and turbulence in space and astrophysical plasmas; collaboration with laboratory and space plasma experimental groups in strongly coupled dusty plasmas, waves, and instabilities; and free electron lasers and hydrodynamic turbulence.

State-of-the-art laser systems are available for high-resolution spectroscopic measurement and ultrafast studies of molecular structure, for collisional relaxation and nonlinear optical effects in atomic and molecular systems, and for plasma diagnostics.

Experimental research in elementary particle physics is carried out at Fermi National Accelerator Laboratory, Stanford Linear Accelerator Center, CERN in Switzerland, and other international laboratories. The present generation of high-energy experiments has been designed to probe both the strong nuclear force and the weak interactions.

The department is well-equipped for research and instruction in observational astronomy. The primary optical instrument is a fully automated 15-inch telescope at a dark-sky site in Arizona. The telescope is equipped with CCD cameras and a variety of filters. There are 3-meter and 4.5-meter radio telescopes on the roof of Van Allen Hall, which are used for instruction and student research projects.

Research programs in galactic and extragalactic radio astronomy are carried out using the facilities of the National Radio Astronomy Observatory, including the Very Large Array and the Very Long Baseline Array, one element of which is 10 miles north of campus. Current long-term research activities include studies of the center of the Milky Way galaxy; investigations of extragalactic radio sources; the formation of powerful winds in young, luminous stars; radio-wave scattering in the interstellar and interplanetary media; and interacting binary stars. A research program in X-ray astronomy has been established, and there is a laboratory for instrument development. Research topics in X-ray astronomy concentrate on observations of X-ray emission from black holes and supernova remnants, using existing spacecraft.

Active theoretical research is carried on in astrophysics; atomic, molecular, and optical physics; condensed matter physics; elementary particle physics; laser physics; mathematical physics; nuclear physics; plasma physics; and space physics. An active mathematical physics seminar fosters the exchange of ideas between mathematics and physics.

The primary emphasis of Iowa's program in experimental and theoretical space physics is on studies of cosmic and heliospheric physics, magnetospheric physics, and magnetosphere-ionosphere interactions. Facilities are available for designing and constructing spaceflight instruments. Investigators in the department have flown instruments for studying plasmas, energetic charged particles, auroral images, plasma waves, and radio emissions on a wide variety of terrestrial and planetary spacecraft, including Pioneer 10 and 11, Dynamics Explorer, Voyager 1 and 2, Galileo, Polar, Cassini, and Mars Express.

Courses

- Physics Courses [p. 808]
- Astronomy Courses [p. 811]

Physics Courses

PHYS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

PHYS:1100 From Quarks to Quasars 3-4 s.h.

Conceptual explanation of the latest discoveries in physics—from the smallest objects, such as quarks and atoms, to the largest, such as galaxies, black holes, and quasars. Requirements: nonscience major. GE: Natural Sciences with Lab; Natural Sciences without Lab.

PHYS:1200 Physics of Everyday Experience 3 s.h.

Principles of physics for nonscience majors; basic motion, behavior of fluids, waves, temperature and heat, gravity and planetary motion, electricity and magnetism, optics, nuclear energy, radioactivity, and medical imaging technology; examples from everyday experience. GE: Natural Sciences without Lab.

PHYS:1300 Nanoscience 3 s.h.

Properties of very small materials and structures; unique properties emerging at a length scale of one billionth of a meter, or one nanometer. GE: Natural Sciences without Lab.

PHYS:1400 Basic Physics 3-4 s.h.

Quantitative treatment of mechanics, electricity, heat, liquids, gases, and atomic, nuclear, and elementary particle physics. Requirements: must have completed high school trigonometry or achieved a minimum ALEKS score of 75%. GE: Natural Sciences with Lab; Natural Sciences without Lab.

PHYS:1409 Basic Physics Lab 1 s.h.

Laboratory for PHYS:1400. GE: Natural Sciences Lab only.

PHYS:1410 Physics of Sound 3-4 s.h.

Acoustical foundations of music; production of sound by vibrating objects, properties of sound waves, vocal acoustics, hearing, room acoustics, principles of electroacoustics. GE: Natural Sciences with Lab; Natural Sciences without Lab.

PHYS:1511 College Physics I 4 s.h.

Mechanics, waves, thermodynamics, special relativity. Requirements: must have completed high school trigonometry or achieved a minimum ALEKS score of 75%. GE: Natural Sciences with Lab.

PHYS:1512 College Physics II 4 s.h.

Continuation of PHYS:1511; electricity, magnetism, light, modern physics. Prerequisites: PHYS:1611 or PHYS:1511. GE: Natural Sciences with Lab.

PHYS:1611 Introductory Physics I 4 s.h.

Mechanics, waves, thermodynamics. Corequisites: MATH:1550 or MATH:1850. GE: Natural Sciences with Lab.

PHYS:1612 Introductory Physics II 3-4 s.h.

Continuation of PHYS:1611; electricity, magnetism, light. Prerequisites: PHYS:1611. Corequisites: MATH:1560 or MATH:1860. GE: Natural Sciences with Lab; Natural Sciences without Lab.

PHYS:1619 Introductory Physics II Lab 1 s.h.

Laboratory for PHYS:1612. Requirements: 3 s.h. in PHYS:1612. GE: Natural Sciences Lab only.

PHYS:1701 Physics I 4 s.h.

Newtonian mechanics for point particles and rigid bodies; conservation laws. Offered fall semesters. Corequisites: MATH:1850. Requirements: physics or astronomy major. GE: Natural Sciences with Lab.

PHYS:1702 Physics II 4 s.h.

Continuation of PHYS:1701; introduction to fluid mechanics, electricity, magnetism (Maxwell's equations). Offered spring semesters. Prerequisites: PHYS:1701. Corequisites: MATH:1860. Requirements: physics or astronomy major. GE: Natural Sciences with Lab.

PHYS:1999 Undergraduate Seminar arr.

Selected topics in physics and astronomy; discussion, presentations.

PHYS:2703 Physics III 4 s.h.

Continuation of PHYS:1702; electromagnetic waves, optics; mechanical and sound waves; thermal physics. Offered fall semesters. Prerequisites: PHYS:1702.

PHYS:2704 Physics IV 3-4 s.h.

Introduction to quantum mechanics and other topics in modern physics, including special relativity, atomic and solid state physics. Offered spring semesters. Prerequisites: (PHYS:1612 or PHYS:2703) and (MATH:1860 or MATH:1550). Requirements: for 3 s.h. option—nonmajor.

PHYS:2990 Reading in Physics

Selected topics in physics.

arr.

PHYS:3500 Undergraduate Practicum

arr.

Undergraduate practicum experiences that provide special opportunities for students to gain practical and hands-on training related to topics in physics; practicums typically arranged by individual faculty members. Requirements: application and acceptance into practicum.

PHYS:3710 Intermediate Mechanics

3 s.h.

Newtonian mechanics; noninertial reference systems; central forces, celestial mechanics; rigid body motion; Lagrangian, Hamiltonian equations of motion; small oscillations. Prerequisites: (PHYS:1611 or PHYS:1511 or PHYS:1701) and (MATH:1860 or MATH:1560).

PHYS:3730 Statistical Physics

3 s.h.

Integrated introduction to subjects of thermodynamics, statistical mechanics, kinetic theory; emphasis on applications. Prerequisites: PHYS:2704.

PHYS:3741 Introduction to Quantum Mechanics I

3 s.h.

Superposition principle, Stern-Gerlach experiment, linear operators, measurement theory, time evolution, angular momentum, wave mechanics in one dimension, one-dimensional harmonic oscillator, two-body problems with central forces, the hydrogen atom. Prerequisites: MATH:2850 and PHYS:2704 and MATH:2700.

PHYS:3742 Introduction to Quantum Mechanics II

3 s.h.

Perturbation theory, variational methods, WKB approximation, scattering, Helium atom, periodic table, atomic spectroscopy, transition rates, other selected applications. Prerequisites: PHYS:3741.

PHYS:3750 Fundamentals of Micro and Nanofabrication

3 s.h.

Fundamentals of micro- and nano-fabrication processes; physical principles of photo and electron beam lithography, alternative nano-lithography techniques, thin film deposition, molecular beam epitaxy, atomic layer deposition, self-assembly; metrology methods; physical and chemical processes of wet and plasma etching; cleanroom science, operations, safety protocols; sequential micro- and nano-fabrication processes involved in manufacture of semiconductor, photonic, nanoscale devices; imaging and characterization of micro- and nano-structures; scientific and technological applications of emerging micro- and nano-devices and systems. Prerequisites: BIOL:1141 or CHEM:1120 or PHYS:1612 or CHEM:1110 or CHEM:1060 or PHYS:1702 or PHYS:1611. Requirements: undergraduate lab course in chemistry, biology, physics, or engineering. Same as OSTC:3750.

PHYS:3756 Intermediate Laboratory

3 s.h.

Electricity; electronics; magnetism; optics; atomic, nuclear, solid state physics; techniques in data analysis, including error analysis. Corequisites: PHYS:3811.

PHYS:3811 Electricity and Magnetism I

3 s.h.

Electrostatics, magnetic fields, introduction to Maxwell's equations. Prerequisites: (MATH:3550 or MATH:2850) and (PHYS:1612 or PHYS:1702 or PHYS:1512).

PHYS:3812 Electricity and Magnetism II

3 s.h.

Continuation of PHYS:3811; magnetism, electromagnetic waves, A.C. circuits, applications of Maxwell's equations to wave guides, antennas, optics, plasma physics, other topics. Prerequisites: PHYS:3811.

PHYS:3850 Electronics

4 s.h.

Design and construction of small circuits; use of measurement instruments—oscilloscope, multimeter, function generator; circuits, including transistors, operational amplifiers, digital, analog-to-digital conversion. Prerequisites: PHYS:1512 or PHYS:1612 or PHYS:1702. Requirements: physics or astronomy major.

PHYS:4720 Introductory Optics

3 s.h.

Geometrical and physical optics; interference; diffraction; polarization; microscopic origins of macroscopic optical properties of matter; optical activity; electro-optical, magneto-optical, acousto-optical phenomena; spontaneous Brillouin, Raman, Rayleigh scattering. Prerequisites: (PHYS:1512 or PHYS:2703 or PHYS:1612) and (MATH:1560 or MATH:1860). Same as ECE:4720.

PHYS:4726 Electro Optics

3 s.h.

Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: for ECE:5790—ECE:3700; for PHYS:4726—PHYS:3812. Same as ECE:5790.

PHYS:4728 Introductory Solid State Physics

3 s.h.

Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: PHYS:3741. Same as ECE:4728.

PHYS:4731 Plasma Physics I

3 s.h.

Physics of ionized gases, including orbit theory, guiding center motion, adiabatic invariants, ionization balance description of plasmas by fluid variables and distribution functions; linearized wave motions, instabilities; magnetohydrodynamics. Prerequisites: PHYS:3812.

PHYS:4740 Elementary Particles and Nuclear Physics

3 s.h.

Accelerators, particle detectors, passage of radiation through matter; nuclear structure, nuclear reactions; quark model of hadrons; strong, electromagnetic, weak interactions of elementary particles; gauge theories, intermediate vector bosons; unification of electromagnetic and weak interactions. Prerequisites: PHYS:3741.

PHYS:4750 Advanced Laboratory

3 s.h.

Topics in electricity; electronics; magnetism; atomic, nuclear, plasma, solid state physics; techniques in data analysis, including error analysis.

PHYS:4761 Mathematical Methods of Physics I

3 s.h.

Functions of complex variables, integration methods, linear vector spaces, tensors, matrix algebra. Prerequisites: MATH:2850.

PHYS:4762 Mathematical Methods of Physics II

3 s.h.

Continuation of PHYS:4761; Hilbert space, special functions, Fourier transform and expansions in orthogonal polynomials, differential equations, Green's functions. Prerequisites: PHYS:4761.

PHYS:4820 Optical Signal Processing

3 s.h.

Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: for ECE:5780—ECE:3700; for PHYS:4820—PHYS:3812. Same as ECE:5780.

- PHYS:4860 Computational Physics** 3 s.h.
Introduction to contemporary use of computers by physicists; topics such as numerical solutions of ordinary differential equations in classical mechanics, boundary value problems in electricity and magnetism, eigenvalue problems in quantum mechanics, Monte Carlo simulations in statistical mechanics, methods of data analysis. Prerequisites: PHYS:3741 and PHYS:3811 and PHYS:3710.
- PHYS:4905 Special Topics in Physics** arr.
Responsible conduct and ethics training.
- PHYS:4990 Reading in Physics** arr.
Selected topics in physics.
- PHYS:4999 Undergraduate Research** arr.
Supervised research leading to written report or oral presentation.
- PHYS:5000 Workshops and Special Training in Physics** arr.
Workshops and special training opportunities for postbaccalaureate students; may include collaborations with other departments, institutions, or externally funded research organizations.
- PHYS:5710 Classical Mechanics** 3 s.h.
Dynamics of mass points; Lagrange multipliers, small oscillations, Hamilton's equations; canonical transformations, Hamilton-Jacobi theory; chaos. Prerequisites: PHYS:3710.
- PHYS:5729 Fluid Mechanics** 3 s.h.
Basic equations of fluid mechanics and solutions of these equations for various cases of special interest; compressible and incompressible flows in two- and three-dimensions, rotational and irrotational flows, self-similar solutions, instabilities, turbulence; relate solutions to application of general interest to physicist and engineers; subsonic and supersonic flows around wings and bodies, gravity waves in oceans and atmospheres, transition to supersonic flow in a rocket nozzle, supersonic outflow of gas from the Sun and other stars, and physics of high energy explosions. Prerequisites: PHYS:3710. Requirements: knowledge of vector calculus at level used in PHYS:3811 and PHYS:3812.
- PHYS:5730 Statistical Mechanics I** 3 s.h.
Probability concepts; kinetic equations; classical and quantum equilibrium statistical mechanics with applications, including ideal and imperfect gases and phase transitions, irreversible processes, fluctuation-dissipation theorems. Prerequisites: PHYS:3730 and PHYS:3741.
- PHYS:5741 Quantum Mechanics I** 3 s.h.
Nonrelativistic quantum mechanics, Schrödinger wave mechanics, Hilbert space methods, perturbation theory, scattering, spin and angular momentum, identical particles, selected applications, introduction to relativistic theory. Prerequisites: PHYS:3741 and PHYS:3742.
- PHYS:5742 Quantum Mechanics II** 3 s.h.
Continuation of PHYS:5741. Prerequisites: PHYS:5741.
- PHYS:5811 Classical Electrodynamics I** 3 s.h.
Advanced electromagnetostatics, boundary value problems, Green's functions, Maxwell's equations, radiation theory, physical optics, multipole expansion of radiation field.
- PHYS:5812 Classical Electrodynamics II** 3 s.h.
Special relativity, motion of charges in fields, theories of radiation reaction, special topics. Prerequisites: PHYS:5811.
- PHYS:5905 Special Topics in Physics** 3 s.h.
- PHYS:6723 Advanced Optics** 3 s.h.
Classical theory of absorption and emission; laser theory, threshold, rate equations, saturation, spectral and spatial hole burning; multimode and pulsed operation; laser resonators and Gaussian beam optics; dispersion, pulse propagation, light scattering; interaction of light with two level atoms. Prerequisites: PHYS:3812.
- PHYS:7270 Ethics in Physics for Graduate Students** arr.
Responsible conduct and ethics training.
- PHYS:7604 Ethics in Physics for Postdocs** 0 s.h.
Responsible conduct and ethics training.
- PHYS:7720 Semiconductor Physics** 3 s.h.
Electronic, optical, and materials properties of semiconductors. Prerequisites: PHYS:4728 and PHYS:5742. Same as ECE:7720.
- PHYS:7722 Advanced Condensed Matter** 3 s.h.
Elementary excitations, plasmonics, exchange/magnetism, hyperfine interactions, resonance, superconductivity, topological materials. Prerequisites: PHYS:7720.
- PHYS:7729 Plasma Physics II** 3 s.h.
Continuation of PHYS:4731; cold plasma waves, MHD stability, kinetic theory of plasmas, including Landau damping and velocity space instabilities; nonlinear evolution. Prerequisites: PHYS:4731.
- PHYS:7730 Advanced Plasma Physics I** 3 s.h.
Microscopic plasma behavior: statistical mechanics of plasmas; Liouville equation; BBGKY hierarchy; Fokker-Planck equation and relaxation processes; Balescu-Lenard equation; Vlasov equation and linearized wave motion; shocks, nonlinear plasma motions, and instabilities; fluctuations and radiation processes; topics from recent literature.
- PHYS:7731 Physics of Strongly Coupled Plasmas** 3 s.h.
Nonequilibrium thermodynamics, equation of state, transport properties, structure factors, integral equation theories, BBGKY hierarchy, linear response theory, kinetic theories, Chapman-Enskog method, one-component plasma model, and selected topics from recent literature.
- PHYS:7740 Introduction to Quantum Field Theory** 3 s.h.
Quantization of relativistic and nonrelativistic field theories, covariant perturbation theory, theory of renormalization, dimensional regularization, renormalization group theory, introduction to gauge theories and anomalies. Prerequisites: PHYS:5742.
- PHYS:7746 Particle Physics** 3 s.h.
Elementary particle properties and phenomenology, quark-parton models, quantum chromodynamics, unified theory of weak and electromagnetic interactions.
- PHYS:7760 General Relativity and Cosmology** 2-3 s.h.
Einstein's theory of gravitation; applications to astrophysics and cosmology.
- PHYS:7840 Quantum Gauge Theories** 3 s.h.
Gauge invariance, introductory group theory, Yang-Mills theories, electroweak theory, quantum chromodynamics, running coupling constants, operator product expansions, Ward identities, spontaneous symmetry breaking, chiral anomalies, instantons, monopoles, effective Lagrangians, supersymmetry, quantum gravity, introduction to string theory. Prerequisites: PHYS:7740.
- PHYS:7905 Special Topics in Physics** arr.
- PHYS:7920 Seminar: Solid State Physics** arr.
Current research.

PHYS:7930 Seminar: Plasma Physics
Current research. Same as ECE:7930.

PHYS:7936 Seminar: Space Physics
Current research.

PHYS:7940 Seminar: Nuclear Physics
Current research.

PHYS:7945 Seminar: Math/Physics
Current research.

PHYS:7946 Seminar: Elementary Particle Physics
Current research.

PHYS:7990 Research: Physics

PHYS:7992 Individual Critical Study
Essay on topic chosen in consultation with faculty member.
Requirements: candidacy for M.S. with critical essay.

Astronomy Courses

ASTR:1000 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

ASTR:1060 Big Ideas: Origins of the Universe, Earth, and Life 3 s.h.
Fundamental questions (How old is the universe? What is the nature of life? How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe?) that revolve around understanding origins from different perspectives (i.e., astronomy, physics, geoscience, biology, chemistry, anthropology); work with faculty from several departments to investigate these questions; inquiry-based activities to build success in critical thinking, teamwork, effective written and oral communication; origin of the universe, biochemistry of life, and origin of life on Earth; first of a two-part sequence. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as BIOL:1060, EES:1060.

ASTR:1061 Big Ideas: Evolution of Life on Earth and the Search for Life in the Universe 4 s.h.
How has life evolved on Earth? What are our human origins? Are there other habitable planets in the universe? These fundamental questions revolve around understanding the origins of life from different perspectives—astronomy and physics, geoscience, biology, chemistry, and anthropology; students will work together with faculty from across four different departments to investigate these questions using inquiry-based activities to build success in critical thinking, teamwork, and effective written and oral communication; second half of the origins sequence (though either course also may be taken alone). GE: Natural Sciences with Lab. Same as ANTH:1061, BIOL:1061, EES:1061.

ASTR:1070 Stars, Galaxies, and the Universe 3-4 s.h.
Survey of stars, galaxies, and the universe; life cycles of stars, including black holes and pulsars; diversity of galaxies, including the Milky Way and distant quasars; cosmology—the history, structure, and fate of the universe; current results from recent astronomical observations; night sky observation. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences with Lab; Natural Sciences without Lab.

ASTR:1079 Introductory Astronomy Laboratory 1 s.h.
Laboratory for ASTR:1070 or ASTR:1080. GE: Natural Sciences Lab only.

ASTR:1080 Exploration of the Solar System 3-4 s.h.
Survey of the solar system; physical properties of the planets, comets, and asteroids; origin of the solar system; search for extrasolar planetary systems; search for life in the universe; current results of recent planetary space missions; night sky observation. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences with Lab; Natural Sciences without Lab.

ASTR:1085 Citizen Astronomy 3 s.h.
Exploration of the Universe, not as spectators, but as active participants in the scientific process; survey of important environments in astronomy and astrophysics, ranging from the very local solar system to nearby stars in the galaxy, to distant galaxies and unseen black holes; focus on a growing number of citizen science projects that allow students to examine real data, make real discoveries, and in some cases, get scientific credit for their contributions; goes beyond the superficial exploration of pretty pictures as students make real contributions to understanding the universe; science and math background not required, just curiosity.

ASTR:1091 Life in the Universe 3 s.h.
Are we alone? Scientific foundations of this question, technology behind searches for extraterrestrial life in the solar system and on extrasolar planets; evolution of life on Earth, likelihood that such conditions exist elsewhere in the universe; cultural consequences of discovering extraterrestrial life. GE: Natural Sciences without Lab.

ASTR:1771 General Astronomy I 4 s.h.
Qualitative and quantitative introduction to the development of astronomy, celestial mechanics, time, electromagnetic radiation, telescopes and astronomical instrumentation, planets, smaller solar system objects; laboratory emphasis on observation with telescopes. Requirements: four years of high school math. GE: Natural Sciences with Lab.

ASTR:1772 General Astronomy II 4 s.h.
Continuation of ASTR:1771; qualitative and quantitative introduction to properties and evolution of sun, stars, interstellar matter, galaxies; cosmology; laboratory emphasis on observation with telescopes. Requirements: four years of high school math. GE: Natural Sciences with Lab.

ASTR:2991 Reading in Astronomy arr.
Selected topics in astronomy.

ASTR:3500 Undergraduate Practicum arr.
Undergraduate practicum experiences that provide special opportunities for students to gain practical and hands-on training related to topics in astronomy; practicums typically arranged by individual faculty members. Requirements: application and acceptance into practicum.

ASTR:3771 Introduction to Astrophysics I 3 s.h.
Fundamentals of astrophysical processes in solar system objects, stars, nebulae, interstellar medium, galaxies, cosmology; topics include stellar spectra, binary stars, interstellar gas and dust, stellar and galactic kinematics, stellar evolution, HII regions, radiation processes in galaxies and quasars, mathematical descriptions of the universe. Prerequisites: PHYS:2704 and ASTR:1772 and ASTR:1771 and (MATH:2850 or MATH:3550) and (MATH:2700 or MATH:2550). Recommendations: computer programming experience.

ASTR:3772 Introduction to Astrophysics II 3 s.h.
Continuation of ASTR:3771. Prerequisites: ASTR:3771.

ASTR:4770 Radio Astronomy 3 s.h.

Survey of radio astronomy, emphasizing technical aspects; radiation, antennas, receivers, radio spectroscopy, interferometer arrays and aperture synthesis; emission mechanisms, pulsars, supernova remnants, radio galaxies.

ASTR:4850 Astronomical Laboratory 3 s.h.

Techniques and instrumentation in optical and radio astronomy. Prerequisites: PHYS:2704 and ASTR:1772 and ASTR:1771.

ASTR:4906 Special Topics in Astronomy arr.**ASTR:4996 Reading in Astronomy arr.****ASTR:6781 Galactic Astronomy 3 s.h.**

Structure of the Milky Way galaxy; distance indicators, orbits in the galaxy, spiral structure; evidence for dark matter in the Milky Way, the galactic center; comparison of Milky Way with nearby galaxies.

ASTR:6782 Extragalactic Astronomy 3 s.h.

Normal and active galaxies, large scale structure, the early Universe, cosmology.

ASTR:6785 The Interstellar Medium 3 s.h.

The interstellar medium: optical properties of small interstellar grains, radiative processes in interstellar gas, structure of HII regions, interstellar shock waves, supernova remnants, modification of interstellar medium by luminous stars, molecular clouds.

ASTR:6790 Stellar Astrophysics 3 s.h.

Stellar interiors, nuclear astrophysics; advanced topics.

ASTR:6870 Radiative Processes in Astrophysics 3 s.h.

Physical mechanisms for generation of electromagnetic radiation in astrophysics; continuum mechanisms (bremsstrahlung, Compton scattering, synchrotron radiation); spectral line radiation from atoms, molecules, and nuclei, including fine structure effects; fundamental physics of processes; application to astronomical observations.

ASTR:6880 High Energy Astrophysics 3 s.h.

Detection of X-rays and gamma-rays, analysis of X-ray data, black holes and neutron stars, accretion onto compact objects, pulsars, supernova remnants, cosmic rays, gamma-ray bursts.

ASTR:7775 Special Topics in Astrophysics 1-3 s.h.

Advanced lectures.

ASTR:7830 Space and Astrophysical Plasma Physics 3 s.h.

Dynamics and evolution of space and astrophysical plasmas; heliosphere, planetary magnetospheres, accretion disks; plasma waves, shock waves, turbulence.

ASTR:7970 Seminar: Astrophysics arr.

Current research.

ASTR:7991 Research: Astronomy arr.

Original research in observational, theoretical astronomy.

Physics, B.A.

Learning Outcomes

Physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in classical and quantum mechanics, electromagnetism, thermodynamics, and statistical physics;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using basic instrumentation and in analyzing the data obtained.

Requirements

The Bachelor of Arts with a major in physics requires a minimum of 120 s.h., including at least 44 s.h. of work for the major (minimum of 24 s.h. in physics plus 20 s.h. in supporting course work). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major is designed for students who wish to build a foundation of knowledge in physics but do not plan a research-oriented career in the discipline. It also is good preparation for students interested in secondary school science teaching; see "Teacher Licensure" below.

The B.A. program requires fewer physics courses than the B.S. program does, giving students a wider choice of electives. Bachelor of Arts students take calculus in addition to physics courses, which include a laboratory. They also take science courses in a thematic area or the physics course work required for teacher licensure, and the department encourages them to do additional work.

Students who want to earn a double major in physics and astronomy must choose their course work carefully; see "Double Major in Physics and Astronomy" below. Bachelor of Arts students majoring in physics who are interested in science teaching and in earning a graduate degree may enroll in a combined degree program offered by the College of Liberal Arts and Sciences and the College of Education; see "B.A./M.A.T." under Combined Programs [p. 814] in this section of the Catalog.

The B.A. with a major in physics requires the following courses or their equivalents. Many upper-level physics courses have prerequisites; students should consult their advisors when choosing courses numbered 3000 or above.

Code	Title	Hours
Physics Courses (minimum of 24 s.h.)		24-29
Supporting Course Work		20
Total Hours		44-49

Physics Courses

Code	Title	Hours
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12

All of these:

PHYS:2704	Physics IV	4
PHYS:3756	Intermediate Laboratory	3
Three additional physics courses numbered 3000-4999 approved by the advisor, excluding PHYS:4761, PHYS:4762, PHYS:4905, and PHYS:4990		9-10

Supporting Course Work

Code	Title	Hours
This sequence:		
MATH:1850 & MATH:1860	Calculus I-II	8
One of these:		
Additional science courses in a thematic area, approved by the advisor		12
Course work required for teacher licensure		

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning section of the Catalog.

Double Major in Physics and Astronomy

Students working toward a Bachelor of Arts with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

Combined Programs

B.A./M.A.T. (Science Education Subprogram)

Bachelor of Arts students in physics who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "Combined B.A./M.A.T." under Science Education [p. 1277] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

Honors

Honors in the Major

Students majoring in physics have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the physics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: calculus II and physics II

Before the fifth semester begins: physics III-IV and up to four more courses in the major

Before the seventh semester begins: two to four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Physics, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
	Hours	0
First Year		
Fall		
PHYS:1701	Physics I ^a	4
MATH:1850	Calculus I ^{a, b}	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Social Sciences ^c		3
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
PHYS:1702	Physics II ^a	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion ^c		3
	Hours	14-15
Second Year		
Fall		
PHYS:2703	Physics III	4
MATH:2700	Introduction to Linear Algebra ^d	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
GE CLAS Core: Values and Culture ^c		3
	Hours	15-16
Spring		
PHYS:2704	Physics IV	3 - 4
MATH:2850	Calculus III ^d	4
GE CLAS Core: International and Global Issues ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
	Hours	14-16
Third Year		
Fall		
PHYS:3756	Intermediate Laboratory	3
Major: physics elective course numbered 3000 or above ^f		3
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^g		1 - 3
	Hours	14-17

Spring

Major: additional science course in chosen thematic area	3
Major: physics elective course numbered 3000 or above	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e	4 - 5
Elective course ^g	3
Hours	13-14

Fourth Year**Fall**

Major: additional science course in chosen thematic area	3
Major: physics elective course numbered 3000 or above	3
GE CLAS Core: Literary, Visual, and Performing Arts ^c	3
Elective course ^g	3
Elective course ^g	3
Hours	15

Spring

Major: additional science course in chosen thematic area	3
Major: additional science course in chosen thematic area	3
Elective course ^g	3
Elective course ^g	3
Elective course ^g	3
Hours	15
Total Hours	116-125

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in math courses requires completion of a placement exam.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d While this course is not a major requirement, it is strongly recommended and a prerequisite for many physics and astronomy courses in the department.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students must complete at least 9-10 s.h. in physics courses numbered 3000-4999 and approved by the advisor, excluding PHYS:4761, PHYS:4762, PHYS:4905, and PHYS:4990.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

The degree leads to careers in medicine, law, science-related administration, business, or technical writing. It also is good preparation for students interested in secondary school science teaching.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Astronomy, B.A.

Learning Outcomes

Astronomy majors will be able to:

- demonstrate understanding of the fundamental concepts in astrophysics such as gravity, the nature of light, the physical characteristics of matter, and the motions of astronomical objects in the night sky;
- demonstrate proficiency in each of the major areas of astronomy—cosmology, galaxies, accretion and compact objects, the life cycle, and properties of stars and solar system science;
- show a working knowledge of a broad array of astrophysical phenomena that are based upon fundamental concepts; and
- gain familiarity with astronomical observations, instrumentation, computational methods, and software.

Requirements

The Bachelor of Arts with a major in astronomy requires a minimum of 120 s.h., including at least 49 s.h. of work for the major. The B.A. program requires fewer physics and mathematics courses than the B.S. program does, giving students a wider choice of electives.

The program is designed for students who wish to build considerable knowledge in astronomy but do not plan a research-oriented career in the field. It is appropriate for students planning careers in secondary school science teaching or science-related administration; see the B.S. in Science Education [p. 1265] in the Department of Teaching and Learning (College of Education) in the Catalog. It also is appropriate for those planning to earn professional degrees.

Bachelor of Arts students take calculus in addition to physics and astronomy courses, which include laboratories. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students who want to earn a double major in physics and astronomy must choose their course work carefully; see "Double Major in Physics and Astronomy" below.

The B.A. with a major in astronomy requires the following courses or their equivalents.

Code	Title	Hours
Physics Courses		24-29
Astronomy Courses		17
Mathematics Courses		8
Total Hours		49-54

Required Courses

Code	Title	Hours
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12
All of these:		
ASTR:1771- ASTR:1772	General Astronomy I-II	8

ASTR:3771- ASTR:3772	Introduction to Astrophysics I-II	6
ASTR:4850	Astronomical Laboratory	3
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3756	Intermediate Laboratory	3
MATH:1850 & MATH:1860	Calculus I-II	8
One of these:		
PHYS:3730	Statistical Physics	3
PHYS:4720	Introductory Optics	3
One of these:		
PHYS:3811	Electricity and Magnetism I (requires MATH:2850 as prerequisite)	3
PHYS:3850	Electronics	4

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Double Major in Physics and Astronomy

Students working toward a Bachelor of Arts with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

Honors

Honors in the Major

Students majoring in astronomy have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the astronomy major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: math through calculus I-II and physics I-II

Before the fifth semester begins: physics III-IV and at least one more course in the major

Before the seventh semester begins: three more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: nine courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Astronomy, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
Students can pursue a double major in Astronomy and Physics and earn more than 56 s.h. from the department toward these degrees but must also complete at least 56 s.h. outside of the Department of Physics & Astronomy.		
	Hours	0
First Year		
Fall		
ASTR:1771	General Astronomy I ^a	4
MATH:1850	Calculus I ^{a, b}	4
PHYS:1701	Physics I ^a	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
	Hours	17-18
Spring		
ASTR:1772	General Astronomy II	4
MATH:1860	Calculus II	4
PHYS:1702	Physics II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
	Hours	15-16

Second Year

Fall

MATH:2700	Introduction to Linear Algebra ^c	4
PHYS:2703	Physics III	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
GE CLAS Core: Social Sciences ^e		3
	Hours	15-16

Spring

MATH:2850	Calculus III ^c	4
PHYS:2704	Physics IV	3 - 4
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
	Hours	14-16

Third Year

Fall

ASTR:3771	Introduction to Astrophysics I	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3811	Electricity and Magnetism I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^f		1 - 3
	Hours	14-17

Spring

ASTR:3772	Introduction to Astrophysics II	3
PHYS:3710	Intermediate Mechanics	3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
	Hours	13-14

Fourth Year

Fall

ASTR:4850	Astronomical Laboratory	3
PHYS:3730	Statistical Physics	3
GE CLAS Core: Historical Perspectives ^e		3
Elective course ^f		3
Elective course ^f		3
	Hours	15

Spring

GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: Values and Culture ^e		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		3
	Hours	15
	Total Hours	118-127

a Fulfills a major requirement and may fulfill a GE requirement.

b Enrollment in math courses requires completion of a placement exam.

c While this course is not a major requirement, it is strongly recommended and a prerequisite for many physics and astronomy courses in the department.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

Career Advancement

Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting. Some graduates plan for careers in secondary school science teaching or science-related administration or plan to earn professional degrees.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Physics, B.S.

Learning Outcomes

Physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in classical and quantum mechanics, electromagnetism, thermodynamics, and statistical physics;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using basic instrumentation and in analyzing the data obtained.

Requirements

The Bachelor of Science with a major in physics requires a minimum of 120 s.h., including at least 58 s.h. of work for the major (minimum of 42 s.h. in physics plus 16 s.h. in supporting course work). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students take calculus and linear algebra in addition to physics courses, which include laboratories, and the department encourages them to do additional work.

Students who want to earn a double major in physics and astronomy must choose their course work carefully; see "Double Major in Physics and Astronomy" below.

The B.S. with a major in physics requires the following courses or their equivalents. Many upper-level physics courses have prerequisites; students should consult their advisors when choosing courses numbered 3000 or above.

Code	Title	Hours
Mathematics Courses		16
Laboratories		6-7
Other Required Courses		36-41
Total Hours		58-64

Mathematics

Code	Title	Hours
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

Laboratories

Students who choose PHYS:3850 Electronics as one of their two required laboratory courses are advised to take it before they take PHYS:3756 Intermediate Laboratory.

Code	Title	Hours
This course:		
PHYS:3756	Intermediate Laboratory	3
One of these:		
PHYS:3850	Electronics	4

PHYS:4750	Advanced Laboratory	3
ASTR:4850	Astronomical Laboratory	3

Other Required Courses

Code	Title	Hours
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3730	Statistical Physics	3
PHYS:3741- PHYS:3742	Introduction to Quantum Mechanics I-II	6
PHYS:3811- PHYS:3812	Electricity and Magnetism I-II	6
Two of these:		
PHYS:3850	Electronics (may not be repeated)	4
PHYS:4720	Introductory Optics	3
PHYS:4726	Electro Optics	3
PHYS:4728	Introductory Solid State Physics	3
PHYS:4731	Plasma Physics I	3
PHYS:4740	Elementary Particles and Nuclear Physics	3
PHYS:4750	Advanced Laboratory	3
PHYS:4761	Mathematical Methods of Physics I	3
PHYS:4762	Mathematical Methods of Physics II	3
PHYS:4820	Optical Signal Processing	3
PHYS:4860	Computational Physics	3
ASTR:3771	Introduction to Astrophysics I	3
ASTR:3772	Introduction to Astrophysics II	3
ASTR:4770	Radio Astronomy	3
ASTR:4850	Astronomical Laboratory	3

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 56 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required

for graduation, but they must earn at least 56 s.h. in course work outside the department in order to graduate.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Students with a strong interest in science teaching may complete a science education major. Students choose one of five emphases—biology, chemistry, earth science, physics, or all-science—and earn a Bachelor of Science degree. They may apply for admission to the TEP. See the B.S. in science education [p. 1265] in the Teaching and Learning (College of Education) section of the Catalog.

Double Major in Physics and Astronomy

Students working toward a Bachelor of Science with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

Honors

Honors in the Major

Students majoring in physics have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. They must earn 6-8 s.h. in PHYS:4999 Undergraduate Research Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. Students must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the physics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: calculus II and physics II

Before the fifth semester begins: physics III-IV, introduction to linear algebra, calculus III, and up to two more courses in the major

Before the seventh semester begins: two to four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Physics, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
Hours		0
First Year		
Fall		
PHYS:1701	Physics I ^a	4
MATH:1850	Calculus I ^{a, b}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences ^c		3
CSI:1600	Success at Iowa	2
Hours		16-17
Spring		
PHYS:1702	Physics II ^a	4
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion ^c		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Hours		14-15
Second Year		
Fall		
PHYS:2703	Physics III	4
GE CLAS Core: Values and Culture ^c		3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Hours		15-16
Spring		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
MATH:2850	Calculus III	4

GE CLAS Core: World Languages Second Level Proficiency or elective course ^d	4 - 5
Hours	15-16

Third Year**Fall**

PHYS:3811	Electricity and Magnetism I	3
PHYS:3741	Introduction to Quantum Mechanics I	3
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^e		1 - 3
Hours		14-17

Spring

PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics ^f	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Hours		14-15

Fourth Year**Fall**

PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory ^f	3
Major: upper-level physics course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
Elective course ^e		3
Hours		15

Spring

GE CLAS Core: International and Global Issues ^c		3
Major: upper-level physics course		3
Elective course ^e		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		118-126

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in math courses requires completion of a placement exam.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who choose PHYS:3850 as one of their two required laboratory courses are advised to take it before they take PHYS:3756 Intermediate Laboratory.

Career Advancement

Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

The degree provides preparation for careers in industry, employment in research laboratories, and graduate study in physics and related sciences.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Applied Physics, B.S.

Learning Outcomes

Applied physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in classical and quantum mechanics, electromagnetism, thermodynamics, and statistical physics;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using basic instrumentation and in analyzing the data obtained.

Requirements

The Bachelor of Science with a major in applied physics requires a minimum of 120 s.h., including at least 59-83 s.h. of work for the major. Total credit required for the major depends on the student's choice of concentration. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major in applied physics is intended primarily for students interested in a broad program of study in physics combined with a significant concentration of courses in a field that has immediate application to industry. The degree provides a foundation for a wide range of employment opportunities in high-technology industries, including research and development, product design and testing, sales, and quality control. It also is designed to include exposure to physics sufficient to allow students to continue with graduate studies in either physics or astronomy.

The major offers four areas of concentration: optics, solid-state electronics, computer science, and medical physics. Students also may design customized concentration areas in close consultation with their advisors and with departmental approval.

An essential component of each concentration is successful completion of a related one-semester internship or practicum experience in a research laboratory (an applied physics thesis is required for the latter option). Well-prepared students will be able to complete the degree in four years. Students should work closely with their advisors on a graduation plan.

All applied physics students complete a common set of courses that includes calculus, linear algebra, physics, and an experiential learning course. They also complete the courses required for their chosen concentration. The department encourages students to take additional course work; advisors can suggest electives that will enrich programs and help students prepare for graduate work.

Students who want to earn a double major in applied physics and astronomy must choose their course work carefully; see "Double Major in Applied Physics and Astronomy" below.

The B.S. with a major in applied physics requires the following courses. Many upper-level physics courses have prerequisites; students should consult their advisors when choosing courses numbered 3000 or above.

Code	Title	Hours
Common Requirements		37-41
Concentration Area Courses		22-46
Total Hours		59-87

Common Requirements

Students in all concentrations must successfully complete the following courses or their equivalents.

Code	Title	Hours
Mathematics		
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
Physics		
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
Experiential Learning		
One of these:		
A one-semester industrial internship		
A one-semester practicum in a research laboratory (requires an applied physics thesis)		

Concentrations

Students select one of the four concentration areas below.

Computer Science Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics	4
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
One additional computer science course numbered 3000 or above		3
Two of these:		
CS:2630	Computer Organization	3
CS:2820	Object-Oriented Software Development	4
CS:3330	Algorithms	3

Optics Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics	4
PHYS:4720	Introductory Optics	3
Two of these:		
PHYS:4726	Electro Optics	3
PHYS:4728	Introductory Solid State Physics	3
PHYS:4820	Optical Signal Processing	3

Solid-State Electronics Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:4728	Introductory Solid State Physics	3
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3320	Introduction to Digital Design	3
ECE:3410	Electronic Circuits	4
ENGR:1300	Introduction to Engineering Computing	3
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
One of these:		
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3812	Electricity and Magnetism II	3

Medical Physics Concentration

Code	Title	Hours
All of these:		
PHYS:3756	Intermediate Laboratory	3
PHYS:3850	Electronics	4
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2410	Organic Chemistry Laboratory	3
Two additional biology courses numbered 2000 or above		6-8
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:3510	Biostatistics	3
One of these:		
PHYS:3730	Statistical Physics	3
PHYS:3742	Introduction to Quantum Mechanics II	3

PHYS:3812	Electricity and Magnetism II	3
PHYS:4750	Advanced Laboratory	3
PHYS:4905	Special Topics in Physics (when topic is physics of the body)	3

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Double Major in Applied Physics and Astronomy

Students working toward a Bachelor of Science with a double major in applied physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

Honors

Honors in the Major

Students majoring in applied physics have the opportunity to graduate with honors in their major. Departmental honors students must maintain a University of Iowa g.p.a. of at least 3.33. To graduate with honors in the major, they must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

University of Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the applied physics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: calculus II and physics II

Before the fifth semester begins: physics III-IV, introduction to linear algebra, calculus III, one more course in the major, and up to four courses in another science or engineering department

Before the seventh semester begins: two to four more courses in the major, up to three other science or engineering courses, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two or three more courses in the major or other science or engineering courses and all or part of an academic year research experience or a summer research experience or internship as approved by the applied physics coordinator

During the eighth semester: enrollment in all remaining course work in the major, all remaining CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Applied Physics, B.S.

Medical Physics Concentration

Course	Title	Hours
First Year		
Fall		
PHYS:1701	Physics I ^a	4
CHEM:1110	Principles of Chemistry I ^{a, b}	4
MATH:1850	Calculus I ^{a, c}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSL:1600	Success at Iowa	2
Hours		17-18
Spring		
PHYS:1702	Physics II	4
CHEM:1120	Principles of Chemistry II	4
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Hours		15-16
Second Year		
Fall		
PHYS:2703	Physics III	4
BIOL:1411	Foundations of Biology	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Hours		16-17
Spring		
PHYS:2704	Physics IV	3 - 4
BIOL:1412	Diversity of Form and Function	4
MATH:2850	Calculus III	4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Hours		15-17

Third Year

Fall

PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Hours		16-17

Spring

PHYS:3710	Intermediate Mechanics	3
PHYS:3850	Electronics	4
CHEM:2220	Organic Chemistry II	3
GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency ^d		4 - 5
Hours		17-18

Summer

Internship: industrial internship or research practicum		3
Hours		3

Fourth Year

Fall

PHYS:3756	Intermediate Laboratory	3
Major: biology course numbered 2000 or above ^f		3 - 4
CHEM:2410	Organic Chemistry Laboratory	3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: Historical Perspectives ^e		3
Hours		15-16

Spring

Major: biology course numbered 2000 or above ^f		3 - 4
GE CLAS Core: Social Sciences ^e		3
STAT:3510	Biostatistics	3
or BIOS:4120	or Introduction to Biostatistics	
GE CLAS Core: International and Global Issues ^e		3
Major: medical concentration select one course ^g		3
Hours		15-16
Total Hours		129-138

a Fulfills a major requirement and may fulfill a GE requirement.

b Enrollment in chemistry courses requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students in this concentration are required to complete two biology courses (BIOL) numbered 2000 or above (6-8 s.h.)

g Choose from PHYS:3730, PHYS:3742, PHYS:3812, PHYS:4750, or PHYS:4905.

Career Advancement

Applied physics graduates have mastered skills that are readily transferable to a number of fields. They might choose

to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Astronomy, B.S.

Learning Outcomes

Astronomy majors will be able to:

- demonstrate understanding of the fundamental concepts in astrophysics such as gravity, the nature of light, the physical characteristics of matter, and the motions of astronomical objects in the night sky;
- demonstrate proficiency in each of the major areas of astronomy—cosmology, galaxies, accretion and compact objects, the life cycle, and properties of stars and solar system science;
- show a working knowledge of a broad array of astrophysical phenomena that are based upon fundamental concepts; and
- gain familiarity with astronomical observations, instrumentation, computational methods, and software.

Requirements

The Bachelor of Science with a major in astronomy requires a minimum of 120 s.h., including at least 63 s.h. of work for the major. The program provides balanced and integrated course work in astronomy, mathematics, and physics that prepares students for advanced study in astronomy or astrophysics. It also serves as an interesting choice of major for a liberal arts education.

Bachelor of Science students take calculus and linear algebra in addition to physics and astronomy courses, which include laboratories. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students who want to earn a double major in physics and astronomy must choose their course work carefully; see "Double Major in Physics and Astronomy" below.

The B.S. with a major in astronomy requires the following courses or their equivalents. Required courses ASTR:3771 Introduction to Astrophysics I, ASTR:3772 Introduction to Astrophysics II, and ASTR:4850 Astronomical Laboratory are offered every other year; students are responsible for registering for them when they are offered.

Code	Title	Hours
Mathematics Courses		16
Laboratories		6-7
Other Required Courses		41-45
Total Hours		63-68

Mathematics

Code	Title	Hours
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

Laboratories

Code	Title	Hours
This course:		
ASTR:4850	Astronomical Laboratory (offered every other year)	3
And one of these:		
PHYS:3756	Intermediate Laboratory	3
PHYS:3850	Electronics	4

Other Required Courses

Code	Title	Hours
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12
All of these:		
ASTR:1771- ASTR:1772	General Astronomy I-II	8
ASTR:3771- ASTR:3772	Introduction to Astrophysics I-II (offered every other year)	6
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811- PHYS:3812	Electricity and Magnetism I-II	6
One of these:		
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:4731	Plasma Physics I	3

Additional Course Work

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, by taking one or more of the courses listed below.

Code	Title	Hours
ASTR:4770	Radio Astronomy	3
PHYS:3730	Statistical Physics	3
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:4720	Introductory Optics	3
PHYS:4731	Plasma Physics I	3
PHYS:4740	Elementary Particles and Nuclear Physics	3
PHYS:4761- PHYS:4762	Mathematical Methods of Physics I-II	6

In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become

part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 56 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required for graduation, but they must earn at least 56 s.h. in course work outside the department in order to graduate.

Double Major in Physics and Astronomy

Students working toward a Bachelor of Science with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

Honors

Honors in the Major

Students majoring in astronomy have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the astronomy major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: calculus I-II and physics II

Before the fifth semester begins: all of the remaining required math courses, physics III-IV, and two other courses in the major

Before the seventh semester begins: four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: three more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Astronomy, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Research: students are strongly encouraged to be active participants in research within the department.		
Students can pursue a double major in Astronomy and Physics and earn more than 56 s.h. from the department toward these degrees but must also complete at least 56 s.h. outside of the Department of Physics & Astronomy.		
Hours		0
First Year		
Fall		
ASTR:1771	General Astronomy I ^a	4
MATH:1850	Calculus I ^{a, b}	4
PHYS:1701	Physics I ^a	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Hours		17-18
Spring		
ASTR:1772	General Astronomy II	4
MATH:1860	Calculus II	4
PHYS:1702	Physics II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Hours		15-16
Second Year		
Fall		
GE CLAS Core: Social Sciences ^c		3
MATH:2700	Introduction to Linear Algebra	4
PHYS:2703	Physics III	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
Hours		15-16
Spring		
MATH:2850	Calculus III	4
PHYS:2704	Physics IV	3 - 4
GE CLAS Core: International and Global Issues ^c		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Hours		14-16
Third Year		
Fall		
ASTR:3771	Introduction to Astrophysics I	3
PHYS:3756	Intermediate Laboratory	3

PHYS:3811	Electricity and Magnetism I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5
Elective course ^e		1 - 3
Hours		14-17

Spring

ASTR:3772	Introduction to Astrophysics II	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3710	Intermediate Mechanics	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Hours		13-14

Fourth Year**Fall**

ASTR:4850	Astronomical Laboratory	3
PHYS:3741	Introduction to Quantum Mechanics I	3
GE CLAS Core: Historical Perspectives ^c		3
GE CLAS Core: Values and Culture ^c		3
Elective course ^{e, f}		3
Hours		15

Spring

PHYS:3742	Introduction to Quantum Mechanics II	3
GE CLAS Core: Literary, Visual, and Performing Arts ^c		3
GE CLAS Core: Diversity and Inclusion ^c		3
Elective course ^{e, f}		3
Elective course ^{e, f}		3
Hours		15
Total Hours		118-127

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in math courses requires completion of a placement exam.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements by taking one or more of these courses: ASTR:4770, PHYS:3730, PHYS:3742, PHYS:4720, PHYS:4731, PHYS:4740, PHYS:4761-PHYS:4762.

Career Advancement

Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Physics, Minor

The undergraduate minor in physics requires a minimum of 15 s.h. in physics, including 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The 12 s.h. taken at the University of Iowa must be chosen from these:

Code	Title	Hours
PHYS:2703	Physics III	4
PHYS:2704	Physics IV	3-4
Physics courses numbered 3000 or above		

Both PHYS:2703 and PHYS:2704 have prerequisites, as do most physics courses numbered 3000 or above. Students must complete a course's prerequisites before they may enroll in the course.

Astronomy, Minor

The undergraduate minor in astronomy requires a minimum of 15 s.h. in astronomy and physics courses, including 12 s.h. of course work numbered 3000 or above and 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Course work numbered 3000 or above must include 6 s.h. chosen from these:

Code	Title	Hours
ASTR:3771	Introduction to Astrophysics I	3
ASTR:3772	Introduction to Astrophysics II	3
ASTR:4850	Astronomical Laboratory	3

Remaining work may be chosen from any astronomy or physics courses numbered 3000 or above.

Most University of Iowa courses for the minor have prerequisites; students must complete a course's prerequisites before they may enroll in the course.

Physics, M.S.

Graduate study in physics and astronomy is highly individualized. Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress. All graduate students who intend to pursue a Ph.D. in physics must pass the qualifying exam; see the Ph.D. in physics [p. 833] in this section of the Catalog.

Requirements

The Master of Science program in physics requires a minimum of 30 s.h. of graduate credit. All students must earn the required 30 s.h. of graduate credit in courses numbered 4000 or above, with at least 15 s.h. in courses numbered 5000 or above. They must maintain a g.p.a. of at least 3.00.

Each student's plan of study should provide for as much advanced work as aptitude and previous preparation permit. Up to one-third of the program of study may be taken in related scientific fields other than physics (e.g., mathematics, chemistry, astronomy, geology, engineering).

The degree is offered with thesis or critical essay. Students who choose the thesis option must write a thesis based on an original experimental or theoretical investigation that they have conducted. Students may earn a maximum of 6 s.h. in PHYS:7990 Research: Physics or PHYS:7992 Individual Critical Study.

Students who choose the critical essay option must conduct an independent study of the literature on a particular area of physics and write a critical essay on that topic. Students may earn a maximum of 4 s.h. in PHYS:7990 Research: Physics or PHYS:7992 Individual Critical Study.

The M.S. may be a terminal degree or a step toward a Ph.D. In either case, the final examination is oral, conducted by a committee of three faculty members.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Astronomy, M.S.

Graduate study in physics and astronomy is highly individualized. Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress. All graduate students who intend to pursue a Ph.D. in physics must pass the qualifying exam; see the Ph.D. in physics [p. 833] in this section of the Catalog.

Requirements

The Master of Science program in astronomy requires a minimum of 30 s.h. of graduate credit. All students must maintain a g.p.a. of at least 3.00. Seminars do not count toward the minimum of 30 s.h. required for the degree.

Up to one-third of the program of study may be taken in related scientific fields (e.g., meteorology, geology, electrical engineering); selection of such courses is encouraged.

The degree is offered either with or without thesis. The M.S. may be a terminal degree or a step toward a Ph.D. in physics with subprogram and a dissertation in astronomy or astrophysics. In either case the final examination is oral, conducted by a committee of three faculty members.

Students in the thesis program earn the required 30 s.h. in courses numbered 4000 or above, with at least 15 s.h. in courses numbered 5000 or above. Thesis students must earn at least 6 s.h. in the following courses.

Code	Title	Hours
ASTR:6785	The Interstellar Medium	3
ASTR:6790	Stellar Astrophysics	3
ASTR:7775	Special Topics in Astrophysics	1-3

Thesis students may earn a maximum of 6 s.h. in PHYS:7992 Individual Critical Study and ASTR:7991 Research: Astronomy.

Students in the nonthesis program must maintain a g.p.a. of at least 3.00 in core graduate courses. They must earn 18 s.h. in the following core graduate courses.

Code	Title	Hours
ASTR:6785	The Interstellar Medium	3
ASTR:6790	Stellar Astrophysics	3
ASTR:7775	Special Topics in Astrophysics	3
PHYS:5710	Classical Mechanics	3
PHYS:5811	Classical Electrodynamics I	3
PHYS:5812	Classical Electrodynamics II	3

Nonthesis students may earn a maximum of 4 s.h. in PHYS:7992 Individual Critical Study and ASTR:7991 Research: Astronomy.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Physics, Ph.D.

Graduate study in physics and astronomy is highly individualized. The department does not offer a Ph.D. in astronomy, but students may pursue a Ph.D. in physics with subprogram and a dissertation in astronomy.

Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress. All graduate students who intend to pursue a Ph.D. in physics must pass the qualifying exam; see Requirements [p. 833] in this section of the Catalog.

Requirements

The Doctor of Philosophy program in physics requires a minimum of 72 s.h. of graduate credit. For students interested in doing doctoral work in astronomy, the department offers an optional astronomy subprogram, including dissertation, within the Ph.D. program in physics.

Graduate students who wish to pursue a Ph.D. in physics must pass a qualifying examination in all principal areas of physics at the level of advanced undergraduate work. The examination, which may be repeated only once, is given each year before the beginning of the spring semester. Students must pass the qualifying examination before the beginning of their fourth semester of graduate work at the University of Iowa. Students with high scores on the Graduate Record Exam (GRE) subject test in physics may be exempt from this requirement.

The program of study for the Ph.D. includes thorough course work in both classical and quantum physics for all students, whether their specialized research is in an experimental or a theoretical area.

All students must earn at least 24 s.h. in departmental courses numbered 5000 or above. They may not count credit earned in PHYS:7990 Research: Physics, PHYS:7992 Individual Critical Study, ASTR:7991 Research: Astronomy, or seminars.

All students must take comprehensive examinations; participate in advanced seminars; do original research in experimental physics, theoretical physics, or astrophysics; and prepare and defend a written dissertation based on this work.

Ph.D. students in physics without the astronomy subprogram must complete the following courses.

Code	Title	Hours
PHYS:4761- PHYS:4762	Mathematical Methods of Physics I-II (students who pass a written examination are exempt from this requirement)	6
PHYS:5710	Classical Mechanics	3
PHYS:5730	Statistical Mechanics I	3
PHYS:5741- PHYS:5742	Quantum Mechanics I-II	6
PHYS:5811- PHYS:5812	Classical Electrodynamics I-II	6

These courses freely use advanced mathematics (e.g., complex variables, tensor analysis). An introduction is provided in PHYS:4761 Mathematical Methods of Physics I and PHYS:4762 Mathematical Methods of Physics II. The selection of less advanced course work depends on the adequacy of a student's preparation for graduate work; students' choice

of more advanced and specialized courses depends on the direction in which their interests develop.

Ph.D. students in physics with the optional astronomy subprogram must complete a total of six courses from the following two lists.

Code	Title	Hours
Four of these:		
ASTR:6781	Galactic Astronomy	3
ASTR:6782	Extragalactic Astronomy	3
ASTR:6785	The Interstellar Medium	3
ASTR:6790	Stellar Astrophysics	3
ASTR:6870	Radiative Processes in Astrophysics	3
ASTR:6880	High Energy Astrophysics	3
ASTR:7830	Space and Astrophysical Plasma Physics	3
PHYS:7760	General Relativity and Cosmology	3
Two of these:		
PHYS:5710	Classical Mechanics	3
PHYS:5730	Statistical Mechanics I	3
PHYS:5741- PHYS:5742	Quantum Mechanics I-II	6
PHYS:5811- PHYS:5812	Classical Electrodynamics I-II	6

After a student has chosen a research specialty, the student must submit a formal thesis proposal and defend the proposal in an oral comprehensive exam. The appropriate thesis advisor then becomes the candidate's general advisor and the chair of the comprehensive and final examination committee. The comprehensive exam must be taken before the beginning of the fourth year of graduate study.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Political Risk Analysis

Chair, Department of Political Science

- Wenfang Tang

Undergraduate certificate: political risk analysis

Faculty: <https://clas.uiowa.edu/polisci/people/faculty>

Website: <https://clas.uiowa.edu/polisci/>

The Certificate in Risk Analysis prepares students to work in a growing area of focus for many corporations and international organizations—political risk analysis or risk intelligence. Risk analysis focuses on the effect that country characteristics and events have on sovereign risk (the ability of a country to repay its debts), company security, supply chains, and the safety of individuals working or traveling in a country. Understanding this risk provides assistance to companies and organizations so that they can better manage their investments, assets, and activities in countries around the world based on threats they might face.

Students will be able to:

- demonstrate knowledge of relevant economic and risk principles for an organization,
- demonstrate knowledge of country and international system factors that influence an organization, and
- analyze these system factors to show how they impact the risk for an organization.

The Certificate in Risk Analysis is administered by the Department of Political Science [p. 837].

Programs

Undergraduate Program of Study Certificate

- Certificate in Political Risk Analysis [p. 835]

Political Risk Analysis, Certificate

The undergraduate Certificate in Political Risk Analysis requires a minimum of 18 s.h. of credit. The certificate can be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Certificate courses cannot be taken pass/nonpass.

A maximum of 6 s.h. of transfer credit may be accepted toward certificate requirements, with the approval of the political risk analysis advisor. Students may only double count 6 s.h. of course work with another degree program.

The political risk analysis field is growing as organizations seek to understand the risks posed in countries and regions around the world and what that means for them and their policies.

The Certificate in Political Risk Analysis requires the following course work.

Core Courses

Principles of Risk Management and Insurance (FIN:3400) has prerequisites ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics; the prerequisites do not count toward the certificate.

Code	Title	Hours
Financial Risk Principles		
This course:		
FIN:3400	Principles of Risk Management and Insurance	3
Quantitative Analysis		
One of these:		
POLI:3000	Analyzing Political Data	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510	Biostatistics	3
Politics Foundation		
One of these:		
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3

Elective Courses

Students select three courses from the following.

Code	Title	Hours
Country and International Risk		
POLI:2415	Latin American Politics	3
POLI:2416	Revolutions and Political Violence	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3
POLI:3410	Russian Foreign Policy	3

POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3413	Russian Politics	3
POLI:3418	Governance in the Middle East	3
POLI:3419	War in the Muslim World	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3450	Problems in Comparative Politics	3
POLI:3501	International Organization and World Order	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3514	Regional Peace and Security	3
POLI:3516	The Politics of International Economics	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3520	National Security Policy	3
POLI:3521	Twenty-first-Century Technology and Warfare	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3523	Non-State Violent Actors	3
POLI:3550	Problems of International Politics	3

Experiential Learning Requirement

All students select one of the following after consultation with the political risk analysis advisor.

Code	Title	Hours
Study Abroad		
Students register for study abroad credit (prefix ABRD)		
Research		
POLI:3001	Hawkeye Poll	3
POLI:3127	Legislative Policy Seminar	arr.
POLI:4701	Undergraduate Research Tutorial	3
URES:3992	Undergraduate Research and Creative Projects	0
URES:3993	Undergraduate Research and Creative Projects	1-4

URES:3994	Undergraduate Research and Creative Projects	1-4
URES:3995	ICRU Research Fellow	0
Internship		
POLI:4900	Government and Politics Internship	1-3
Another approved internship course		

Political Science

Chair

- Wenfang Tang

Undergraduate major: political science (B.A., B.S.)

Undergraduate minor: political science

Graduate degrees: M.A. in political science; Ph.D. in political science

Faculty: <https://clas.uiowa.edu/polisci/people/faculty>

Website: <https://clas.uiowa.edu/polisci/>

The Department of Political Science offers undergraduate majors and minors as well as graduate degree programs. In addition to the programs of study in political science, it offers the B.A., B.S., and minor in international relations, and the undergraduate Certificate in Political Risk Analysis [p. 835]. It collaborates with other departments to offer the Certificate in Social Science Analytics [p. 915]. The department also offers several courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 459] requirements and a First-Year Seminar designed for entering undergraduate students.

Related Certificate

Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Political Science collaborates with the Departments of Geographical and Sustainability Sciences, Sociology, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics; see Social Science Analytics [p. 914] in the Catalog. The Department of Political Science [p. 837] administers the certificate.

Programs

Undergraduate Programs of Study

Majors

- Major in Political Science (Bachelor of Arts) [p. 845]
- Major in Political Science (Bachelor of Science) [p. 848]

Minors

- Minor in Political Science [p. 852]

Graduate Programs of Study

Majors

- Master of Arts in Political Science [p. 853]
- Doctor of Philosophy in Political Science [p. 854]

Courses

Courses numbered below 2000 are introductory undergraduate courses. Course POLI:1000 First-Year Seminar does not count toward the major or the minor in political science.

Courses numbered 2000-4999 are considered advanced for undergraduates. Course POLI:4900 Government and Politics Internship and course POLI:3124 Political Science Des Moines Internship Program do not count toward the major or the minor in political science; they are offered only satisfactory/fail.

Courses numbered 5000-6000 are graduate core courses; those numbered 7000 or above are advanced graduate courses.

Political Science Courses

POLI:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

POLI:1001 Introduction to Politics 3 s.h.

Introduction to selected processes, institutions, or behaviors central to the study of politics.

POLI:1002 Lawyers in the American Political System 3 s.h.

Training and careers of lawyers; various roles they play in the American political system. Requirements: no prior enrollment in POLI:3150 with subtitle Lawyers in the American Political System.

POLI:1050 Big Ideas: Introduction to Information, Society, and Culture 3 s.h.

What is information? What does it teach us about societies and cultures? How is information used to shape societies and even personal preferences? What types of information are there and how can we understand and use them? Students work with faculty from multiple disciplines to investigate these questions using inquiry-based activities to build success in critical thinking and teamwork. GE: Quantitative or Formal Reasoning. Same as RELS:1050.

POLI:1100 Introduction to American Politics 3 s.h.

Structure and processes of American national government; how the United States manages political conflict; impact of the U.S. Constitution; effect of public opinion, interest groups, and media on government; role and evolution of Congress, presidency, bureaucracy, and Supreme Court. GE: Social Sciences.

POLI:1200 Introduction to Political Behavior 3 s.h.

Patterns and basis of political behavior of American electorate; trends in voter turnout; vote choice; ideology, partisanship, and public opinion. GE: Social Sciences.

POLI:1300 Introduction to Political Thought and Action 3 s.h.

Common problems, literature, analytic techniques. GE: Social Sciences; Values and Culture.

POLI:1400 Introduction to Comparative Politics 3 s.h.

Politics worldwide, including all regions and levels of development; wide-ranging themes, including regime types, political change, political culture, public opinion, government structures, state-society relationship, electoral systems, public policy issues. GE: International and Global Issues; Social Sciences.

POLI:1401 Introduction to the Politics of Russia and Eurasia 3 s.h.

Political dynamics in postcommunist countries of east-central Europe and Eurasia; imperial legacies, ideology and practice of communist politics, patterns of democracy and authoritarianism. GE: International and Global Issues; Social Sciences.

POLI:1403 Introduction to Politics in the Muslim World 3 s.h.

Processes of politics and government in pivotal countries of the Muslim world; foundations of Islam, legacies of Western imperialism, regime types, regional conflicts, oppositional organizations, and role of non-Asian powers in the region (i.e., United States); North Korea-South Korea conflict; rivalry between Japan, China, and Korea; Association of Southeast Asian Nations (ASEAN); South China Sea dispute; rise of Asian economies; the United States pivot to Asia; how current explanations of international relations may or may not work in the context of Asia.

POLI:1410 Introduction to Asian International Relations 3 s.h.

Examination of historical and current relationships between countries in Asia; conflict, cooperation, effect of international organizations, and role of non-Asian powers in the region (i.e., United States); North Korea-South Korea conflict; rivalry between Japan, China, and Korea; Association of Southeast Asian Nations (ASEAN); South China Sea dispute; rise of Asian economies; the United States pivot to Asia; how current explanations of international relations may or may not work in the context of Asia.

POLI:1445 Introduction to Asian Politics: China 3 s.h.

How sociopolitical life in China is shaped by political structure, economic modernization, and traditional political culture; topics include historical, political, economic, and social conditions in contemporary China; course objectives are to broaden student's horizons in global affairs by learning about a foreign country that seems completely different and to sharpen student's analytical and communication skills. GE: International and Global Issues; Social Sciences.

POLI:1449 Introduction to European Politics 3 s.h.

Political institutions, processes of selected European countries. GE: International and Global Issues; Social Sciences.

POLI:1500 Introduction to International Relations 3 s.h.

Survey of key issues in international relations, including causes of wars, different types of theories of international relations, international organizations, and global environmental problems. GE: International and Global Issues; Social Sciences.

POLI:1501 Introduction to American Foreign Policy 3 s.h.

Foreign policies: goals, basic themes and general patterns, problems encountered by policy makers, means employed in dealing with other nations and international organizations, processes by which policies are formulated, factors that influence structure of policies. GE: International and Global Issues; Social Sciences.

POLI:1600 Introduction to Political Communication 3 s.h.

Institutions, dynamics, issues of political communities considered as networks of communication; representative topics include political actors, ads, films, media, myths, news, publics, regulations, rhetorics, symbols. GE: Social Sciences.

POLI:1601 Introduction to Social Media and Politics 3 s.h.

Politics in news, culture, commerce, campaigns, and government with attention to current media (e.g., cinema, internet, print, television). GE: Diversity and Inclusion.

POLI:1700 Introduction to Political Analysis 3 s.h.

Tools necessary to analyze and solve puzzles in politics (i.e., Why do countries go to war rather than negotiate? Why do lifelong enemies become allies? Why do majorities act irrationally?); questions approached from a quantitative perspective (unlike most political analyses), in particular, game theory—a branch of mathematics that investigates how rational players act in situations (like those in politics) of strategic interaction. GE: Quantitative or Formal Reasoning.

POLI:1800 Introduction to the Politics of Class and Inequality 3 s.h.

Introduction to issues of class and economic inequality in the U.S. and other countries; what class and economic inequality are, debates surrounding these definitions, and attempts to measure both of these concepts; research and arguments on economic and political explanations of economic inequality; different policies aimed at reducing economic inequality and debates over them. GE: Diversity and Inclusion.

POLI:1900 Introduction to the Politics of Race 3 s.h.

Introduction to politics of race in the U.S.; history of racial and ethnic groups in the U.S., their relationship with each other, and their interactions with different levels of government. GE: Diversity and Inclusion.

POLI:1950 Introduction to the Politics of Religion 3 s.h.

Introduction to the complex relationship between religion and politics; examination of historical and contemporary effect of religion on a wide range of areas (e.g., political culture, political parties, political behavior, public policy); consideration of important policy debates (e.g., role of religion in public life, religious discrimination, various social issues).

POLI:2000 Designing Political Research 3 s.h.

How research is conducted on politics and government; students examine different research approaches (both qualitative and quantitative), learn how to read and understand published research on politics, demonstrate an understanding of different research approaches, and understand, interpret, and critically analyze published research on politics.

POLI:2107 Black Literature and Politics: Controversies of National Allegiance 3 s.h.

Black literature born amid political controversy, from slave narratives to award-winning texts of late 20th century; evolving politics of African American writers; changing political landscape of this expansive period and representative literature; how African American writers shape U.S. political debate; surprising politics of many canonical African American writers. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:2781, ENGL:2460.

- POLI:2415 Latin American Politics** 3 s.h.
Governmental institutions, major interest groups; focus on area as a whole. GE: International and Global Issues; Social Sciences. Same as LAS:2415.
- POLI:2416 Revolutions and Political Violence** 3 s.h.
Analysis of protest, insurgency, and rebellion for political change; studies the drivers of participation, group organization, government responses, and outcomes of these movements (including both failed and successful revolutions); how and why does the use of political violence vary, and what are the political consequences of the use of violence; explores theoretical material and case studies from across the world.
- POLI:2417 Comparative Environmental Policy** 3 s.h.
Analysis of environmental policy and governance outcomes across and within countries and contexts; causes and consequences of environmental policy differences; effects of government structure, society, and natural resource conditions on policy development, implementation, and environmental outcomes.
- POLI:3000 Analyzing Political Data** 3 s.h.
Creating knowledgeable evaluators of current research in political science; interpretation of different quantitative techniques with examples from current political science research.
- POLI:3001 Hawkeye Poll** 3 s.h.
Basics of survey design, sampling, question wording, interpreting responses, and writing press releases; students work together to help design questions as part of the Hawkeye Poll, a collaborative teaching and research enterprise in the Department of Political Science.
- POLI:3050 Problems in Methods** arr.
Problems in political science research methods; data collection, interpretation, analysis.
- POLI:3100 American State Politics** 3 s.h.
Approaches to analysis of political behavior in American state governments; emphasis on cultures, parties, actors, processes, issues.
- POLI:3101 American Constitutional Law and Politics** 3 s.h.
Role of U.S. Supreme Court in American political system; emphasis on analysis of Supreme Court cases.
- POLI:3102 The U.S. Congress** 3 s.h.
History of Congress, how congressional elections shape what legislators do, how laws are made in Congress, rules and maneuvers that shape these laws, and the future of Congress as one of the major institutions of American government; gain an understanding of Congress and why Americans continue to be confused and fascinated by this complicated branch and its politics.
- POLI:3104 Immigration Politics** 3 s.h.
United States immigration policy and political consequences of Latino population growth; contrast of political experiences of Latinos with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LAS:3104, LATS:3104.
- POLI:3107 Writing in Political Science: Writing for "Science" and for "Politics"** 3 s.h.
Examination of principles used in writing for science and writing for politics: science writing clearly explains its ideas to promote understanding, and political writing advocates for its ideas by highlighting and obscuring different pieces of information and "spinning" its findings to promote persuasion; students produce and analyze examples of both forms of writing.
- POLI:3108 American Political Development** 3 s.h.
Transformations in American political behavior and institutions over time.
- POLI:3109 Fixing America's Electoral System** 3 s.h.
What's wrong with American politics and what can be done to fix it; overview of major problems facing American democracy from polarized political parties and money in politics, to low voter turnout and trust in government, to growing gap between super rich and middle class; focus on problem solving, including movement towards digital politics and new media, participatory democracy, reform of congressional elections and non-partisan redistricting, presidential elections (Electoral College), presidential nomination process, campaign finance, voter registration and voting, proportional representation. Requirements: no prior enrollment in POLI:3150 with subtitle Election Reform.
- POLI:3110 Local Politics** 3 s.h.
Models of city government, relation to state and federal governments; rights, liabilities of municipalities; city elections, campaigns, issues; role of pressure groups.
- POLI:3111 American Public Policy** 3 s.h.
Functions and policies of national government; emphasis on domestic policy making, impact of public policy.
- POLI:3113 Research in Judicial Politics** 3 s.h.
Applied research training in courts and judicial politics. Prerequisites: POLI:3121 or POLI:3120 or POLI:3101.
- POLI:3114 Women and Politics in the United States** 3 s.h.
Involvement of women in the U.S. political system; topics include political theories about women's involvement in politics and government, women and constitutional law, public policies that affect women, women's participation in politics at the mass and elite levels.
- POLI:3116 The Presidency** 3 s.h.
Constitutional foundations, subsequent development, current status of the office of the presidency; evolution of presidential selection process; powers, structures, functions of the office; role of president as legislative, executive, and public leader.
- POLI:3117 Bureaucratic Politics and Public Administration** 3 s.h.
Examination of the federal bureaucracy from political, theoretical, and practical perspectives; what we mean by "federal bureaucracy," how it developed over time, how it performs its tasks, and how it affects American policy and politics.
- POLI:3118 Interest Groups** 3 s.h.
Theory, organization, and structure of interest groups; how they influence Congress, executive branch, courts, elections.
- POLI:3120 The Criminal Justice System** 3 s.h.
Role of actors, institutions that constitute and participate in the American criminal justice system.
- POLI:3121 The Judicial Process** 3 s.h.
Role of courts, lawyers, judges, interest groups in the American political system.

POLI:3122 Public Choice 3 s.h.

Introduction to some of the most important topics in public choice (i.e., How do we explain what the public "wants"? Can we determine group preferences and group choices even if individual incentives run contrary to society's needs?); study of public choice theory problems in political science—how we determine society's preference among candidates, public policies, or even types of government.

POLI:3123 State Politics in Iowa 3 s.h.

Introduction to Iowa government and politics; emphasis on Iowa Constitution, founding and history, political institutions, voting, political parties, mass movements and interest groups; evangelical movement in Iowa, immigration, and Iowa's role in national politics given the state's first-in-the-nation caucus.

POLI:3124 Political Science Des Moines Internship Program 1-9 s.h.

Supervised professional work experience in government and nongovernment organizations, as well as private industry. Requirements: sophomore or higher standing.

POLI:3126 Environmental Policy 3 s.h.

Analysis of environmental problems through an interdisciplinary approach drawing from economics, environmental economics, political economy, and political science; how environmental resources differ from other goods that economists study (usually there is no market for them); government policies that are needed to maintain and improve environmental quality; how governments are influenced by voters' policy preferences and by policy preferences of special interest groups; three main areas of political economy as it relates to environmental policy.

POLI:3127 Legislative Policy Seminar arr.

Policy research for the Iowa Legislature.

POLI:3128 Politics of the U.S. National Park System 3 s.h.

Examination of politics surrounding the U.S. National Park System and other federally managed lands; debates about the founding of the U.S. National Parks system; expansion, environmental effects, and current issues; role of important actors, such as the President, Congress, bureaucracies, land owners, and nongovernmental organizations.

POLI:3150 Problems in American Politics 1-3 s.h.

Problems in studying American system; structures, functions, behavior.

POLI:3201 Political Campaigning 3 s.h.

Current state of political campaigning at all levels of government; history of campaigning, role of money and campaign finance reform, television and negative advertising, internet campaigning.

POLI:3202 Political Psychology 3 s.h.

Political phenomena from psychological perspective; political behaviors of individuals, including decision making by elites and masses, evaluations of political candidates, mass mobilization, response to mass media; psychological concepts including stereotyping, social cognition, attitude, group identification.

POLI:3203 Campaigns, Elections, and Voting Behavior 3 s.h.

Determinants of voting behavior; correlates of political participation, political apathy; political socialization processes; nature and functions of elections.

POLI:3204 Public Opinion 3 s.h.

Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as SOC:3525.

POLI:3300 Postmodern Political Theory 3 s.h.

Major writers and intellectual trends, from 19th century to World War II.

POLI:3302 Current Political Theory 3 s.h.

Thinkers or schools of thought, from World War II to present.

POLI:3305 Modern Political Theory 3 s.h.

Major writers and intellectual trends in political thought from Renaissance and Reformation to 19th century.

POLI:3306 Problems of Democracy 3 s.h.

Theory and practice of democracy; democratic ideals and the institutions and practices necessary for those ideals to work in everyday politics—power, equality, majority rule, participation, trust, representation.

POLI:3400 Political Economy 3 s.h.

Economic reasoning applied to political issues, including evolution of institutions, voting, leadership, interest groups, bargaining tactics, federalism, bureaucracy, fairness and compensation for wrongs, legitimacy of democracy, electoral cycles in economic policy, revolutions.

POLI:3405 Authoritarian Politics 3 s.h.

Political dynamics in countries with authoritarian governing regimes; how those dynamics differ from their counterparts in democracies; how decisions are reached and get enforced; forms political struggles take; how interest groups pursue influence; ways individuals deal with the government; tension between regime control and societal progress.

POLI:3408 Chinese Politics and Society 3 s.h.

Comprehensive introduction to modern Chinese history; current Chinese political system and political culture; public policy issues.

POLI:3410 Russian Foreign Policy 3 s.h.

Russia's behavior as a major economic, military, and diplomatic power in the world and what shapes that behavior; Russians' perceptions of other countries; Russian national interests; capabilities and domestic political dynamics; implications for foreign policy of the United States and other countries.

POLI:3411 Democracy: Global Trends and Struggles 3 s.h.

Diverse contemporary understandings and practices of democracy; worldwide democratization trends; what political, economic, cultural and transnational factors shape those trends; how elites and citizens struggle to promote or retard democracy; the news full of people around the world taking action to demand democracy and what this term, so highly prized, really means; what is known about when democracy will replace authoritarianism; how can democracies more fully live up to their promise.

POLI:3413 Russian Politics 3 s.h.

Institutions and processes of governing this large world power; Russian political dynamics, including struggles to unify or diversify power; political responses to major economic, technical, and social challenges. Recommendations: POLI:1401.

POLI:3418 Governance in the Middle East 3 s.h.

Institutions and social systems that are affected by political behavior; ways in which Islam, oil production, and international forces shape political evolution in the region; comparative political inquiry of the operation of government institutions in the context of specific historical legacies, economic structures, and population characteristics in Iran, Iraq, Egypt, Turkey, Saudi Arabia.

POLI:3419 War in the Muslim World 3 s.h.

Foundations, evolutions, and outcomes of recent wars in the Middle East; primary focus on insurgencies in Syria, Afghanistan, Pakistan, and Iraq, together with Arab-Israeli conflict; Sunni-Shiite, Jewish-Arab, Arab-Kurd cleavages; military activities of international forces; rise of insurgent forces (i.e., the Taliban); Al Qaeda alliance; shadow governments; institutions of governance; strategies and ideologies of oppositional organizations. Requirements: no prior enrollment in POLI:3450 with subtitle War in the Muslim World.

POLI:3420 Southeast Asia: Politics and Development 3 s.h.

Eleven states of Southeast Asia; governance, development strategies, domestic politics, approach to democracy and national identity; regional politics and important transnational issues; role of ASEAN, terrorism, trans-Pacific trade and investment issues, China's looming presence, impact of ongoing and historic conflicts; briefings, discussions, presentations.

POLI:3421 Southern Africa: Development and Governance 3 s.h.

Comparative approach to politics of ten countries in the Southern Africa region; mineral riches, substantial agricultural resources, millions of hard working and talented people; poverty, underdevelopment, and inequality; varied paths toward development; mosaic of ethnic, religious, and regional groups that impact domestic and regional politics; politics analyzed at regional, state, and sub-state level.

POLI:3422 Horn of Africa: Politics and Transnational Issues 3 s.h.

Eight states in the Horn of Africa region; important transnational and regional issues; governance, development strategies, domestic politics, social and civic dynamics of countries in the region; wildlife trafficking, piracy, fight against HIV/AIDS, imprint of colonialism, secession, ethnic and national identities, democratization, role of women in society, impact of ongoing and historic conflicts; briefings, discussions, presentations.

POLI:3423 The Middle East: Policy and Diplomacy 3 s.h.

Nineteen states and entities of North Africa and the Middle East; issues of governance, development strategies, domestic politics, and approach to democracy and national identity; regional politics and important transnational issues; role of political Islam; impacts of the Arab Spring, terrorism, oil, role of women in society, ongoing and historic conflicts; briefings, discussions, presentations.

POLI:3424 Global Development 3 s.h.

Exploration of political and social causes and consequences of economic development; two important questions asked—Why are some countries rich while others are poor? What can be done to encourage growth in underdeveloped countries?

POLI:3425 South Asia: Politics, Identity, and Conflict 3 s.h.

Survey of the eight countries in the South Asia region; examination of governance in the eight countries; students explore the interaction of politics, identity, and conflict within and across the regional states; ethnic, religious, caste, class, and other identities that have long competed for primacy with national identities in South Asia, sometimes leading to armed conflict within countries and sometimes sparking war between countries, and the question—Am I first a Sri Lankan or a Tamil? What do I feel like most?

POLI:3450 Problems in Comparative Politics 3 s.h.

Structures, functions, behaviors of different political systems.

POLI:3500 American Foreign Policies 3 s.h.

Ends pursued, problems encountered, means employed by the United States in relations with other states and international organizations.

POLI:3501 International Organization and World Order 3 s.h.

Different conceptualizations of world order; multiple sources of world order including force, power, norms, international institutions; International order and main sources; question peace being the same as world order.

POLI:3503 Politics of Terrorism 3 s.h.

Strategies of terrorists, insurgents, guerrillas, and other non-state actors; terrorists' use of the media; suicide attacks; al Qaeda and the U.S.-led War on Terrorism; counterinsurgency and counter-terrorism; self-starters and transnational terrorist networks; drone strikes and data-mining operations as counter-terrorism tools and the associated political controversies.

POLI:3504 Globalization 3 s.h.

Introduction to multidisciplinary literature on political economy and culture of globalization; major topics of debate on globalization.

POLI:3505 Civil Wars 3 s.h.

Causes, duration, management, and consequences of civil war; factors that create more frequent, longer civil wars (e.g., greed, grievance, ethnic conflict, state capacity); conflict management strategies for ending civil wars and minimizing long-term negative consequences.

POLI:3506 Consequences of War 3 s.h.

War's enduring effects: war's impact on individuals, including combatants and noncombatants; war's impact on states, including states' development, economic, political, and social effects; war's effects on the international system.

POLI:3509 International Courts: The Intersection of Law and Politics 3 s.h.

Introduction to important international courts including (Permanent) International Court of Justice, European Court of Justice, International Criminal Tribunal for Yugoslavia, International Criminal Tribunal for Rwanda, and International Criminal Court; the formation, design, and expansion of international courts from political and legal perspectives; states' capabilities, regime type, and war; intersection of domestic and international law, emphasizing the major legal systems in the world (civil law, common law, Islamic law).

POLI:3512 International Conflict 3 s.h.

International conflict as the primary ingredient of international politics; sources, causes, and effects of conflict, alliance structures, power distribution, geography, arms races, deterrence.

POLI:3514 Regional Peace and Security 3 s.h.

Analysis of the causes of peace and conflict between countries in various regions of the world; theories of zones of peace, security communities, regional security complexes.

POLI:3515 Global Communication and Politics 3 s.h.

How distance and language barriers in communication have fallen since 2000; how politics and the world are affected when such barriers to communication disappear.

POLI:3516 The Politics of International Economics 3 s.h.

Politics of international trade and financial systems, including rise of free trade in 19th century and breakdown between the two world wars, postwar trading system framed around the World Trade Organization, different types of international monetary systems, relations between rich countries and poor countries, and global environmental politics.

POLI:3517 Global Justice 3 s.h.

Introduction to normative issues in international politics (i.e., Under what conditions are wars just? When is intervention justified? Do wealthier nations owe anything to those elsewhere who are in need?); theoretical works on global justice by Rawls, Kant, Pogge, Walzer, and others; normative theories analyzed against background of empirical examples, such as recent humanitarian interventions, contemporary wars, current trade regime, global environmental problems; seminar. Requirements: no prior enrollment in POLI:3550 with subtitle Global Justice.

POLI:3518 Water Wars: Conflict and Cooperation 3 s.h.

How climate change may aggravate shortage of freshwater in water-stressed regions, producing warnings of conflict over international river basins or "water wars"; recent U.S. intelligence assessment notes that water may be used as a weapon between or within states, or to further terrorist aims in the future; management of international water resources including conflicts over cross-border rivers and maritime areas; common property resources, piracy, maritime security, peaceful and militarized conflict management of water-based conflicts, climate issues, natural disasters, United Nations Law of the Sea Convention.

POLI:3519 Politics of Aging 3 s.h.

Core concepts and methods related to aging and policies that address the needs of older persons; demographic measures of population health and aging, including incidence and distribution of specific conditions relevant in older age; theories of public policy and involvement of older persons in the political process; key historical and current policies, at both the federal and state/local levels, that influence service provision and the well-being of older persons in the United States. Same as ASP:3519.

POLI:3520 National Security Policy 3 s.h.

Nuclear weapons and deterrence, credible commitments, value of emphasizing sea power or land power, strategic differences between symmetric and asymmetric conflict, information and intelligence, domestic politics and use of force abroad, United Nations Security Council and international law, role of private military contractors, and integration of armed forces by race, gender, and sexual orientation.

POLI:3521 Twenty-first-Century Technology and Warfare 3 s.h.

Interplay between technological change and military strategy; changes in warfare brought about by information revolution; cyber weapons and other features of war in computer age; unmanned systems including aerial drones and ground-based robots; moral considerations associated with military robotics; anti-missile systems; predicting future changes in technology and military strategy.

POLI:3522 Ending Wars and Keeping Peace 3 s.h.

When are international and civil wars ripe for resolution? What determines intervention strategies for third parties, and why do attempts at conflict resolution so frequently fail? Students will investigate these questions and consider the process by which conflicts reach cease-fires and peace agreements, why some agreements last when others do not, and what can be done to make peace more durable; considering post-conflict societies and the lingering problems they face; topics include peacekeeping, mediation, the role of regional and international organizations, and post-conflict justice.

POLI:3523 Non-State Violent Actors 3 s.h.

Emergence, organization, behavior, and demise of violent non-state actors, including rebel groups, terrorist organizations, and drug cartels; focus on recent academic research on non-state violent actors, as well as current events.

POLI:3524 Politics and Multinational Enterprises 3 s.h.

Relationship between business and politics by examining the operation of multinational business enterprises; how corporations interact with countries, subnational governments, interest groups, international organizations, and nongovernmental organizations.

POLI:3550 Problems of International Politics 3 s.h.

Problems in studying international system, structures, functions, behavior.

POLI:3600 Multimedia Politics 3 s.h.

How increasingly universal access to communication affects political campaigning and advocacy; the use of blogging, video, and developing communication media by citizens and candidates to talk politics.

POLI:3601 Politics of Film 3 s.h.

Issues in the popular politics of aesthetics, communication, culture, and myth, explored through analysis of films.

POLI:3602 New Media and Politics 3 s.h.

Blogging, microblogging, and video production as tools of new media (anyone can twitter and reach a large audience); how these technologies work, how they are being used in current politics, what they portend for the future, and what tools are next. Requirements: no prior enrollment in POLI:3303 with subtitle New Media and Politics.

POLI:3603 War and Film 3 s.h.

Exploration of one of the most significant political phenomena, war, as it is represented and understood through film; various film genres including classic war films, historical and historical fiction, documentary (e.g., *Battle of Algiers*, *Triumph of the Will*, *Invisible War*), comedy-drama (e.g., *Life is Beautiful*), and dark comedy or satire (e.g., *The Mouse that Roared*, *Tropic Thunder*); scholarly writings on international conflict; students discover and investigate themes related to nature of war, its underlying causes, and its consequences.

POLI:3604 New Media and Public Opinion 3 s.h.

How do citizens give voice to their interest in and concerns about governing? New media and public opinion, measured by surveys, supplement each other, each with strengths and weaknesses; parallel moves of the two in elections and when important political decisions are being made.

POLI:3700 Strategy in Politics 3 s.h.

How to isolate the most important elements in strategic political behavior, build models to understand them, recognize common scenarios, devise institutional resolutions to the Prisoners' Dilemma and coordination problems.

POLI:3701 Special Topics in Politics 1-2 s.h.

Presentations by distinguished lecturers on topics in the study of politics not covered in other courses. One or two weeks.

POLI:4000 Honors Seminar on the Study of Politics 3 s.h.

Selected topics in philosophy, theory, and methods for the systematic study of politics; foundations of scientific inquiry, including processes of theory building, concept formation, and hypotheses testing; political research; challenges faced when conducting good political science; questions of research design, measurement accuracy, and sample selection; application of multivariate research process. Requirements: honors standing in political science.

POLI:4100 Honors Seminar on American Politics 3 s.h.

Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.

POLI:4300 Honors Seminar on Political Theory 3 s.h.

Intensive study of ideas, issues, methods in an area of political theory. Requirements: junior or senior honors standing in political science.

POLI:4400 Honors Seminar on Comparative Politics 3 s.h.

Exploration of a selected topic in comparative politics, its cross-national patterns, strategies used to study it, and major debates among scholars; study of politics by comparing two or more countries or other political units; new light on how societies are divided on major issues (whether state regulation of economy or role of religion in society), how people behave politically (from voting to demonstrations to revolution), role played by political institutions (e.g., legislatures, courts, political parties). Requirements: junior or senior honors standing in political science.

POLI:4500 Honors Seminar on International Politics 3 s.h.

Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.

POLI:4600 Honors Research Project 3 s.h.

Special research assistance to political science faculty. Requirements: junior or senior honors standing in political science.

POLI:4601 Honors Senior Thesis 3 s.h.

Supervised research and writing. Requirements: honors standing in political science and more than one semester before graduation.

POLI:4700 Independent Study arr.

Supervised special projects.

POLI:4701 Undergraduate Research Tutorial 3 s.h.

Individual training in applied research.

POLI:4702 Senior Research Project/Paper 3 s.h.

Supervised research and writing. Requirements: political science major and more than one semester before graduation.

POLI:4800 Senior Seminar in International Relations 3 s.h.

Completion of final research project as a culmination of student's work in the major; research supervised by a faculty member; required for international relations major. Recommendations: taken during one of student's final two semesters at the University of Iowa.

POLI:4801 Honors Senior Seminar in International Relations 3 s.h.

Honors capstone course for international relations majors.

POLI:4802 International Relations Senior Seminar Preparation 1 s.h.

Preparation for international relations senior seminar.

POLI:4900 Government and Politics Internship 1-3 s.h.

Undergraduate internships in state or national legislative office, executive agency, or with election campaign official.

POLI:5000 Introduction to Political Analysis 4 s.h.

Conceptual problems of political analysis; empirical research strategies, philosophy of science. Requirements: M.A. or Ph.D. standing in political science.

POLI:5001 Introductory Methodology 3-4 s.h.

Introduction to quantitative techniques in political science; set theory, probability distributions, estimation, testing; emphasis on acquiring mathematical skills for more advanced quantitative work in political science. Requirements: M.A. or Ph.D. standing in political science. Same as IGPI:5001.

POLI:5003 Intermediate Methodology 4 s.h.

Techniques of data analysis; statistical models and their relationship to hypotheses tested. Requirements: doctoral standing in political science and one semester of intermediate statistics.

POLI:5100 American Politics 4 s.h.

Major literature of American politics, emphasis on comparative, systemic, behavioral studies. Requirements: M.A. or Ph.D. standing in political science.

POLI:5300 Political Theory 4 s.h.

Methods of political theory, epistemological and moral foundations of political inquiry; terms of political discourse (e.g., power, legitimacy, equality, ideological foundations of politics); schools of thought and current controversies in political theory. Requirements: M.A. or Ph.D. standing in political science.

POLI:5400 Comparative Politics 4 s.h.

Conceptual, theoretical, and methodological issues in comparative study of politics; developments in comparative politics subfield. Requirements: M.A. or Ph.D. standing in political science.

POLI:5500 International Politics 4 s.h.

Approaches to study of international politics. Requirements: M.A. or Ph.D. standing in political science.

POLI:5700 Introduction to Formal Models in Political Science 4 s.h.

Use of formal mathematical models; current modeling techniques, applications in American politics, comparative politics, international politics. Requirements: M.A. or Ph.D. standing in political science.

POLI:6635 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, SPAN:6904.

POLI:7002 Topics Methodology 4 s.h.

Application of advanced statistical techniques in political science; limited dependent variable regression techniques, simulation methods, missing data techniques, history/rare event analysis and maximum likelihood, and topics tailored to students' research; focus on learning how and when to apply these techniques.

POLI:7003 Advanced Methodology 4 s.h.

Introduction to regression techniques for limited dependent and qualitative variables in political science; logit, probit, multinomial logit and probit, ordered logit and probit, event history models, event count models; emphasis on understanding how and when to apply these models.

POLI:7100 Modeling American Politics 4 s.h.

Exploration of how well formal models explain the real world and how the fit between models and world can be improved.

POLI:7150 Problems in American Politics 4 s.h.

Problems in study of American political system; structures, functions, behavior.

POLI:7201 Political Psychology 4 s.h.

Political phenomena from a psychological perspective; decision making by elites and masses, evaluations of political candidates, mass mobilization, response to mass media; psychological theories used to explain these behaviors, including stereotyping, social cognition, attitude, group identification, attribution.

POLI:7202 Public Opinion and Electoral Behavior 4 s.h.

Political attitudes and beliefs in mass publics; voting behavior; how electoral systems function.

POLI:7270 Responsible Research in Political Science 1 s.h.

Concepts and practice of scholarly integrity, responsible conduct of research, and research ethics in political science; data management, mentor/trainee responsibilities, publication practices and responsible authorship, peer review, collaborative science, human subjects, animal welfare, research misconduct, and conflict of interest and commitment. Requirements: enrollment in political science M.A. or Ph.D. program.

POLI:7409 Democratization and Authoritarianism 4 s.h.

Rival understandings and practices of democracy and authoritarianism, including challenges of quantifying them for comparative analyses; major theoretical and empirical approaches to studying democratization and other forms of regime change.

POLI:7423 Comparative Parties and Elections 4 s.h.

Introduction to important questions and puzzles in the study of political parties; party formation and development, the role of parties in society, how parties are organized, party systems, electoral systems, party strategy and behavior, development of new parties, whether parties are still relevant, regeneration of communist parties in post-communist regimes, ethnic parties, failure of party consolidation.

POLI:7450 Problems of Comparative Politics 4 s.h.

Problems in study of comparative political systems; structures, functions, behavior.

POLI:7500 Foreign Policy 4 s.h.

Foreign policy making and international behavior in relation to theories, findings from selected countries.

POLI:7502 International Systems and Global Governance 4 s.h.

Literature of international systems and international organization; major schools of thought in international relations theory, their utility in explaining evolution of the international system and recent developments in international organization and global governance.

POLI:7503 International Conflict and Cooperation 4 s.h.

Recent theoretical and empirical debates in international relations literature; emphasis on formal and quantitative research.

POLI:7504 Theories of International Political Economy 1-4 s.h.

Theories focusing on international system, the state, bureaucracies, interest groups, international organizations, bargaining processes, distributive norms.

POLI:7550 Problems in International Politics 4 s.h.

Issues of international politics, emphasis on problems of theoretical analysis.

POLI:7604 Responsible Research in Political Science: Postdocs 1 s.h.

Concepts and practice of scholarly integrity, responsible conduct of research, and research ethics in political science; data management, mentor/trainee responsibilities, publication practices and responsible authorship, peer review, collaborative science, human subjects, animal welfare, research misconduct, conflict of interest and commitment. Requirements: postdoctoral research scholar/fellow in political science.

POLI:7701 Dynamic Models of International Politics 2-4 s.h.

Overview of several dynamic modeling techniques used to study international relations; modeling assumptions, the kinds of information models can provide, evaluation of models.

POLI:7900 Readings Tutorial arr.

Independent study.

POLI:7901 Research Tutorial arr.

Individual training in applied research.

POLI:7910 Ph.D. Dissertation arr.

Political Science, B.A.

Learning Outcomes

Graduates will:

- possess a basic understanding of American and world politics,
- be able to apply a theoretical approach in political science to understand American or world politics,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

Overview

Most of the political science course work required for the major is the same for B.A. and B.S. students, but the major for the B.S. includes a political science research component. The major for the B.S. also requires a set of mathematics/statistics courses, while the major for the B.A. does not.

The B.A. degree with a major in political science offers an option for an on campus or an online program of study. See Requirements [p. 845] in this section of the Catalog.

Requirements

The Bachelor of Arts with a major in political science requires a minimum of 120 s.h., including 36 s.h. of work for the major (all in political science courses). At least 18 s.h. of course work for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. In addition, they must maintain a g.p.a. of at least 2.00 in all political science courses taken at the University of Iowa, and in all political science courses taken at other institutions and at the University combined. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Credit earned in POLI:1000 First-Year Seminar, POLI:3124 Political Science Des Moines Internship Program, and POLI:4900 Government and Politics Internship does not count toward the major, but grades in these courses become part of a student's grade-point average.

In planning course work, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.A. with a major in political science requires the following course work.

Code	Title	Hours
	Political Science Introductory Courses	15
	Additional Political Science Courses	21
	Total Hours	36

Political Science Introductory Courses

Code	Title	Hours
This course:		
POLI:1100	Introduction to American Politics	3
And four of these:		
POLI:1001	Introduction to Politics	3
POLI:1002	Lawyers in the American Political System	3
POLI:1050	Big Ideas: Introduction to Information, Society, and Culture	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1600	Introduction to Political Communication	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1700	Introduction to Political Analysis	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:1900	Introduction to the Politics of Race	3
POLI:1950	Introduction to the Politics of Religion	3

Additional Political Science Courses

It is strongly recommended that students not pursuing the major through online education take at least 12 s.h. in regularly scheduled classroom courses, with a maximum of 3 s.h. of online course work taken at the 2000 level or above.

Code	Title	Hours
All of these:		
	At least seven additional political science courses numbered 2000 or above, excluding POLI:3124 and POLI:4900	21

Emphases in Political Science

Students may elect to complete one or two emphases while fulfilling the requirements for the major. The emphasis is indicated on the transcript at graduation if a student

completes the emphasis and requests recognition from the department.

Each emphasis consists of four courses. Emphases are available in American institutions, identity politics, international relations, political behavior, political communication, political theory, and politics of foreign countries. For lists of courses approved in each area, contact the Department of Political Science.

Online B.A.

The Department of Political Science offers an online B.A. degree with a major in political science intended for students who are not able to attend courses that meet on campus. The online program enables students to complete their B.A. degree from anywhere in the world. For more information, see Online Political Science B.A. on the Department of Political Science website.

Teacher Licensure

Political science majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

The Department of Political Science course POLI:1100 Introduction to American Politics is approved for teacher education requirements.

Honors

Honors in the Major

Students majoring in political science have the opportunity to graduate with honors in the major. Departmental honors students must maintain a UI g.p.a. and major g.p.a. of at least 3.50. In addition to maintaining the minimum grade-point average requirements, students must complete 9 s.h. in specific departmental honors courses with a grade of B or higher in each course. They also are encouraged to enroll in honors sections of introductory courses whenever available. The required honors courses are included in the minimum 36 s.h. of political science course work for the major.

Students earning departmental honors must include the following courses in their major course work.

Code	Title	Hours
This course:		
POLI:4000	Honors Seminar on the Study of Politics (preferably taken during the second year)	3
Additional Honors Seminar		
At least one honors seminar from these:		
POLI:4100	Honors Seminar on American Politics	3
POLI:4300	Honors Seminar on Political Theory	3
POLI:4400	Honors Seminar on Comparative Politics	3

POLI:4500	Honors Seminar on International Politics	3
One course numbered 5000 or above, with the instructor's consent		
Final Honors Project		
One of these:		
POLI:4600	Honors Research Project	3
POLI:4601	Honors Senior Thesis	3

For more information about honors in the political science major, contact the Department of Political Science honors advisor.

National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of course work in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the political science major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

In addition to the following checkpoints, honors students must complete POLI:4000 Honors Seminar on the Study of Politics and one additional honors seminar before the seventh semester begins.

Before the fifth semester begins: two courses in the major

Before the seventh semester begins: six courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: eight courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Political Science, B.A.

Course	Title	Hours
First Year		
Fall		
POLI:1100	Introduction to American Politics ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: introductory-level course numbered POLI:1XXX ^{a, d}		3
GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Hours		16-18
Second Year		
Fall		
Major: introductory-level course numbered POLI:1XXX ^a		3
GE CLAS Core: Natural Sciences with Lab ^e		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Elective course ^c		2 - 3
Hours		16-18
Spring		
Major: introductory-level course numbered POLI:1XXX ^a		3
Major: upper-level course numbered POLI:2XXX or above ^f		3
GE CLAS Core: Quantitative or Formal Reasoning ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Hours		16-17
Third Year		
Fall		
Major: introductory-level course numbered POLI:1XXX ^a		3
Major: upper-level course numbered POLI:2XXX or above ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Spring		
Major: upper-level course numbered POLI:2XXX or above ^f		3

Major: upper-level course numbered POLI:2XXX or above ^f	3
GE CLAS Core: Values and Culture ^e	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Fourth Year

Fall	
Major: upper-level course numbered POLI:2XXX or above ^f	3
GE CLAS Core: Historical Perspectives ^e	3
GE CLAS Core: Natural Sciences without Lab ^e	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

Major: upper-level course numbered POLI:2XXX or above ^f	3
Major: upper-level course numbered POLI:2XXX or above ^f	3
GE CLAS Core: International and Global Issues ^e	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Choose a course that will also fulfill the GE CLAS Core: Social Sciences requirement.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f For the political science major upper-level is defined as those courses numbered 2000 or above, excluding POLI:3124 and POLI:4900.

Career Advancement

A recent surveyed showed that graduates with political science degrees have higher average salaries than graduates in all other social sciences, excluding students with economics degrees. The Department of Political Science organizes career workshops for its students throughout the year. The workshops are led by former political science students who have achieved distinction in business, law, campaign operations, local government, elected office, or other fields.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Political Science, B.S.

Learning Outcomes

Graduates will:

- possess a basic understanding of American and world politics,
- be able to apply a theoretical approach in political science to understand American or world politics,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

Overview

Most of the political science course work required for the major is the same for B.S. and B.A. students, but the major for the B.S. includes a political science research component. The major for the B.S. also requires a set of mathematics/statistics courses, while the major for the B.A. does not.

Requirements

The Bachelor of Science with a major in political science requires a minimum of 120 s.h., including 47 s.h. of work for the major (36 s.h. in political science courses and 11 s.h. of approved mathematics/statistics courses). At least 18 s.h. of course work for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. In addition, they must maintain a g.p.a. of at least 2.00 in all political science courses taken at the University of Iowa, and in all political science courses taken at other institutions and at the University combined. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Credit earned in POLI:1000 First-Year Seminar, POLI:3124 Political Science Des Moines Internship Program, and POLI:4900 Government and Politics Internship does not count toward the major, but grades in these courses become part of a student's grade-point average.

In planning course work, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.S. with a major in political science requires the following course work.

Code	Title	Hours
	Political Science Introductory Courses	15
	Additional Political Science Courses	21
	Mathematics/Statistics Courses	11
	Total Hours	47

Political Science Introductory Courses

Code	Title	Hours
This course:		
POLI:1100	Introduction to American Politics	3
And four of these:		
POLI:1001	Introduction to Politics	3
POLI:1002	Lawyers in the American Political System	3
POLI:1050	Big Ideas: Introduction to Information, Society, and Culture	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1600	Introduction to Political Communication	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1700	Introduction to Political Analysis	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:1900	Introduction to the Politics of Race	3
POLI:1950	Introduction to the Politics of Religion	3

Additional Political Science Courses

Code	Title	Hours
Advanced Courses		
These:		
	Political science courses numbered 2000 or above, excluding POLI:3124 and POLI:4900	15
This course:		
POLI:3000	Analyzing Political Data	3
One of these:		
POLI:4600	Honors Research Project	3
POLI:4701	Undergraduate Research Tutorial	3
Recommended but not required:		
POLI:4702	Senior Research Project/Paper	3

Mathematics/Statistics Courses

Students complete one of the following sets of mathematics/statistics courses with a g.p.a. of at least 2.00. Other sets of courses may be used with written approval of the B.S. program advisor.

Code	Title	Hours
Set 1		
MATH:1380	Calculus and Matrix Algebra for Business	4
or MATH:1550	Engineering Mathematics I: Single Variable Calculus	
or MATH:1850	Calculus I	
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513	Intermediate Statistical Methods	4
Set 2		
MATH:1850	Calculus I	4
or MATH:1550	Engineering Mathematics I: Single Variable Calculus	
MATH:1860	Calculus II	4
or MATH:1560	Engineering Mathematics II: Multivariable Calculus	
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Emphases in Political Science

Students may elect to complete one or two emphases while fulfilling the requirements for the major. The emphasis is indicated on the transcript at graduation if the student completes the emphasis and requests recognition from the department.

Each emphasis consists of four courses. Emphases are available in American institutions, identity politics, international relations, political behavior, political communication, political theory, and politics of foreign countries. For lists of courses approved in each area, contact the Department of Political Science.

Teacher Licensure

Political science majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

The Department of Political Science course POLI:1100 Introduction to American Politics is approved for teacher education requirements.

Honors

Honors in the Major

Students majoring in political science have the opportunity to graduate with honors in the major. Departmental honors students must maintain a UI g.p.a. and major g.p.a. of at least 3.50. In addition to maintaining the minimum grade-

point average requirements, students must complete 9 s.h. in specific departmental honors courses with a grade of B or higher in each course. They also are encouraged to enroll in honors sections of introductory courses whenever available. The required honors courses are included in the minimum 36 s.h. of political science course work for the major.

Students earning departmental honors must include the following courses in their major course work.

Code	Title	Hours
This course:		
POLI:4000	Honors Seminar on the Study of Politics (preferably taken during the second year)	3
Additional Honors Seminar		
At least one honors seminar from these:		
POLI:4100	Honors Seminar on American Politics	3
POLI:4300	Honors Seminar on Political Theory	3
POLI:4400	Honors Seminar on Comparative Politics	3
POLI:4500	Honors Seminar on International Politics	3
One course numbered 5000 or above, with the instructor's consent		
Final Honors Project		
One of these:		
POLI:4600	Honors Research Project	3
POLI:4601	Honors Senior Thesis	3

For more information about honors in the political science major, contact the Department of Political Science honors advisor.

National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of course work in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the political science major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

In addition to the following checkpoints, honors students must complete POLI:4000 Honors Seminar on the Study of Politics and one additional honors seminar before the seventh semester begins.

Before the fifth semester begins: two courses in the major

Before the seventh semester: eight courses in the major, including two of the three required mathematics/statistics courses and POLI:3000 Analyzing Political Data; and at least 90 s.h. earned toward the degree

Before the eighth semester begins: 11 courses in the major, including POLI:4701 Undergraduate Research Tutorial

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Political Science, B.S.

Course	Title	Hours
First Year		
Fall		
POLI:1100	Introduction to American Politics ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: introductory-level course numbered POLI:1XXX		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^c		3
Hours		16-18
Second Year		
Fall		
Major: introductory-level course numbered POLI:1XXX		3
Major: calculus course ^{a, e, f}		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Elective course ^c		2 - 3
Hours		16-18
Spring		
POLI:3000	Analyzing Political Data	3
Major: calculus or statistics course ^e		3 - 4
Major: introductory-level course numbered POLI:1XXX		3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b	4 - 5
Elective course ^c	3
Hours	16-18

Third Year

Fall

Major: introductory-level course numbered POLI:1XXX	3
Major: statistics course ^e	3 - 4
Major: upper-level course numbered POLI:2XXX or above ^g	3
GE CLAS Core: Values and Culture ^d	3
Elective course ^c	3
Hours	15-16

Spring

Major: upper-level course numbered POLI:2XXX or above ^g	3
Major: upper-level course numbered POLI:2XXX or above ^g	3
GE CLAS Core: Literary, Visual, and Performing Arts ^d	3
GE CLAS Core: Natural Sciences with Lab ^d	4
Elective course ^c	2 - 3
Hours	15-16

Fourth Year

Fall

POLI:4701	Undergraduate Research Tutorial	3
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

Major: upper-level course numbered POLI:2XXX or above ^g	3
Major: upper-level course numbered POLI:2XXX or above ^g	3
GE CLAS Core: International and Global Issues ^d	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	123-133

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students complete an approved set of mathematics/statistics courses (11 s.h.).
- f Enrollment in math courses requires completion of a placement exam.
- g For the political science major upper-level is defined as those courses numbered 2000 or above, excluding POLI:3124 and POLI:4900.

Career Advancement

A recent surveyed showed that graduates with political science degrees have higher average salaries than graduates in all other social sciences, excluding economics. The Department of Political Science organizes career workshops for its students throughout the year. The workshops are led by former political science students who have achieved distinction in business, law, campaign operations, local government, elected office, or other fields.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Political Science, Minor

The undergraduate minor in political science requires a minimum of 15 s.h. in political science courses, including 12 s.h. in courses numbered 2000 or above and 12 s.h. taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Credit from POLI:1000 First-Year Seminar, POLI:3124 Political Science Des Moines Internship Program, and POLI:4900 Government and Politics Internship does not count toward the minor. Credit earned through a University of Iowa Regents program is considered credit earned at the University of Iowa.

Students may complete an emphasis area; see "Emphases in Political Science" under the B.A. in political science [p. 845] or the B.S. in political science [p. 848] in the Catalog. Emphasis areas in the minor are not recorded on a student's transcript; however a student may request a letter from the Department of Political Science noting the completion of an emphasis area in the minor.

Political Science, M.A.

The department usually offers the master's degree only as a preliminary step toward the Ph.D.

Requirements

The Master of Arts program in political science requires a minimum of 30 s.h. of graduate credit, with a g.p.a. of at least 3.25. No thesis is required. Each student's record is reviewed by a final examination committee, which may waive the final oral examination.

A first-year evaluation committee convenes at the end of a student's first year of courses; if the committee finds that the student's work provides sufficient evidence of the research and writing skills ordinarily demonstrated in a master's thesis, it may recommend that the student be allowed to proceed with a doctoral program. When the first-year evaluation committee finds the quality of a student's work inadequate for recommending continuation toward the Ph.D., the committee may recommend that the student be permitted to seek the nonthesis M.A. as a terminal degree.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Political Science, Ph.D.

The doctoral program in political science is nationally recognized as a leader in the discipline, with outstanding research faculty in each of the major subfields and a reputation for outstanding graduate training.

Graduate study in political science emphasizes the Doctor of Philosophy program. The department usually offers the master's degree only as a preliminary step toward the Ph.D.

Requirements

The Doctor of Philosophy program in political science requires a minimum of 72 s.h. of graduate credit. The program is designed to prepare students for research, teaching, and scholarly endeavor in academic settings and private or governmental institutions. It produces graduates who are deeply committed to the study of politics, familiar with fundamental knowledge about political processes, well trained in methods and techniques for careful investigation of basic and applied research questions, and determined to make contributions to the discipline of political science and to society.

The department usually admits seven to ten Ph.D. students each year, so students work closely with faculty members, often collaborating on research and publication. Graduate students know one another and enjoy supportive, congenial working conditions.

Six fields of study are available: American politics, comparative politics, international relations, political theory, formal theory, and for those who wish to go beyond the basic methodology training, research methods. Each student chooses three fields of study for qualifying examinations.

Students choosing political theory as a field should be familiar with core texts in the history of political thought. For those who lack that knowledge, the requirement can be met by enrolling in a 3000-level course on political theory. They should consult with the political theory faculty to select a course that fits their interests and program of study in political theory.

Doctoral study usually lasts four to five years. The first-year curriculum for all students consists of core courses equally divided between substance and methodology. Emphasis is on basic research methods, including quantitative methods, that political scientists must understand thoroughly. Special attention is given to research design, collection of observations, and data analysis and interpretation.

The second and third years of study are spent in small seminars with focused, substantive topics. Papers written for these seminars might be submitted to journals or read at professional meetings. Students must take their qualifying examinations by the end of the third year. They take their comprehensive examination (oral defense of the dissertation proposal) by the middle of the first semester of their fourth year.

The fourth and fifth years are spent on dissertation research and writing. Students who do basic research and gather data abroad often require an additional year to complete the dissertation.

The following courses are required during the first and second years of graduate study.

Code	Title	Hours
First Year, Fall Semester		
POLI:5000	Introduction to Political Analysis	4
POLI:5001	Introductory Methodology	4
A 5000-level field seminar (see "Field Seminars" below)		4
First Year, Second Semester		
POLI:5003	Intermediate Methodology	4
Two 5000-level field seminars (see "Field Seminars" below)		8
Second Year		
POLI:7003	Advanced Methodology	4

Field Seminars

The 5000-level field seminars are as follows.

Code	Title	Hours
POLI:5100	American Politics	4
POLI:5400	Comparative Politics	4
POLI:5500	International Politics	4
POLI:5700	Introduction to Formal Models in Political Science	4

Students must complete the appropriate 5000-level course before enrolling in a 7000-level course. In unusual circumstances and with the permission of the instructor teaching the higher-level course, a student may enroll in that course and the 5000-level course at the same time.

Graduate students are expected to take at least 12 s.h. of course work per semester through their second year of graduate study. Typically, this will be in regularly scheduled courses rather than readings courses. During the third year, students are expected to take a minimum of 12 s.h. of regularly scheduled course work; readings courses should be limited to the second semester of the third year. Students may take up to 12 s.h. in readings courses (not counting course work accumulated in summer terms, when readings courses are often all that is available).

Core Graduate Courses

Code	Title	Hours
POLI:5000	Introduction to Political Analysis	4
POLI:5001	Introductory Methodology	3-4
POLI:5100	American Politics	4
POLI:5300	Political Theory	4
POLI:5400	Comparative Politics	4
POLI:5500	International Politics	4
POLI:5700	Introduction to Formal Models in Political Science	4
POLI:6635	Crossing Borders Seminar	2-3

Advanced Graduate Courses

Code	Title	Hours
POLI:5003	Intermediate Methodology	4
POLI:7002	Topics Methodology	4
POLI:7003	Advanced Methodology	4
POLI:7100	Modeling American Politics	4
POLI:7150	Problems in American Politics	4

POLI:7201	Political Psychology	4
POLI:7202	Public Opinion and Electoral Behavior	4
POLI:7270	Responsible Research in Political Science	1
POLI:7409	Democratization and Authoritarianism	4
POLI:7423	Comparative Parties and Elections	4
POLI:7450	Problems of Comparative Politics	4
POLI:7500	Foreign Policy	4
POLI:7502	International Systems and Global Governance	4
POLI:7503	International Conflict and Cooperation	4
POLI:7504	Theories of International Political Economy	1-4
POLI:7550	Problems in International Politics	4
POLI:7701	Dynamic Models of International Politics	2-4
POLI:7900	Readings Tutorial	arr.
POLI:7901	Research Tutorial	arr.
POLI:7910	Ph.D. Dissertation	arr.

Quantitative Methods

All doctoral students must demonstrate at least minimal competence in quantitative methods. Students must earn at least a B grade in POLI:5001 Introductory Methodology, POLI:5003 Intermediate Methodology, and POLI:7003 Advanced Methodology. Students who do not meet this requirement must take a substitute course selected by faculty members who teach the quantitative methods courses.

Postcomprehensive Registration

Graduate College regulations require that students be registered at the University of Iowa each semester after passing the comprehensive examination until their degree is awarded, and that this registration accurately reflects the amount and type of work undertaken, the use of University facilities, and the amount of consultation with the faculty. After passing their comprehensive examination, students working on their dissertation research should register in POLI:7910 Ph.D. Dissertation. No more than 30 s.h. are granted for dissertation preparation.

The Guide to Doctoral Study, available from the Department of Political Science and on its website, provides a comprehensive statement of departmental requirements.

Admission

Because the number of positions available in the Ph.D. program is limited, the competition for admission is keen. However, applicants who did not major in political science or who are not acquainted with quantitative research methods are not at a disadvantage.

The deadline for application and consideration for assistantships and fellowships is January 7.

All materials, including Graduate Record Examination (GRE) General Test scores, must be received by the Department of Political Science by January 7. Admission normally requires a

verbal and quantitative GRE score in the 70th percentile, with at least 156 of the points coming from the verbal examination, and an analytical writing score of 4.5 or higher.

Other admission requirements include a baccalaureate degree, an undergraduate grade-point average of at least 3.30 on a four-point scale (or its equivalent for international applicants), and three letters of recommendation from persons who can comment upon the applicant's academic ability and motivation. International students whose native language is not English must achieve a Test of English as a Foreign Language (TOEFL) iBT score of at least 100. For applicants who have pursued graduate work elsewhere, a graduate grade-point average of at least 3.50 is required. For applicants who have received either a GRE or grade-point average that is above the minimum required by the department, one higher score may assist them in their chances for admission even if they received a lower score on the other.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Admission is for fall entry.

Career Advancement

The Doctor of Philosophy program in political science is designed to prepare students for careers in research and teaching. All students receive a thorough grounding in research methods. It is this grounding that permits teachers to be critical consumers of the research they read and permits researchers to undertake significant theoretical and empirical work.

Because the faculty and the graduate student body is not large, there is ample opportunity to collaborate with individual faculty members in research endeavors. In addition, students spend some time as apprentice teachers in large undergraduate classes.

Ph.D. graduates secure employment in a wide variety of academic and nonacademic settings. In particular, they work in highly ranked research universities and teaching colleges throughout the U.S. and the world. Over the last decade, almost all graduates seeking academic positions found jobs.

University of Iowa Ph.D.'s ranked third among graduates of all doctoral programs for the number of publications per capita in five of the discipline's leading journals as reported by J. McCormick and T. Rice in the 2001 article "Graduate Training and Research Productivity in the 1990s: A Look at Who Publishes" in *PS: Political Science & Politics* (v. 34). Iowa graduates use their training to build distinguished research records that allow them to move to some of the nation's top institutions.

Psychological and Brain Sciences

Chair

- Mark S. Blumberg

Undergraduate major: psychology (B.A., B.S.)

Undergraduate minor: psychology

Graduate degrees: M.A. in psychology; Ph.D. in psychology

Faculty: <https://psychology.uiowa.edu/people/faculty>

Website: <https://psychology.uiowa.edu>

The Department of Psychological and Brain Sciences offers an undergraduate major and minor as well as graduate degree programs. It also offers courses that undergraduate students in all majors may use to satisfy the GE CLAS Core [p. 459] Social Sciences requirement and a First-Year Seminar designed for entering undergraduate students.

Faculty

Faculty members of the Department of Psychological and Brain Sciences are nationally and internationally renowned leaders in a variety of subdisciplines. Their research is funded by numerous federal and private research grants, their findings are documented in many publications, and their accomplishments have won many awards.

Programs

Undergraduate Programs of Study

Majors

- Major in Psychology (Bachelor of Arts) [p. 863]
- Major in Psychology (Bachelor of Science) [p. 867]

Minor

- Minor in Psychology [p. 871]

Graduate Programs of Study

Majors

- Master of Arts in Psychology [p. 872]
- Doctor of Philosophy in Psychology [p. 874]

Facilities

The department's facilities for graduate training and research are among the finest in the country. The Kenneth W. Spence Laboratories of Psychology, adjoining space in Seashore Hall, and the newly renovated Stuit Hall provide a variety of laboratories for human and animal studies. Facilities include animal housing areas; a histology laboratory; observation suites with remote audiovisual control and recording equipment; soundproof chambers; electrophysiological recording rooms; conditioning laboratories; the Seashore Clinic; and well-equipped electronic, mechanical, and woodworking shops. Office space for graduate students and faculty members is provided in Seashore Hall.

Currently, a new building is being constructed that will house the Department of Psychological and Brain Sciences. It will contain the department's offices, faculty and administrative

staff, classrooms, laboratories, work and study space, a student learning commons, and conference rooms. The new facility will be adjacent to Seashore Hall.

The research and teaching activities of the department benefit greatly from the facilities and staff of other University and local agencies, including University of Iowa Hospitals and Clinics, the Iowa City VA Health Care System, the University Counseling Service, the Center for Disabilities and Development, the Wendell Johnson Speech and Hearing Clinic, the Center for Health Policy and Research, and the School of Social Work.

Courses

The following courses are open to first-year students who have satisfactorily completed an introductory psychology course (PSY:1001 Elementary Psychology or equivalent). Other courses numbered from 1000-2999 are considered lower-level undergraduate courses.

PSY:2301 Introduction to Clinical Psychology
 PSY:2401 Introduction to Developmental Science
 PSY:2501 Introduction to Social Psychology
 PSY:2601 Introduction to Cognitive Psychology
 PSY:2701 Introduction to Behavioral Neuroscience
 PSY:2910 Industrial/Organizational Psychology

Before enrolling in any advanced undergraduate courses, students must complete all specified lower-level prerequisites or obtain consent of the instructor. Courses numbered 3000-4999 are considered advanced undergraduate courses. Those numbered 5000-7610 are considered graduate-level courses.

Psychological and Brain Sciences Courses

PSY:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

PSY:1001 Elementary Psychology 3 s.h.

Psychology as a behavioral science. GE: Social Sciences.

PSY:1010 Your Brain Unlocked: Learning About Learning 1 s.h.

Research about the human mind and brain that students can use to foster academic success at the UI; presentation of research findings that indicate best practices for studying, learning, and succeeding at the UI (not a remedial study skills course); topics range from retrieving information stored in memory to maintaining psychological health under stress; course format consists of lecture, student response to reading assignments, and discussion; readings are primarily original documents (journal articles).

PSY:2130 Advanced Psychology for Pre-Medical Track 3 s.h.

Psychology as a behavioral science; elementary psychology in more depth, advanced topics. Prerequisites: PSY:1001. Requirements: non-psychology major.

PSY:2301 Introduction to Clinical Psychology 3 s.h.

Introduction to abnormal psychology; scientist-practitioner model, training, ethics, research methods in clinical psychology; current approaches to intellectual, personality, behavioral assessment; theories, research on treatment of psychological disorders. Prerequisites: PSY:1001. GE: Social Sciences.

PSY:2401 Introduction to Developmental Science 3 s.h.

Current research in developmental science; prenatal development, brain development, motor and physical development, perceptual development, language development, cognitive development, aspects of socio-emotional development; emphasis on modern theoretical approaches. Prerequisites: PSY:1001. GE: Social Sciences.

PSY:2501 Introduction to Social Psychology 3 s.h.

Research and theories on people's thoughts, feelings, and behaviors in social situations; attitudes, attributions, person perception, aggression, stereotypes and prejudice, attraction, relationships, social influence, group processes, altruism. Prerequisites: PSY:1001.

PSY:2601 Introduction to Cognitive Psychology 3 s.h.

Individual human cognition; perception, attention, memory, language, learning, problem solving, decision making, thought considered from viewpoint of information processing. Prerequisites: PSY:1001. GE: Social Sciences.

PSY:2701 Introduction to Behavioral Neuroscience 4 s.h.

Biological mechanisms of behavior; comparative study of behavior, behavioral organization, animal intelligence, social behavior, communication; behavioral neuroscience, how brain systems control sensation, movement, homeostasis, emotion, learning. Prerequisites: PSY:1001.

PSY:2810 Research Methods in Psychology 4 s.h.

Logic of experimental and nonexperimental methods, application of methods to analysis of behavioral phenomena; skills for critical evaluation of professional and public literature dealing with scientific study of behavior: philosophy of scientific psychology, principles of research design and control, psychological testing, applications in several research areas. Prerequisites: STAT:1020 or STAT:1020 or PSQF:4143 or SOC:2160 or STAT:1030 or PSQF:4143 or STAT:3510.

PSY:2811 Research Methods and Data Analysis in Psychology I 3 s.h.

Foundational knowledge in psychological research methods and corresponding statistical concepts; basic concepts of statistics, statistical inference, and research design as applied in psychological research; study of descriptive statistics, measurement, survey design, correlational analyses, and regression analysis; first in a sequence of two courses. Prerequisites: PSY:1001 or PSY:2701. GE: Quantitative or Formal Reasoning.

PSY:2812 Research Methods and Data Analysis in Psychology II 3 s.h.

Foundational knowledge in psychological research methods and corresponding statistical concepts; basic concepts of statistics, statistical inference, and research design as they are applied in psychological research; study of experimental control, experimental design, and hypothesis testing; second in a sequence of two courses. Prerequisites: PSY:2811 with a minimum grade of C-.

PSY:2910 Industrial/Organizational Psychology 3 s.h.

Applications of psychology to problems in world of work; emphasis on personnel selection, training, attitudes, motivation, measurement of job performance. Prerequisites: PSY:1001.

PSY:2920 Fundamentals of Human Neuropsychology 3 s.h.

Basic understanding of relationship between brain and behavior through examination of behavioral and cognitive consequences of brain damage from disease or trauma; foundations of neuropsychology, structure of the nervous system, functional specialization of the brain, cognitive functions, and assessments of brain disorders. Prerequisites: PSY:1001. Requirements: non-psychology major.

PSY:2930 Abnormal Psychology: Health Professions 3 s.h.

Introduction to psychological disorders; description of psychopathology; general issues in etiology and treatment; for non-psychology students in allied health professions. Prerequisites: PSY:1001. Requirements: non-psychology major.

PSY:2975 Introduction to Cognitive Neuroscience 3 s.h.

Analysis of brain systems and neuroanatomy that underlie cognitive tasks such as vision, hearing, emotion, attention, language, decision making, learning, and memory. Prerequisites: PSY:2701.

PSY:3010 Health Psychology 3 s.h.

Psychological contributions to understanding etiology, prevention, treatment of physical illness; basic and clinical research that addresses reciprocal effects of behavior and physical health. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2301 with a minimum grade of C- or PSY:2501 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

PSY:3015 Psychology of Interpersonal Relations 3 s.h.

Theories, empirical findings, speculation from social psychology and related disciplines regarding how people form, maintain, and alter close, interpersonal relationships. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2501 with a minimum grade of C- or PSY:2301 with a minimum grade of C-).

PSY:3020 Mind and Behavior 3 s.h.

Theories of what it is to act and know, of what intelligence might be in animals, humans, machines; perspectives from philosophy, psychology. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-). Requirements: junior or senior standing.

PSY:3030 Social and Personality Development 3 s.h.

Emotional, social, and personality development from infancy to adolescence; major theories and empirical research; child temperament, parent-child relationship, and social context as contributors to individual differences. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2501 with a minimum grade of C- or PSY:2401 with a minimum grade of C-).

PSY:3040 Psychology of Learning 3 s.h.

Psychological science of acquired behavior; interests in experimental study of Pavlovian conditioning, operant conditioning, cognition in humans and nonhuman animals, relevance to behavioral adaptation. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-).

PSY:3050 Applied Psychology: Addressing Real-World Problems 3 s.h.

Bridging the basic applied research divide in psychology; contributions of cognitive, clinical, social, and developmental psychology to understand real-world problems (e.g., traffic safety, screen time). Prerequisites: PSY:2301 with a minimum grade of C- or PSY:2401 with a minimum grade of C- or PSY:2501 with a minimum grade of C- or PSY:2601 with a minimum grade of C-.

PSY:3060 Visual Perception and Cognition 3 s.h.

Psychological and neurophysiological examination of vision. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2601 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

PSY:3065 The Aging Mind and Brain 3 s.h.

Current theories and research on biological, cognitive, and emotional changes that occur during aging; methodologies for studying cognitive and brain aging. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-).

PSY:3071 Cognition and the Brain 3 s.h.

Analysis of brain systems and neuroanatomy that underlie cognitive tasks such as vision, hearing, emotion, attention, language, decision making, learning, and memory. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2601 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

PSY:3080 Barking and Talking: What Is Communication? 3 s.h.

Similarities and differences in human language and animal communication; contexts of communication, function of communication, cognitive bases of communication, and mechanisms of communication. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2401 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

PSY:3090 Psychology of Workplace Behaviors 3 s.h.

Introduction to theory and research of workplace and work-related behaviors; focus on industrial and organizational psychology. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2501 with a minimum grade of C- or PSY:2601 with a minimum grade of C-).

PSY:3095 Psychology of Relationship Violence 3 s.h.

Introduction to psychological theory and research on violence in relationships; topics will include intimate partner violence, sexual assault and rape, sexual harassment, and stalking; includes a service learning component. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2301 with a minimum grade of C- or PSY:2501 with a minimum grade of C-).

PSY:3220 Behavioral Neuroscience 3 s.h.

Basic concepts and techniques in neurosciences, their application to analysis of sensory processes, arousal mechanisms, motivation, learning. Prerequisites: PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:3230 Psychopharmacology 3 s.h.

How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Prerequisites: (PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-)) or (HHP:1300 with a minimum grade of C- or HHP:3500 with a minimum grade of C-). Same as HHP:3230.

PSY:3240 Motivation, Addiction, and the Brain 3 s.h.

Analysis of motivated behaviors (e.g., behaviors to obtain specific goals, such as food) and the brain processes that guide such behavior; exploration of brain processes underlying addiction. Prerequisites: PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:3250 Neuroscience of Learning and Memory 3 s.h.

Major topics in the neuroscience of learning and memory; focus on anatomical, cellular, molecular bases of various learning and memory processes. Prerequisites: PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:3270 Neurobiology of Stress 3 s.h.

Introduction to concept of stress and physiological systems involved; factors modulating stress vulnerability versus resilience; stress interactions with other systems with health relevance; emphasis on current research on brain mechanisms. Prerequisites: PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:3280 Introduction to Health Biopsychology 3 s.h.

Physiological basis of behavior and cognition; interaction between brain and body in normal and pathological states. Prerequisites: PSY:2701 with a minimum grade of C- and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:3320 Abnormal Psychology 3 s.h.

Etiology, phenomenology, and treatment of child and adult DSM-IV psychological disorders (e.g., mood disorders, psychotic disorders, anxiety disorders, personality disorders). Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2301 with a minimum grade of C-.

PSY:3330 Childhood Psychopathology 3 s.h.

Major forms of childhood psychopathology; current theoretical approaches and methodological issues in diagnosis, conceptualization, treatment of developmental psychopathology. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2301 with a minimum grade of C-.

PSY:3340 Behavior Modification 3 s.h.

Basic approaches to modification of clinically distressing behavior; learning theory principles underlying techniques, translation into procedures, experimental evaluation of effectiveness. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2301 with a minimum grade of C-.

PSY:3350 Psychotherapies**3 s.h.**

Current theories and research on frequently used psychotherapeutic approaches; focus on methodology in psychotherapy research, specific types of therapy, and empirically supported therapies. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2301 with a minimum grade of C-.

PSY:3420 Cognitive Development of Children**3 s.h.**

Developmental research, theory concerning children's concepts, thinking, problem solving, memory, communication. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2401 with a minimum grade of C-.

PSY:3451 Infant Development**3 s.h.**

Physical, motor, perceptual, cognitive, and social development during first two years of life; focus on early mechanisms of change; locomotion, perceptual abilities, precursors of cognition, early language acquisition, social interaction. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2401 with a minimum grade of C-.

PSY:3460 Language and Communication Development**3 s.h.**

Vocal and social development from prelinguistic communication through early language; precursors of language development; social cognitive aspects of language development; comparative perspectives of communication development. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2401 with a minimum grade of C-.

PSY:3530 Personality**3 s.h.**

Classic theoretical models and contemporary empirical research in personality, including influence of heredity and environment, consistency and stability of behavior. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (PSY:2301 with a minimum grade of C- or PSY:2501 with a minimum grade of C-).

PSY:3540 Attitude Change**3 s.h.**

Current theoretical approaches; laboratory and field methods of research; basic processes of change considered within broader framework of psychology. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3560 Psychology of Gender**3 s.h.**

Origins of gender roles, gender socialization in childhood, gender differences across lifespan; research on gender differences in cognition, emotions, behavior, physical and mental disorders, communication. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3570 Social Cognition**3 s.h.**

Research and theory on cognitive structures and processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, schemas, person perception, stereotypes, attitudes. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3580 Judgment and Decision Making**3 s.h.**

Processes and biases that shape judgments and decisions of various types (e.g., about other people, the future, competitions, products, medical treatments, health risks, crime suspects). Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3590 Stereotyping and Prejudice**3 s.h.**

Research and theory on prejudice, stereotyping, discrimination, and stigmatization; focus on nature, origins, and impact of prejudice and stereotypes. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3595 Psychology of Negotiation**3 s.h.**

Distributive and integrative bargaining; cognitive, motivational, and emotional processes that inhibit or facilitate effectiveness in negotiating; team and multiparty negotiations; agency and ethics; complex disputes; and cross-cultural issues. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2501 with a minimum grade of C-.

PSY:3620 Human Memory**3 s.h.**

Contemporary psychological theory and research on short-term and long-term memory, acquisition processes, related topics in cognition. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-.

PSY:3670 Language Processes**3 s.h.**

Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: (PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-) or CSD:1015 or LING:3001. Same as LING:3670.

PSY:3680 Introduction to Computational Cognitive Modeling**3 s.h.**

Introduction to computational modeling as a methodology for studying cognition; role and use of computational models as a framework for thinking about cognition; emphasis on hands-on simulation exercises. Prerequisites: (PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-) and (CS:1020 with a minimum grade of C- or CS:1110 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-) or (STAT:1020 and (CS:1020 with a minimum grade of C- or CS:1110 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-).

PSY:3994 Research Practicum in Psychology**arr.**

Small-group participation in faculty research projects; literature review, study planning, data collection, analysis, interpretation, write-up.

PSY:3995 Advanced Research Practicum**1-3 s.h.**

Individual participation in faculty research projects; significant reading and writing. Requirements: two semesters of PSY:3994 or HONR:3994.

PSY:3996 External Practicum in Psychology**1-3 s.h.**

Student participation in career-related professional activities in community and University of Iowa agencies.

PSY:3997 Teaching/Advising Practicum in Psychology**1-3 s.h.**

Participation in faculty teaching as undergraduate teaching assistant or the Psychology Peer Advisor Program.

PSY:3998 Individual Readings and Projects 1-3 s.h.
Requirements: psychology major and undergraduate standing.

PSY:4020 Laboratory in Psychology 4 s.h.
Laboratory study of an aspect of behavior; topics in a particular area (e.g., learning and memory, perception, social behavior, operant behavior, physiological processes). Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-).

PSY:4090 Psychology Seminar 3 s.h.
Readings from original sources, presentations, papers, student participation. Prerequisites: PSY:2701 and (PSY:2812 with a minimum grade of C- or PSY:2810 with a minimum grade of C-). Requirements: psychology B.S. enrollment and senior standing.

PSY:4990 Honors Thesis Research 1-3 s.h.
Supervised original project; leads to written thesis, oral defense. Requirements: honors standing.

PSY:4995 Honors Research in Neuroscience arr.
Students conduct independent scientific research related to the field of neuroscience. Requirements: honors standing in neuroscience, UI g.p.a. of at least 3.33, and neuroscience g.p.a. of at least 3.33. Same as BIOL:4995.

PSY:5050 Quantitative Methods in Psychology 4 s.h.
Overview of statistical methods based on the general linear model, including ANOVA, ANCOVA, and multiple regression; how to conduct these analyses using SPSS. Requirements: first-year graduate standing in psychology.

PSY:5055 Mixed-Effects Modeling in Psychology 4 s.h.
Introduction to mixed-effects analysis of hierarchically structured and cross-classified psychological data using R. Prerequisites: PSY:5050.

PSY:5203 Fundamental Neurobiology 3 s.h.
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, peripheral and CNS sensory systems, peripheral and CNS motor systems, autonomic systems, emotion, memory, sleep, language, attention and cognition, neuronal development. Same as BIOL:5653, NSCI:5653.

PSY:5204 Fundamental Neurobiology Discussion 1 s.h.
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as BIOL:5658, NSCI:5658.

PSY:5210 Fundamentals of Behavioral Neuroscience 3-4 s.h.
Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of neuroscience, sensation, motivation, emotion. Same as NSCI:5210.

PSY:5212 Foundations in Behavioral and Cognitive Neuroscience 4 s.h.
Concepts, methods, and findings in behavioral and cognitive neurosciences. Prerequisites: BIOL:3253 or PSY:5210 or NSCI:5210. Same as NSCI:5212.

PSY:5320 Descriptive Psychopathology 3 s.h.
Psychiatric syndromes, including description, etiology, experimental and clinical research; development, function of classification systems.

PSY:5330 Principles of Psychological Assessment 4 s.h.
Assessment theory and basic psychometric principles in test construction, evaluation, application; ethical, social, psychological, psychometric issues and controversies in assessment.

PSY:5365 Seminar: Neuropsychology and Neuroscience arr.
Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, NSCI:5365.

PSY:5410 Proseminar in Developmental Science 3 s.h.
Introduction to developmental process and developmental science; topics organized around mechanisms of development, with cross-disciplinary focus.

PSY:5610 Proseminar in Cognition and Perception 3 s.h.
Broad overview of study of cognition, including cognitive psychology, computer science and artificial intelligence, linguistics, neuroscience, philosophy of mind.

PSY:5710 Introduction to Health and Behavioral Science 3 s.h.
Evolution of health psychology; survey of major physiological systems in which pathology is affected by behavioral processes; review of theoretical approaches, experimental paradigms from behavioral science as they may apply to assessment of health problems; prevention, intervention, psychological adaptation to physical disease.

PSY:6050 Clinical Behavioral Medicine 3 s.h.
Biopsychosocial framework applied to study, treatment of chronic and acute physical conditions; clinical concepts, procedures.

PSY:6101 Cognitive Science of Language Proseminar I 3 s.h.
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6101, LING:6101.

PSY:6102 Cognitive Science of Language Proseminar II 3 s.h.
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6102, LING:6102.

PSY:6210 Behavioral Pharmacology 3 s.h.
Behavioral analysis of drug action; emphasis on physiological and biological mechanisms underlying behavioral processes in experimental animals, humans.

PSY:6230 Foundations of Learning, Memory, and Cognition 3 s.h.
Determinants of adaptive behavior in humans and animals; emphasis on behavioral analysis of learning, memory, and cognition; relevance of laboratory research to real life activities.

PSY:6250 Neurobiology of Drug Addiction and Stress 3 s.h.
Neurobiology of drug addiction and stress from molecular/cellular to systems level; discussion of classic and recent journal articles.

PSY:6265 Neuroscience Seminar 0-1 s.h.
Research presentations. Same as ACB:6265, BIOL:6265, MPB:6265, NSCI:6265.

PSY:6270 Fundamentals of Health Biopsychology 3 s.h.
Biological basis of behavior and cognition in relation to disordered regulation of body-brain systems in pathological states.

PSY:6280 Structural and Functional MRI Methods and Application 3 s.h.
Introduction to basic principles of magnetic resonance imaging and its application to psychology; imaging of brain structure; focus on functional MRI. Requirements: graduate-level introductory statistics.

PSY:6340 Psychological Therapies 3 s.h.
Historical development and current status of empirically based therapies for psychological disorders, including anxiety, depression, schizophrenia, childhood disorders; emphasis on critical evaluation of therapy techniques.

PSY:6350 Ethics and Professional Concerns arr.
Major ethical and legal issues relevant to clinical psychologists' varied roles; understanding of legal and ethical issues encountered by psychologists in varied settings, development of personal working model for resolving ethical and professional concerns.

PSY:6370 Principles of Neuropsychology 3 s.h.
Principles of human neuropsychology, including foundations (history, methods, approaches), major functional systems (vision, memory, language, spatial processing), executive functions (emotional processing and personality), and applications (experimental, clinical). Recommendations: prior course work in psychological assessment, psychopathology, and neuroanatomy.

PSY:6440 Developmental Cognitive Neuroscience 3 s.h.
Overview of current developmental cognitive neuroscience theory, research, and methods (PET, fMRI, optical imaging, EEG, ERPs); neural development, computational neuroscience, and methods.

PSY:6460 Translating Developmental Science to Applied Problems 3 s.h.
Relationship between basic and applied research in development; individual differences work and how applied work informs theory.

PSY:6480 Computational Approaches to Development 3 s.h.
Use of computational models to understand development; model development, specific approaches, model evaluation, and hands-on model work.

PSY:6510 Advanced Social-Personality Psychology 3 s.h.
Classic and contemporary theory, research, methodological issues in social-personality psychology.

PSY:6520 Attitudes and Persuasion 3 s.h.
Classic and current theories and findings on persuasion, the formation and measurement of attitudes.

PSY:6530 Advanced Social Cognition 3 s.h.
Research and theory on cognitive processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, counterfactual thinking, schemas, person perception, stereotypes, attitudes.

PSY:6550 Advanced Social and Personality Development 3 s.h.
Theory and research on social and personality development; overview of development and individual differences in emotions, temperament, attachment, self, social cognition, conscience; influence of biological factors, social relationships, and broader ecology on adaptive and maladaptive developmental pathways.

PSY:6560 Stereotyping, Prejudice, and Discrimination 3 s.h.
Theory and research on origins and mechanisms of stereotyping, prejudice, and discrimination; implications for perceivers, targets, and interpersonal interactions.

PSY:6580 Moral Psychology 3 s.h.
Research and theory on cognitive and affective processes that underpin moral judgment and moral behavior; neuroscience approaches to moral judgment; political differences in moral judgment; development, evolution, and clinical variation in morality.

PSY:6590 Judgment and Decision Making 3 s.h.
Theory and research on how people gather, perceive, and use information when making judgments and decisions; includes risky and uncertain contexts; social and nonsocial contexts.

PSY:6620 Computational Modeling of Cognition 3 s.h.
Introduction to computational modeling as a methodology for studying cognition; computational models' role and use as a framework for thinking about cognition; emphasis on hands-on simulation exercises.

PSY:6640 Visual Perception 3 s.h.
Theoretical and empirical analyses of low- and high-level visual functions, including edge detection, surface representation, object identification.

PSY:6650 Attention 3 s.h.
Theory and research on attention, from viewpoints of cognitive psychology and cognitive neuroscience, including historical perspectives, recent approaches.

PSY:6740 Drug Addiction 3 s.h.
Analysis of factors involved in drug addiction; social, clinical, and biological processes.

PSY:7020 Seminar: Cognitive Neuroscience 0-2 s.h.
Neurological and behavioral investigations of attention, perception, learning, memory, decision making, planning; contemporary models, theories.

PSY:7030 Seminar: Health Psychology 0-3 s.h.
Theoretical and methodological issues; focus on specific topics (i.e., chronic disease, psychoneuroimmunology).

PSY:7070 Seminar: Behavioral Biomedical Interface 1 s.h.
Ongoing seminar; discussion of research at behavioral-biomedical interface. Requirements: acceptance to Behavioral Biomedical Interface Training Program.

PSY:7110 Research Projects arr.

PSY:7120 M.A. Thesis Research arr.

PSY:7130 Ph.D. Dissertation Research arr.

PSY:7150 Current Topics in Psychology 3 s.h.

PSY:7160 Problems in Psychology arr.
Individual study.

PSY:7170 Teaching Practicum arr.
Supervised practice in teaching.

PSY:7210 Seminar: Advanced Topics in Behavioral and Cognitive Neuroscience 3 s.h.
Prerequisites: PSY:5210.

PSY:7270 Principles of Scholarly Integrity 1 s.h.

Training in responsible conduct of research; student/mentor responsibilities; authorship and reviewing; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: enrollment in graduate psychology or biology program. Same as BIOL:7270.

PSY:7310 Seminar: Orientation to Clinical Research 0-1 s.h.

Issues in clinical research, including use of databases, advisor/advisee relationships, preparation of IRB proposals, paper presentation and publication, common early career problems, funding resources.

PSY:7350 Introductory Practicum arr.

Orientation to Department of Psychology clinic, including instruction in interviewing, observation of clinic procedures, attendance at clinic rounds under supervision of clinical psychology faculty members.

PSY:7355 Assessment Practicum arr.

Supervised practice in psychological assessment techniques.

PSY:7360 Therapy Practicum arr.

Supervised practice and clinical experience in application and evaluation of psychological therapies.

PSY:7365 External Practicum arr.

Supervised practice and clinical experience in field setting; psychological assessment techniques and/or application, evaluation of psychological therapies.

PSY:7370 Supervision and Consultation Practicum arr.

Supervision and training of less advanced students; consultation to other programs and agencies.

PSY:7430 Seminar: Cognitive Development 0-3 s.h.

Theoretical, methodological issues focused on cognitive and perceptual development.

PSY:7510 Seminar: Social Psychology 1 s.h.

Professional issues, current topics relevant to social psychologists.

PSY:7604 Principles of Scholarly Integrity 0 s.h.

Training in responsible conduct of research and scholarly activities; student/mentor responsibilities; authorship; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: postdoctoral standing in psychology or biology. Same as BIOL:7604.

PSY:7610 Seminar: Cognitive Psychology 2 s.h.**PSY:7620 Seminar: Human Perception and Performance 1 s.h.**

Professional issues and current topics relevant to psychologists studying human perception and performance.

Psychology, B.A.

Learning Outcomes

The learning outcomes for students in the Department of Psychological and Brain Sciences align with several of the learning goals from the American Psychological Association's guidelines for undergraduate psychology education. These learning outcomes expand and deepen students' foundational knowledge obtained through the GE CLAS Core [p. 459] program.

Psychology majors will:

- understand psychology as an empirical science;
- graduate with a knowledge base in psychology, including an understanding of the major principles and theories in the field's main content areas;
- have learned how to use scientific reasoning to understand psychological phenomena and how to interpret and conduct psychological research; and
- be able to apply their knowledge of psychology to real world situations and recognize the importance of ethical standards and diversity in psychology.

Overview

Psychology is one of the largest undergraduate majors, both nationally and at the University of Iowa, and an undergraduate degree in psychology provides students with skills that are relevant to many career paths. The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as areas such as business, law, communication, medicine, and the allied health sciences. Students who intend to enter the job market immediately after completing an undergraduate degree should complement their psychology major with substantial preparation in another program more closely tied to the world of work (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The psychology major for the Bachelor of Arts has fewer specific requirements and puts less emphasis on methodology than the Bachelor of Science major. The program leaves time for students to supplement the psychology major with another program of study.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program. They may wish to enrich the B.A. program with courses in experimental psychology and other advanced electives if they intend to pursue graduate work in psychology or a related field.

Students begin with a general introductory course, followed by a behavioral neuroscience course, methodology and data analysis courses, and introductory courses in several broad areas: developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology course work selected by each student. For additional information regarding the undergraduate major and career information, visit Undergraduate Program on the Department of Psychological and Brain Sciences website.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All

faculty members are directly engaged in research, and they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

Admission to the Major

Admission to the psychology major is open; any University of Iowa undergraduate student may enter the B.A. program.

Entering first-year and transfer students who have completed less than 30 s.h. of course work and are interested in entering the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program.

Students in the B.A. program may switch to the B.S. program if they meet admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

Requirements

The Bachelor of Arts with a major in psychology requires a minimum of 120 s.h., including 46-47 s.h. of work for the major, with at least 34 s.h. in psychology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer credits must be approved by the department, and transfer students must complete at least 18 s.h. of psychology courses at the University of Iowa.

The major for the B.A. is designed for students who wish to gain considerable knowledge in psychology but do not necessarily plan a professional career in the discipline. It is appropriate for students preparing for careers in law, business, counseling, social work, or secondary school teaching (see "Teacher Licensure" below). It can be combined with a second major more easily than can the Bachelor of Science program.

Choice of a degree program should be dictated by a student's personal career goals. B.A. students interested in pursuing graduate study in psychology or other social sciences may enrich their program by taking courses in mathematics, statistics, research methods, and the natural sciences.

B.A. and B.S. students complete the same psychology core and psychology electives. The major for the B.A. also requires an additional statistics or computer science course plus a second concentration area.

Students are advised to take PSY:1001 Elementary Psychology as the first course in the major; however, if a student must take PSY:1001 for the first time after completing another psychology course with a higher number, the student may do so. Students may retake PSY:1001 for a second-grade-only option; however, this must be completed before taking any upper-level psychology courses (PSY:3000-3800). Students may not retake PSY:1001 after taking an upper-level psychology course; this is considered regression and no credit will be awarded.

The B.A. with a major in psychology requires the following courses or their equivalents.

Code	Title	Hours
Psychology Core		13
Lower-Level Psychology Requirements		12
Upper-Level Psychology Electives		9
Cognate Requirement		3-4
Second Concentration Area Courses		9
Total Hours		46-47

Psychology Core

All majors complete the following course work for the psychology core.

Code	Title	Hours
PSY:1001	Elementary Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2811	Research Methods and Data Analysis in Psychology I	3
PSY:2812	Research Methods and Data Analysis in Psychology II	3

Lower-Level Psychology Requirements

Students take all of the following courses after completing PSY:1001 Elementary Psychology.

Code	Title	Hours
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3

Upper-Level Psychology Electives

Students take three advanced psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core and other specified prerequisites. Psychology courses (prefix PSY) numbered 3000 or above may be used to fulfill this requirement, except those in the following list.

Code	Title	Hours
PSY:3994	Research Practicum in Psychology	arr.
PSY:3995	Advanced Research Practicum	1-3
PSY:3996	External Practicum in Psychology	1-3
PSY:3997	Teaching/Advising Practicum in Psychology	1-3
PSY:3998	Individual Readings and Projects	1-3
PSY:4020	Laboratory in Psychology	4
PSY:4090	Psychology Seminar	3
PSY:4990	Honors Thesis Research	1-3

Additional Requirements

Cognate Requirement

Students complete one of the following upper-level statistics or computer science courses.

Code	Title	Hours
Statistics		
BIOS:4120	Introduction to Biostatistics	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Computer Science		
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4

Second Concentration Area

Students complete 9 s.h. of graded course work in a single department other than the Department of Psychological and Brain Sciences. Courses used to fulfill this requirement must be taken at the University of Iowa and may not be used to fulfill GE CLAS Core [p. 459] requirements. A second major or a minor may be used to fulfill the requirement.

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.A./M.P.H. (Community and Behavioral Health Subprogram)

Bachelor of Arts students majoring in psychology who are interested in earning a Master of Public Health degree with a community and behavioral health subprogram may apply to the combined B.A./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 12 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. For information about the public health program, see "Community and Behavioral Health Subprogram" under Requirements [p. 1732] in the Master of Public Health section of the Catalog.

Honors

Honors in the Major

Students majoring in psychology have the opportunity to graduate with honors in the major. Departmental honors students must complete PSY:4090 Psychology Seminar and write an honors thesis, which is based on an approved original honors research project that a student has conducted under the guidance of a faculty member. Interested students should contact the department's honors advisor.

Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33.

National Honor Society

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and in psychology course work and who have completed 9 s.h. of psychology courses may request a membership application form. Consult the department's academic coordinator for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the psychology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

In addition to courses in psychology, the B.A. requires three graded courses in a second concentration area.

Before the third semester begins: PSY:1001 Elementary Psychology

Before the fifth semester begins: PSY:2701 Introduction to Behavioral Neuroscience and one or more lower-level psychology requirements

Before the seventh semester begins: four courses in the major (including PSY:2811 Research Methods and Data Analysis in Psychology I and PSY:2812 Research Methods and Data Analysis in Psychology II), one course in the second concentration area, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two additional courses in the major and an additional course in the second concentration area

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Psychology, B.A.

Course	Title	Hours
First Year		
Fall		
PSY:1001	Elementary Psychology ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: lower-level psychology course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-18
Second Year		
Fall		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
Major: lower-level psychology course		3
GE CLAS Core: Historical Perspectives ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		2 - 3
Hours		15-17
Spring		
PSY:2812	Research Methods and Data Analysis in Psychology II	3
Major: lower-level psychology course		3
GE CLAS Core: Natural Sciences without Lab ^b		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		16-17
Third Year		
Fall		
PSY:2701	Introduction to Behavioral Neuroscience	4
Major: lower-level psychology course		3
Major: second area of concentration course		3
GE CLAS Core: Values and Culture ^b		3
Elective course ^d		3
Hours		16
Spring		
Major: second area of concentration course		3

Major: upper-level psychology course	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
GE CLAS Core: Natural Sciences with Lab ^b	4
Elective course ^d	2 - 3
Major: cognate course ^e	3 - 4
Hours	18-20

Fourth Year

Fall

Major: upper-level psychology course	3
GE CLAS Core: Quantitative or Formal Reasoning (if not met by cognate course) ^b	3
Elective course ^d	3
Elective course ^d	3
Hours	12

Spring

Major: second area of concentration course	3
Major: upper-level psychology course	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Total Hours	123-132

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Course fulfills a major requirement and the GE CLAS Core Quantitative or Formal Reasoning requirement.

Career Advancement

The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as in areas such as business, law, communication, medicine, and the allied health sciences.

Undergraduate psychology students who do not intend to enroll in graduate school immediately after earning their bachelor's degree frequently earn a second major in a discipline that has broad opportunities for employment, such as education, social work, business, journalism, or nursing.

Learn more about careers in psychology at the American Psychological Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Psychology, B.S.

Learning Outcomes

The learning outcomes in the Department of Psychological and Brain Sciences align with several of the learning goals from the American Psychological Association's guidelines for undergraduate psychology education. These learning outcomes expand and deepen students' foundational knowledge obtained through the GE CLAS Core [p. 459] program.

Psychology majors will:

- understand psychology as an empirical science;
- graduate with a knowledge base in psychology, including an understanding of the major principles and theories in the field's main content areas;
- have learned how to use scientific reasoning to understand psychological phenomena and how to interpret and conduct psychological research; and
- be able to apply their knowledge of psychology to real world situations and recognize the importance of ethical standards and diversity in psychology.

Overview

Psychology is one of the largest undergraduate majors, both nationally and at the University of Iowa, and an undergraduate degree in psychology provides students with skills that are relevant to many career paths. The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as in areas such as business, law, communication, medicine, and the allied health sciences. Students who intend to enter the job market immediately after completing an undergraduate degree should complement their psychology major with substantial preparation in another program more closely tied to the world of work (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The psychology major for the Bachelor of Science is intended for students who plan to pursue advanced work in psychology or in a related discipline. It requires a specific grade-point average for admission and certain courses in experimental psychology, mathematics, and natural science. The program leaves time for students to supplement the psychology major with another program of study.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program.

Students begin with a general introductory course, followed by a behavioral neuroscience course, methodology and data analysis courses, and introductory courses in several broad areas: developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology course work selected by each student. For additional information regarding the undergraduate major and career information, visit Undergraduate Program on the Department of Psychological and Brain Sciences website.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All faculty members are directly engaged in research, and

they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

Admission to the Major

Admission to the major is selective. To be eligible for admission to the B.S. program, students must have completed 30 s.h. of college course work (excluding any credit by exam) and must have a cumulative g.p.a. of 2.67 or higher. There is no limit on the number of qualified students admitted to the B.S. program. Students who do not meet the minimum admission requirements may petition the department in writing, presenting additional evidence of their qualifications.

Entering first-year and transfer students who have completed less than 30 s.h. of course work and are interested in entering the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program.

Students in the B.A. program may switch to the B.S. program if they meet admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

Requirements

The Bachelor of Science with a major in psychology requires a minimum of 120 s.h., including 55-57 s.h. of work for the major, with at least 41 s.h. in psychology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer credits must be approved by the department, and transfer students must complete at least 18 s.h. of psychology courses at the University of Iowa.

The major for the B.S. emphasizes research methodology, so the B.S. may be the degree of choice for students who plan to do graduate work in psychology and related research fields. However, a Bachelor of Science is not required for graduate study in psychology. Choice of a degree program should be dictated by a student's personal career goals.

B.A. and B.S. students complete the same psychology core and psychology electives. The major for the B.S. also requires a pair of natural science courses, one semester of calculus, and an additional mathematics course.

Students are advised to take PSY:1001 Elementary Psychology as the first course in the major; however, if a student must take PSY:1001 for the first time after completing another psychology course with a higher number, the student may do so. Students may retake PSY:1001 for a second-grade-only option; however, this must be completed before taking any upper-level psychology courses (PSY:3000-3800). Students may not retake PSY:1001 after taking an upper-level psychology course; this is considered regression and no credit will be awarded.

The B.S. with a major in psychology requires the following courses or their equivalents.

Code	Title	Hours
Psychology Core		13
Lower-Level Psychology Requirements		12
Upper-Level Psychology Electives		9
Psychology Topics Courses		7
Natural Science Courses		7-8
Calculus and Additional Mathematics Courses		7-8
Total Hours		55-57

Psychology Core

All majors complete the following course work for the psychology core.

Code	Title	Hours
PSY:1001	Elementary Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2811	Research Methods and Data Analysis in Psychology I	3
PSY:2812	Research Methods and Data Analysis in Psychology II	3

Lower-Level Psychology Requirements

Students take all of the following courses after completing PSY:1001 Elementary Psychology.

Code	Title	Hours
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3

Upper-Level Psychology Electives

Students take three advanced psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core and other specified prerequisites. Psychology courses (prefix PSY) numbered 3000 or above may be used to fulfill this requirement, except those in the following list.

Code	Title	Hours
PSY:3994	Research Practicum in Psychology	arr.
PSY:3995	Advanced Research Practicum	1-3
PSY:3996	External Practicum in Psychology	1-3
PSY:3997	Teaching/Advising Practicum in Psychology	1-3
PSY:3998	Individual Readings and Projects	1-3
PSY:4020	Laboratory in Psychology	4
PSY:4090	Psychology Seminar	3
PSY:4990	Honors Thesis Research	1-3

Additional Requirements

Psychology Topics Courses

Code	Title	Hours
Both of these:		
PSY:4020	Laboratory in Psychology	4
PSY:4090	Psychology Seminar	3

Natural Science Courses

Students are required to complete one of the following pairs of specified natural science courses (7-8 s.h.). All of these combinations can be used to fulfill the GE CLAS Core [p. 459] natural sciences requirement. Students should consult with their advisors concerning specific courses that satisfy these requirements.

Code	Title	Hours
One of these pairs (one semester each of chemistry and biology):		
CHEM:1070 & BIOL:1141	General Chemistry I - Introductory Animal Biology	7
CHEM:1110 & BIOL:1141	Principles of Chemistry I - Introductory Animal Biology	8
CHEM:1110 & BIOL:1411	Principles of Chemistry I - Foundations of Biology	8
Or one of these pairs (one semester each of chemistry and physics):		
CHEM:1070 & PHYS:1400	General Chemistry I - Basic Physics	7
CHEM:1070 & PHYS:1511	General Chemistry I - College Physics I	7
CHEM:1110 & PHYS:1400	Principles of Chemistry I - Basic Physics	7-8
CHEM:1110 & PHYS:1511	Principles of Chemistry I - College Physics I	8
Or this pair (two semesters of chemistry):		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
Or this pair (two semesters of physics):		
PHYS:1511- PHYS:1512	College Physics I-II	8

Calculus and Additional Mathematics

Students must complete at least one semester of calculus; in most cases, students also must have completed at least one precalculus mathematics course.

Code	Title	Hours
One of these:		
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

Students also complete at least one additional course in advanced mathematics, statistics, or computer science chosen from the following lists.

Code	Title	Hours
Mathematics		
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
Statistics		
BIOS:4120	Introduction to Biostatistics	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
Computer Science		
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students majoring in psychology have the opportunity to graduate with honors in the major. Departmental honors students must complete PSY:4090 Psychology Seminar and write an honors thesis, which is based on an approved original honors research project that a student has conducted under the guidance of a faculty member. Interested students should contact the department's honors advisor.

Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33.

National Honor Society

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and in psychology course work and who have completed 9 s.h. of psychology courses may request a membership application form. Consult the department's academic coordinator for more information.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the psychology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The psychology major for the B.S. is open only to students who have earned 30 s.h. and have a g.p.a. of at least 2.67. Students must complete a natural science sequence, either as part of the GE CLAS Core [p. 459] or in addition to it. Students also must complete a semester of calculus and an advanced math, statistics, or computer science course, which may require some preliminary work.

Before the third semester begins: PSY:1001 Elementary Psychology and PSY:2701 Introduction to Behavioral Neuroscience

Before the fifth semester begins: calculus and three additional courses in the major, including PSY:2811 Research Methods and Data Analysis in Psychology I and PSY:2812 Research Methods and Data Analysis in Psychology II

Before the seventh semester begins: two more courses in the major, one course for the major's natural science requirement, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: the advanced mathematics/statistics/computer science course and two more courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Psychology, B.S.

Course	Title	Hours
First Year		
Fall		
PSY:1001	Elementary Psychology ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: lower-level psychology course		3

GE CLAS Core: World Languages Second Level Proficiency or elective course ^c	4 - 5
Elective course ^d	3
Elective course ^d	3
Hours	16-18

Second Year**Fall**

PSY:2811 Research Methods and Data Analysis in Psychology I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c	4 - 5
Elective course ^d	3
Elective course ^d	2 - 3
GE: Natural Sciences without Lab ^e	3
Hours	15-17

Spring

PSY:2812 Research Methods and Data Analysis in Psychology II	3
Major: lower-level psychology course	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c	4 - 5
Elective course ^d	3
GE CLAS Core: Historical Perspectives ^b	3
Hours	16-17

Third Year**Fall**

PSY:2701 Introduction to Behavioral Neuroscience	4
Major: lower-level psychology course	3
Major: lower-level psychology course	3
GE CLAS Core: Values and Culture ^b	3
Elective course ^d	3
Hours	16

Spring

Major: Choose an additional course in mathematics, statistics, or computer science from an approved list.	3 - 4
Major: upper-level psychology course	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
GE CLAS Core: Natural Sciences with Lab ^e	4
Elective course ^d	2 - 3
Hours	15-17

Fourth Year**Fall**

PSY:4020 Laboratory in Psychology	4
Major: upper-level psychology course	3
GE CLAS Core: International and Global Issues ^b	3
Elective course ^d	3
Elective course ^d	2
Hours	15

Spring

PSY:4090 Psychology Seminar	3
Major: upper-level psychology course	3
Major: calculus course ^a	4
Elective course ^d	3

Elective course ^d	2
Hours	15
Total Hours	123-132

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Choose from an approved list to meet Psychology B.S. major requirements.

Career Advancement

The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as areas such as business, law, communication, medicine, and the allied health sciences.

Undergraduate psychology students who do not intend to enroll in graduate school immediately after earning their bachelor's degree frequently earn a second major in a discipline that has broad opportunities for employment, such as education, social work, business, journalism, or nursing.

Learn more about careers in psychology at the American Psychological Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Psychology, Minor

The undergraduate minor in psychology requires a minimum of 15 s.h., including 12 s.h. in psychology courses (prefix PSY) taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and all UI courses for the minor. Course work in the minor may not be taken pass/nonpass or satisfactory/fail. Before registering for a psychology course, students must complete the course's prerequisites.

A minor in psychology complements majors in a variety of disciplines. Department advisors can help students identify courses for the minor that are especially appropriate for their major.

Psychology, M.A.

Graduate study in psychology is designed for students seeking the Ph.D.; students enrolled in the doctoral program may elect to receive a Master of Arts when they have completed the M.A. requirements. Students from other University programs may seek an M.A. in psychology as a complement to other graduate or professional training.

Requirements

The Master of Arts program in psychology requires 30 s.h. of graduate credit with thesis, and 37 s.h. of graduate credit without thesis. The department ordinarily offers the M.A. only to students enrolled in the Ph.D. program.

Thesis students must earn 24 of the required 30 s.h. at the University of Iowa. Course work for the thesis program must include a statistics course and at least an additional 8 s.h. earned in Department of Psychological and Brain Sciences courses and seminars, or in courses or seminars that meet area-specific requirements for one of the training areas. Thesis students also must complete an acceptable scholarly thesis and perform successfully in an oral defense of their thesis.

Nonthesis students must earn 30 of the required 37 s.h. at the University of Iowa. Course work for the nonthesis program must include a statistics course and at least an additional 15 s.h. earned in Department of Psychological and Brain Sciences courses and seminars, or in courses and seminars that meet area-specific requirements for one of the training areas. Nonthesis students also must perform successfully on an examination covering their area of specialization.

Graduate Training Areas

Behavioral and Cognitive Neuroscience

The program in behavioral and cognitive neuroscience focuses on the analysis of learning, memory, attention, motivation, aging, sensory processing, and sleep, in both human and nonhuman subjects, through the application of behavioral and biological principles. Special faculty strengths are in neurobiology of learning and memory, cognitive neuroscience, motivation and emotion, developmental psychobiology, comparative psychology, neuropharmacology, neuroendocrinology, and neuroanatomy. Students in this program have the opportunity to learn state-of-the-art techniques in computer-controlled experimentation and electronic instrumentation as well as advanced analytic and laboratory methods in neurophysiology, nonhuman neurosurgery, histology, neuroimaging, and assays of biochemical activity.

Faculty members in the behavioral and cognitive neuroscience area interact extensively with colleagues in other divisions in the department, in the Iowa Neuroscience Institute, and in many basic science and clinical departments in the Carver College of Medicine, including anatomy, otolaryngology, pharmacology, internal medicine, pediatrics, psychiatry, and neurology. These collaborative activities provide excellent research and training opportunities for students interested in emerging interdisciplinary fields.

Clinical Science

The clinical science training program emphasizes a scientific approach to the understanding of psychological disorders and the influence of psychological factors on human relationships

and health. The program is accredited by the Psychological Clinical Science Accreditation System (PCSAS), has been continuously accredited by the Commission on Accreditation of the American Psychological Association since 1948, and is a charter member of the Academy for Psychological Clinical Science.

The program is designed for students who are interested primarily in helping to advance scientific understanding of clinical phenomena and in acquiring the research skills necessary to do so. Faculty members and students have active research collaborations with colleagues from many departments in the University's Carver College of Medicine and College of Public Health and at the Iowa City VA Health Care System. Many of the program's faculty members conduct externally funded research programs that use cutting-edge behavioral science to develop improved understanding of mechanisms, processes, and interventions for mental disorders. Faculty members have strong training records, and the program's graduates have gone on to top-tier research, teaching, and clinical service positions.

The clinical psychology program provides the first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Clinic with course work and supervised research experience. Advanced students have opportunities to gain additional clinical experience through placement in the Benton Neuropsychology Clinic, Women's Wellness and Counseling Service, adult and child psychiatry clinics, the Iowa City VA Health Care System, and other venues.

Cognition

The cognition training area is guided by the philosophy that understanding cognitive processes requires an understanding of how they develop and interact with other cognitive processes. In this pursuit, the area strives for empirical and theoretical rigor.

The area's laboratories have overlapping research domains, so most topics are studied by multiple laboratories with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, cognitive development, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in cognition take basic courses and seminars in specialty areas, but they devote most of their time to research activities. Students work closely with a faculty mentor at first and then become progressively independent as they gain knowledge and skills. The program encourages students to work with more than one faculty member, both in the program and across the department and the University. Students often combine basic work on cognition with work in areas such as neuroscience, neuropsychology, psychiatry, educational psychology, and human factors engineering.

Admission

Since the graduate program in psychology is designed primarily for students seeking the Ph.D., all applicants are considered on that basis. Occasionally, a qualified applicant who is in good standing in another UI graduate program and is interested in advanced work in psychology only through the M.A. level may be admitted to pursue a combined graduate program. Students interested in such a program should contact the department chair before filing an application.

The application deadline is December 1. For all materials to be on file by that date, applicants should take the Graduate Record Examination (GRE) General Test in October, and no later than November. The subject test in psychology is not required. Applications may be submitted any time but are considered only once each year—between December 1 and February 1—for admission the following fall. Admission decisions are based on a composite consideration of prior academic and research performance; letters of reference; scores on the verbal, quantitative, and analytic writing sections of the GRE General Test; and the applicant's statement about background and purpose. Admission materials are reviewed initially by faculty members in the applicant's primary training area.

An undergraduate major in psychology—including a laboratory course in experimental psychology, a course in statistics, and additional work in the natural sciences and in mathematics—is desirable but not required. Students who have not had such a background but are strongly qualified on other grounds may be admitted. They may be asked to remedy deficiencies in background work with certain courses or independent study before embarking on the regular graduate program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Students who pursue a master's degree in psychology have many opportunities to teach psychology in community colleges or high schools or to find employment in a business, school, or hospital.

Learn more about careers in psychology at the American Psychological Association website.

Psychology, Ph.D.

Graduate study in psychology is designed for students seeking the Ph.D.; students enrolled in the doctoral program may elect to receive a Master of Arts when they have completed the M.A. requirements.

Requirements

The Doctor of Philosophy program in psychology requires a minimum of 72 s.h. of graduate credit. Students entering without previous graduate work usually require at least five years to complete the program; those entering with previous graduate training may require less, depending on the nature of the earlier preparation.

The Ph.D. program places strong emphasis on preparation for research, teaching, and other scholarly endeavors, whether in academic settings or in industrial, governmental, or medical institutions. The intent is to produce graduates who are deeply committed to the study of psychology, familiar with fundamental knowledge about psychological processes, well-trained in the methods and techniques for careful investigation of basic and applied problems, and determined to make contributions to the discipline of psychology and to society.

Graduate training is organized in three broad areas: behavioral and cognitive neuroscience, clinical psychology, and cognition. Within and across those areas, graduate training may be guided by additional organizing themes such as developmental science, developmental psychopathology, health psychology, and social psychology. Entering students are expected to identify one of the three broad areas as their primary area and to follow a specific program that develops a thorough understanding of the substantive material and methods of investigation central to that subdiscipline, combined with the student's specific research goals. Regardless of specialty training, all students must meet course requirements in statistics and research methods, and they are expected to take courses in content areas other than their primary one. The training area programs are sufficiently flexible to permit students to develop substantial competence in a second training area. Individually tailored programs are possible.

The 72 s.h. required for the Ph.D. includes at least 33 s.h. in the Department of Psychological and Brain Sciences. All students must satisfy, through one of several options, requirements in statistics and research methods. They also must take course work outside the primary training area to develop a background in the discipline of psychology as a whole.

During each of the first two semesters, graduate students ordinarily take three courses—for example, a statistics course, a course or two in the primary training area, and/or an outside area elective. Students also begin their research under the supervision of their advisor and with the guidance of their research advisory committee.

Near the end of the fall semester of the second year, students submit a report describing their research to date. At the beginning of the following semester, they present their research at the annual graduate research symposium.

During subsequent years, students continue selected course work in their training and interest areas and continue to develop their research programs. In addition, they develop a prospectus for the dissertation research and take the

comprehensive examination, which covers material in the specialty area. The final year is devoted primarily to conducting the Ph.D. study and preparing the dissertation. In the Ph.D. final examination, students present an oral defense of their dissertation and are expected to relate the dissertation work to broader issues in the discipline of psychology.

Graduate Training Areas

Behavioral and Cognitive Neuroscience

The program in behavioral and cognitive neuroscience focuses on the analysis of learning, memory, attention, motivation, aging, sensory processing, and sleep, in both human and nonhuman subjects, through the application of behavioral and biological principles. Special faculty strengths are in neurobiology of learning and memory, cognitive neuroscience, motivation and emotion, developmental psychobiology, comparative psychology, neuropharmacology, neuroendocrinology, and neuroanatomy. Students in this program have the opportunity to learn state-of-the-art techniques in computer-controlled experimentation and electronic instrumentation as well as advanced analytic and laboratory methods in neurophysiology, nonhuman neurosurgery, histology, neuroimaging, and assays of biochemical activity.

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The clinical psychology program provides the first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Clinic with course work and supervised research experience. Advanced students have opportunities to gain additional clinical

experience through placement in the Benton Neuropsychology Clinic, Women's Wellness and Counseling Service, adult and child psychiatry clinics, the Iowa City VA Health Care System, and other venues. After five to six years of on-campus work, including completion of all course work and most of the dissertation, students serve a one-year internship at an approved site.

Cognition

The cognition training area is guided by the philosophy that understanding cognitive processes requires an understanding of how they develop and interact with other cognitive processes. In this pursuit, the area strives for empirical and theoretical rigor.

The area's laboratories have overlapping research domains, so most topics are studied by multiple laboratories with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, cognitive development, language and language learning, learning and memory, visual cognition, attention, and working memory.

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Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

All students admitted to the Ph.D. program in psychology are guaranteed five years of financial support, as long as they make satisfactory progress and remain in good academic standing. Financial support is provided through fellowships, teaching assistantships, research assistantships, and traineeships, depending on merit and availability. No separate application for financial aid is required.

Career Advancement

Learn more about careers in psychology at the American Psychological Association website.

Public Digital Arts

Chair, Department of Theatre Arts

- Alan M. MacVey

Codirectors, Public Digital Arts Cluster

- Alan M. MacVey (Theatre Arts), Geb W. Thomas (Industrial and Systems Engineering/Orthopedics and Rehabilitation)

Coordinator, Public Digital Arts

- Daniel S. Fine (Dance/Theatre Arts)

Steering Committee, Public Digital Arts

- Paula T. Amad (Cinematic Arts), Er-Wei Bai (Electrical and Computer Engineering), David Gier (Music), George R. de la Peña (Dance), George K. Gompfer (Music), Alan M. MacVey (Theatre Arts), Steve McGuire (Art and Art History), Alberto M. Segre (Computer Science/Nursing), Geb W. Thomas (Industrial and Systems Engineering/Orthopedics and Rehabilitation), Byron S. Winn (Theatre Arts)

Undergraduate certificate: public digital arts

Website: <https://pda.uiowa.edu/>

The curricular goal of the public digital arts certificate program is to give students skills to make works of art that are informed by digital technology, scholarship, and disciplinary tradition. Digital technologies keep transforming how people create, perform, and experience art. At the core of the public digital arts cluster is a commitment to innovation and interdisciplinary collaboration in research, teaching, creative work, and the public expression of the University's creative research and scholarship.

Upon completion of the certificate program, students will be able to develop and realize artistic visions using digital technology and work collaboratively with other artists, engineers, or computer scientists. Most courses will include a public dimension, where projects are shown to a public audience.

The certificate provides the following competencies.

- The ability to think about and develop works of art that use digital technology in creative ways.
- The ability to participate in critical discourse about such artistic works.
- The ability to collaborate across disciplines on artistic projects at the intersection of the physical and digital worlds.
- The ability to use art and digital technology to identify, attract, and interact with audiences in a meaningful and creative way.

The Department of Theatre Arts [p. 1012], which administers the Certificate in Public Digital Arts, partners with the College of Engineering [p. 1294], the Schools of Music [p. 750] and Art and Art History [p. 82], and the Departments of Computer Science [p. 274] and Cinematic Arts [p. 192], to offer the certificate.

Programs

Undergraduate Program of Study Certificate

- Certificate in Public Digital Arts [p. 878]

Courses

Public Digital Arts Courses

DIGA:2800 Digital Arts: An Introduction 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, MUS:2800, THTR:2800.

DIGA:3876 Video for Performance 3 s.h.

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:3890 or CINE:1834 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, INTM:3876, THTR:3876.

DIGA:3880 Installations and Interactive Performance 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DANC:3880, INTM:3880, THTR:3880.

DIGA:3890 Producing and Directing Digital Video 3 s.h.

Introduction to the basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with a focus on aesthetic and technical principles; focus on developing proficiency in contemporary approaches to digital media production by understanding the production pipeline, from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:3890, INTM:3890, THTR:3890.

DIGA:3895 Performance, Art, and New Technologies in Society
3 s.h.

Survey of major technological innovations that have deeply impacted society and live performance in the late 20th and early 21st century, and the future of the rapidly evolving technological world; students examine theoretical texts and performances that address the impact of technology on the human condition, as well as create original applied live performances and installations; a variety of technologies are explored and adapted for live performance as they relate to the following five categories of original human experience—telepresence, liveness, artificial intelligence, augmented and virtual reality, and transhumanism. Same as DANC:3895, INTM:3895, THTR:3895.

Public Digital Arts, Certificate

The undergraduate Certificate in Public Digital Arts requires a minimum of 24 s.h. of course work, including at least 18 s.h. earned at the University of Iowa or in approved study abroad courses. Students must maintain a g.p.a. of at least 2.00 in course work for the certificate. Courses taken pass/nonpass do not count toward the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students may count a maximum of 6 s.h. completed for a major, a minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Public Digital Arts.

Students should declare their intent to earn the certificate at the Office of Academic Programs and Student Development (College of Liberal Arts and Sciences) or the Academic Advising Center (Tippie College of Business) or on MyUI.

Students complete two core courses, five track courses, and one capstone project. They must meet with the certificate director or a public digital arts advisor every semester to discuss their course selections and plan for the capstone course.

The Certificate in Public Digital Arts requires the following course work.

Required Core Courses

Code	Title	Hours
Both of these:		
ARTS:2800/ CINE:2800/CS:2800/ DANC:2800/ MUS:2800/ THTR:2800	Digital Arts: An Introduction	3
THTR:3895/ DANC:3895	Performance, Art, and New Technologies in Society	3

Track Courses

Students must complete five courses from one track (15 s.h.). At least one of the electives must be taken from the Department of Computer Science (prefix CS), unless students have already taken a college-level introductory computer science course or proficiency can be demonstrated. Students who wish to count a course not listed in a track may submit a request for approval to the certificate director.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Some of these courses also have specific restrictions such as only open to certain majors.

Interactive Design and Intelligent Spaces Track

From human-computer interaction to experiential museum experiences, people are constantly interacting and interfacing with both the physical and digital worlds. How does embedded computation change the way we experience our surroundings? Do immersive environments change the way we experience art and performance?

In this track, students explore how the human body interacts with and can control computers, digital technologies, visual and aural media, and so on, in order to create unique, engaging, and embodied user experiences. Students explore the value of and practical skills needed to create dynamic spaces within the built environment that react to their physical surroundings and the inhabitants within.

Code	Title	Hours
Fundamentals		
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction	3
INTM:2710/ CINE:2869	Introduction to Intermedia	3
THTR:3880/ DANC:3880	Installations and Interactive Performance	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
Specialized		
CERM:3010	Advanced Clay Forming III	4
CS:3980	Topics in Computer Science I (when topic is hybrid mobile application development)	3
ECE:2120/ TDSN:2205	Art and Engineering	3
IE:4650/ME:4650	Mechatronics Engineering for Smart Device Design	3
IE:5995	Contemporary Topics in Industrial Engineering (when topic is creative engineering design)	arr.
MUS:3285	New Musical Instruments: From Design to Performance	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
SCLP:2810	Undergraduate Sculpture I	3
SCLP:3840	Robotic Art Studio	4
SCLP:4835	Electronic Objects and Spaces	4
SCLP:4840	Air, Actuators, and Motors	4
TDSN:2210	Problems in 3-D Design	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Computer Modeling with 3ds Max	3
THTR:3230/ ARTS:3230	Scene Design I	3
THTR:3250	Lighting Design I	3
THTR:3260	Sound Design for the Theatre	3
THTR:3270	Entertainment Design	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3

New Modes of Storytelling Track

Digital and emerging technologies are changing the ways stories are told and experienced. How can we as storytellers, artists, and engineers use digital media and new technologies to engage 21st-century audiences? Students explore the ideas and technologies that are shaping new modes of storytelling through a variety of transdisciplinary methods across multiple platforms, such as live performances, online experiences, mobile technologies, digital video, immersive installations, augmented and virtual reality.

Code	Title	Hours
Fundamentals		
ANIM:2125	Introduction to Animation	3
ANIM:3125	Animation I	4
ARTS:2000/ ASP:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3
CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CINE:4843	Film/Video Production: Image Design	4
CINE:4845	Film/Video Production: Editing	4
CINE:4890	Media Production Workshop	4
CNW:2770	The Art and Craft of Writing for New Media	3
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
THTR:3230/ ARTS:3230	Scene Design I	3
Specialized		
CINE:2866	Film/Video Production: Nonfiction	3
CINE:2868	Film/Video Production: Fiction	3
CINE:4841	Film/Video Production: Sound Design	4
COMM:1840	Television Studio Production	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
DANC:3050/ INTM:3050	Body/Image: Dance and Media in Discourse and Practice	3
INTM:2710/ CINE:2869	Introduction to Intermedia	3
MUS:3285	New Musical Instruments: From Design to Performance	3
MUS:4250	Composition: Electronic Media I	3

MUS:4251	Composition: Electronic Media II	3
SCLP:2810	Undergraduate Sculpture I	3
SCLP:3840	Robotic Art Studio	4
SCLP:4835	Electronic Objects and Spaces	4
SCLP:4840	Air, Actuators, and Motors	4
THTR:3250	Lighting Design I	3
THTR:3880/ DANC:3880	Installations and Interactive Performance	3
THTR:3890/ DANC:3890	Producing and Directing Digital Video	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3

Sound Design Track

Sound is a critical component to the audience experience of traditional and new media. Students focus on sound design by selecting additional courses in electronic music production and composing, audio engineering, acoustics, among others.

This track provides an opportunity for students to focus their training in (or specialize in) the theory and practical skills needed to create and produce sound design for live public performances in theater, dance, and/or music that use digital and new technologies; interactive sound art; public art exhibitions, installations, or gallery settings; music and sound recordings for analog and digital release; internet, mobile technology, and new media applications; augmented and virtual reality; and games.

Code	Title	Hours
Fundamentals		
CINE:4841	Film/Video Production: Sound Design	4
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
THTR:3260	Sound Design for the Theatre	3
Specialized		
CS:1110	Introduction to Computer Science	3
CS:3980	Topics in Computer Science I (when topic is interactive multimedia programming)	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
JMC:2020	Introduction to Multimedia Storytelling	4
JMC:3645	Digital Storytelling	3-4
MUS:3190	Center for New Music Ensemble (when topic is LOUi laptop orchestra)	0-1
MUS:3280	Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis	3
MUS:3285	New Musical Instruments: From Design to Performance	3

SCLP:3840	Robotic Art Studio	4
SCLP:4835	Electronic Objects and Spaces	4
THTR:3890/ DANC:3890	Producing and Directing Digital Video	3

Visual Design Track

Visual modes of communication consume our daily experience, from informational road signs to internet interfaces to the omnipresence of digital screens. Visual design is a crucial aspect to telling stories and communicating in both traditional and new media. Students focus on visual design by selecting additional courses in digital video, theatrical design, graphic design, 3-D design, animation, among others.

The track provides an opportunity for students to focus their training in (or specialize in) the theory and practical skills needed to create and produce visual design for live public performances in theater, dance, and/or music that use digital and new technologies; interactive visual art; public art exhibitions, installations, or gallery settings; film and video productions for analog and digital release; internet, mobile technology, and new media applications, including 360 video; augmented and virtual reality; and games.

Code	Title	Hours
Fundamentals		
ANIM:2125	Introduction to Animation	3
ANIM:3125	Animation I	4
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction	3
THTR:3202	Graphic Design and Identity	3
THTR:3230/ ARTS:3230	Scene Design I	3
THTR:3250	Lighting Design I	3
THTR:3270	Entertainment Design	3
THTR:3890/ DANC:3890	Producing and Directing Digital Video	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3
Specialized		
CERM:3010	Advanced Clay Forming III	4
CINE:2868	Film/Video Production: Fiction	3
CINE:3195	Undergraduate Seminar (when topic is video games and cinema)	3
CINE:4821	Film/Video Production: Selected Topics	4
CINE:4843	Film/Video Production: Image Design	4
CINE:4845	Film/Video Production: Editing	4
CINE:4890	Media Production Workshop	4
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3

GEOG:1050	Foundations of GIS	4
SCLP:3840	Robotic Art Studio	4
SCLP:4835	Electronic Objects and Spaces	4
SCLP:4840	Air, Actuators, and Motors	4
TDSN:2210	Problems in 3-D Design	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Computer Modeling with 3ds Max	3

Choose Your Own Adventure Track

This track is geared toward the creative entrepreneur, the trail blazer who does not fit into the tracks listed above, and toward the student who wants to forge a new path. This track allows a student to work with a public digital arts advisor to create a specialized plan of study.

Capstone Project

The capstone project must result in a work that is both artistic and digital, and it must be shared in a meaningful way with the public. The project must be informally approved by the certificate director at least one semester before the work takes place. A student then selects at least one faculty member from an appropriate department as a formal advisor. The student submits a written proposal to the certificate director and the advisor. The proposal must include a description of the work; a statement of why the student is prepared to accomplish the work; and a list of equipment, materials, space, or funding required. Once the proposal is approved by the director and advisor, the student enrolls in an independent study course with the advisor as instructor. The student meets with the advisor on a regular basis and engages other faculty and students as needed. Once the project is complete and shared publicly, the advisor evaluates the project and submits a letter grade.

Code	Title	Hours
	Capstone project (consult certificate director)	3

Religious Studies

Chair

- Morten Schlutter

Undergraduate major: religious studies (B.A.)

Undergraduate minors: religion and media; religious studies

Graduate degrees: M.A. in religious studies; Ph.D. in religious studies

Faculty: <https://clas.uiowa.edu/religion/people/faculty>

Website: <https://clas.uiowa.edu/religion/>

The Department of Religious Studies encourages multidisciplinary inquiry into religious ideas, experiences, philosophies, cultural expressions, and social movements. It studies a rich array of traditions and paths, including South and Southeast Asian religions, ancient Judaism and early Christianity, African diaspora religions, modern European Christianity, various Islamic sects, North American religions, including Native American traditions, and new forms of religion that many people may not yet recognize as religions.

The study of religion helps students to think critically and creatively about the many forms that religion takes and the subtle ways in which it operates. Students learn how people from around the world have responded to age-old questions about life, love, suffering, and death. They learn about religion's impact on global events, including its influences on the construction of personal and communal identities, and its roles in shaping processes of social change, both historically and in the contemporary digital era.

Programs

Undergraduate Programs of Study

Major

- Major in Religious Studies (Bachelor of Arts) [p. 890]

Minors

- Minor in Religion and Media [p. 895]
- Minor in Religious Studies [p. 896]

Graduate Programs of Study

Majors

- Master of Arts in Religious Studies [p. 897]
- Doctor of Philosophy in Religious Studies [p. 899]

Courses

Religious Studies Courses

RELS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

RELS:1001 Judaism, Christianity, and Islam 3 s.h.

Introduction to sacred literature, beliefs, and rituals of Judaism, Christianity, and Islam, as well as historical and contemporary relationship between these three Abrahamic religions. GE: Historical Perspectives.

RELS:1010 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, THTR:1001.

RELS:1015 Religions in a Global Context: The Critical Role of Religion in International Affairs 3 s.h.

Essentials of world's religions; focus on religion's role in national and international events, fundamentalism, millenarianism, protest movements, religion and youth culture, religion and popular culture, contact between religious communities past and present.

RELS:1050 Big Ideas: Introduction to Information, Society, and Culture 3 s.h.

What is information? What does it teach us about societies and cultures? How is information used to shape societies and even personal preferences? What types of information are there and how can we understand and use them? Students work with faculty from multiple disciplines to investigate these questions using inquiry-based activities to build success in critical thinking and teamwork. GE: Quantitative or Formal Reasoning. Same as POLI:1050.

RELS:1060 Journey Through World Religions 3 s.h.

What makes a religion work, where do they come from, why and how religion(s) become structured in the lives of individuals and cultures, and how different cultures define and inhabit the religions that are practiced on their soil.

RELS:1070 Introduction to the Hebrew Bible/Old Testament 3 s.h.

History, religion, and thought of ancient Jews as recorded in their scripture. GE: Values and Culture.

RELS:1080 Introduction to the New Testament 3 s.h.

History, religion, and thought of early Christians as recorded in the New Testament. GE: Values and Culture.

RELS:1113 Gateway to the Bible 3 s.h.

Disagreement of Jews, Catholics, Protestants, and Eastern Orthodox Christians about the Bible, one of the most influential works in Western culture, on how it should be interpreted, what books should be included, and what versions of those books should be authoritative; introduction to issues involved in creating and interpreting the Bible; how academic study of religion seeks to provide answers.

RELS:1130 Introduction to Islamic Civilization 3 s.h.

Major areas of Islamic religious tradition: Qur'an, traditions of the Prophet, development and character of Islamic law, theology. GE: International and Global Issues; Values and Culture. Same as HIST:1030.

RELS:1225 Medieval Religion and Culture 3 s.h.

Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as HIST:1025.

RELS:1250 Modern Religion and Culture 3 s.h.

European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as HIST:1050.

RELS:1323 Life in the Biblical World 3 s.h.

Examination of world depicted in Old and New Testaments of the Bible; archaeological evidence, ancient art, historical accounts, geography, and Bible text used to examine background of biblical text, shedding light on different aspects of daily life in antiquity from different points of view from Late Bronze Age through Roman period. Same as CLSA:1323.

RELS:1350 Introduction to African American Religions 3 s.h.

GE: Values and Culture. Same as AFAM:1250.

RELS:1404 Living Religions of the East 3 s.h.

Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as ASIA:1040, HIST:1610.

RELS:1410 Introduction to Indian Religions 3 s.h.

Religions with origins in the South Asian geographic region (e.g., Vedas in mid-second millennium BCE, Jainism and Buddhism from sixth to fourth centuries BCE, Sikhism in 15th century, Indian Christianity, Islam); focus on Hinduism and Buddhism; rise of varied literary forms, ritual, rise of devotional religion, Tantra, how religious practices affect indigenous medical traditions, how these traditions developed in different South Asian regions; broad changes in South Asian religion in 20th and early 21st centuries, current politicization of religion.

RELS:1430 The Bible: Frequently Asked Questions 3 s.h.

Curious about what the Bible is or how it was created, the biblical character that your friends keep referencing, where ideas like Satan and the apocalypse come from, or how the Bible influences our world today? Introduction to the Bible and its influences on Western culture; course format organized by question types to allow flexibility in learning.

RELS:1502 Asian Humanities: India 3 s.h.

Introduction to four thousand years of South Asian civilization, through popular stories. GE: Values and Culture. Same as SOAS:1502.

RELS:1506 Introduction to Buddhism 3 s.h.

Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as ASIA:1060, HIST:1612.

RELS:1510 Gods, Buddhas, and Ghostly Officials: The Past and Present of Chinese Religions 3 s.h.

History of religious beliefs and practices in China; role in modern-day Chinese society; specific case studies that illuminate current situation of religion in China and impact on Chinese society; focus on the still widespread worship of gods and ancestors, the Confucian, Buddhist and Daoist traditions, recent upsurge of Christianity in China, and emergence of new religions (e.g., the Falun gong). Same as ASIA:1110.

RELS:1606 Civilizations of Asia: South Asia 3-4 s.h.

Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1606, HIST:1606.

RELS:1610 Japanese Religions 3 s.h.

Religions of Japan from ancient times to the present day; elite and popular Japanese interpretations of Chinese Buddhist and Daoist traditions; the parallel development of an indigenous kami tradition; contemporary new religious movements; focus on the codification of a variety of religious (and sometimes quasi-religious) paths, including the way of tea, the way of the brush, and the way of the samurai. Same as JPNS:1115.

RELS:1620 Bhagavad Gita: Essential Teachings of Indian Religion 3 s.h.

Students read the Bhagavad Gita and discuss its interpretations and use in classical and modern religious, literary, and political contexts; composed around 2000 years ago, it is the best known and most influential religious text in Indian history and concisely addresses war and peace, duty and righteousness, renunciation, devotion, and the nature of the universe; its been read, debated, and discussed by ancient philosophers, modern religious teachers, and political figures such as Mahatma Gandhi, the father of modern Independent India. Same as SOAS:1620, TRNS:1620.

RELS:1670 Korea in the World 3 s.h.

Comprehensive and critical understanding of Korea's place in the world; emphasis on historical and sociocultural roots of various aspects of life on the contemporary Korean peninsula (both North and South Korea); comprehensive list of topics including cultural production (K-pop and film), religions, economy, gender relations, cuisine, politics, and prospects for reunification. Same as KORE:1670.

RELS:1702 Religion in America Today 3 s.h.

How American men, women, and children practice their beliefs in today's society. GE: Values and Culture.

RELS:1725 Gender and Religions in Visual Culture: Korea 3 s.h.

Students draw creatively on visual materials to illuminate complex experience of Korean women in various religious traditions of Korea.

RELS:1765 U.S. Latino Religions 3 s.h.

Beliefs and practices of U.S. Latinos and Latinas, ways that their beliefs and practices are unique and where they overlap with mainstream U.S. society; beliefs, symbols, and practices among U.S. Latinos and Latinas on national and local level; field visits to local churches and religious sites; class visitors share insights. Same as LAS:1765, LATS:1765.

RELS:1810 Happiness in a Difficult World 3 s.h.

Religious backgrounds and unique spiritualities of Maya Angelou (an African-American Christian), Black Elk (a Lakota Sioux medicine man), and the Dalai Lama (a Tibetan Buddhist monk); forms of oppression that humans can experience as obstacles to happiness, and forms of liberation that are possible (social, political, economic, mental, emotional, spiritual). GE: Values and Culture.

RELS:1903 Quest for Human Destiny 3 s.h.

Quests for destiny in terms of perceived options/goals and ability to recognize, pursue, achieve them. GE: Values and Culture.

RELS:1997 Harry Potter: The Mystery and Magic of Life 3 s.h.

Exploration of Harry Potter novels and films that offer millions of people an entrée into a world of wizards, witches, and muggles; this engrossing world created by J.K. Rowling invites readers and viewers to explore the power of human imagination, creates a space for asking questions of personal significance (What defines me as a person? What sort of person am I in the process of becoming? What are the most significant factors that are shaping my identity and destiny?); students read selections and view film segments while exploring these essential questions.

RELS:2041 Understanding "The Muslim World" 3 s.h.

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as ASIA:2041, IS:2041.

RELS:2064 Tricksters, Fools, and Creators: Mythical Agents of Change 3 s.h.

Trickster figures found all around the world in many forms, including coyote, br'er rabbit, spider, raven, and gods; how they are often depicted as bungling fools or dupes, but also as creators, transformers, or culture heroes; how they get into trouble and solve human problems; how storytellers have long entertained and educated their listeners with tales of trickster exploits; trickster figures that have been recast in comic books and on movie screens (e.g., Loki); examination of historical and contemporary trickster figures to understand how they are experienced by different cultures and how they shape and inform human behavior.

RELS:2068 Jews in Popular Culture 3 s.h.

Exploration of a wide variety of ways in which Jewish people represent themselves through production of cultural media.

RELS:2080 Public Life in the U.S.: Religion and Media 3 s.h.

Examination of how the U.S. came into being through specific communication practices, how religion has helped and hindered that process; religious roots of the idea of the U.S., intertwined histories of print media and religion, role of religion and secularism in public discourse; U.S. pride as a nation in which diversity thrives in public discourse; communicative acts that created and sustained this country and also mark sites of discord, conflict, and confusion from the very beginnings of the U.S. to today; how religion has been a source of national identity and national division. Same as COMM:2080.

RELS:2087 Narnia and Beyond: The Writings of C.S. Lewis 3 s.h.

Exploration of C.S. Lewis's use of fantasy to describe the indescribable, his efforts to empathize with human suffering while hoping in possibility of miracles, and his jargon-free narration of Christian beliefs for a war-weary country; Lewis's works that continue to attract attention, ranging from children's literature to science fiction to autobiography and nonfiction; as a professor of medieval and renaissance literature, Lewis's unique perspective on Christianity that led him to make use of imagery, metaphors, and narratives previously neglected by Christian thinkers.

RELS:2090 Issues in American Catholicism 3 s.h.

Major issues that have faced Catholics in America; special attention to issues of gender, racial, and ethnic identities.

RELS:2110 Diversity in American Religious History: Experimenting with Gender and Sexuality 3 s.h.

Introduction to select popular, alternative, and communal religious groups from the 19th and 20th centuries that have challenged society's norms for gender and sexuality. Same as GWSS:2110, HIST:2210.

RELS:2182 Ancient Mediterranean Religions 3 s.h.

Introduction to major religious traditions of ancient Mediterranean world; Mesopotamia, the Levant (Hebrew Bible), Egypt, Greece, and Rome; central aspects of mythology, ritual, and archaeology, individually and in comparative perspective; ancient Judaism and Christianity considered in their various cultural contexts; basic concepts for understanding cultural exchange; fundamental theories in the study of religion. GE: Values and Culture. Same as CLSA:2482.

RELS:2225 Messianic and Apocalyptic Prophecy in the Bible 3 s.h.

Literary, historical, and theological analysis of biblical prophecies and their impact. Same as CLSA:2425.

RELS:2260 Hard Cases in Healthcare at the Beginning of Life 3 s.h.

Exploration of ethical impact that advances in biotechnology—including genetic, reproductive, and neonatal technology—are having in the medical arena and on humanity; consideration of the powerful influence that religion and spirituality have on most people's thinking about life and death. Same as GHS:2260.

RELS:2265 Hard Cases in Healthcare at the End of Life 3 s.h.

Preparation for future healthcare providers to make difficult ethical decisions regarding the end of life; interactive course. Same as GHS:2265.

RELS:2272 Religion and Film 3 s.h.

Religious ideas that are often explored and debated in movies; movies that retell a particular story (*Noah* or *Kundun*) or rework ancient themes (*Little Buddha* or *The Matrix*); movies that go beyond mere entertainment to try to persuade audiences to change their view of the world and how movie watchers do not realize that this process is taking place; analysis of movies that use ancient or religious material to try to shape people's minds and imaginations today. Recommendations: some background in religious studies helpful.

RELS:2289 Jerusalem: The Holy City 3 s.h.

Religious, political, and cultural history of Jerusalem over three millennia as a symbolic focus of three faiths—Judaism, Christianity, and Islam; integration of several digital learning technologies, including digital reconstructions and Google Earth tours of Jerusalem. Same as CLSA:2489.

RELS:2320 Jesus and the Gospels 3 s.h.

How Jesus was depicted in the writings of the early church; reasons for the different portrayals. Same as CLSA:2420.

RELS:2333 Economics and Religion: Theories and Practices 3 s.h.

Students survey theories and ideas from emerging fields of the study of economics of religion and religious economy; special focus on Islamic and Jewish economic institutions and principles as case studies.

RELS:2353 Love: Journey of an Idea Through Time 3 s.h.

Idea of love from influential texts of the past to various aspects of contemporary culture and experience (e.g., romantic love, mystical experience, digitally mediated friendships, family relationships); idea of universal human rights; cybersex.

RELS:2361 Middle East and Mediterranean: Alexander to Suleiman 3 s.h.

GE: Historical Perspectives. Same as CLSA:2461, HIST:2461.

RELS:2420 Do Androids Dream of Being Human? Human Identity in Science Fiction 3 s.h.

What does it mean to be human? What distinguishes humans from other sorts of entities, such as cyborgs and robots? What are the ethical implications of a post-human future? Students pursue these questions through exploration of science fiction in books, short stories, film, and television.

RELS:2475 Islam in America 3 s.h.

Survey of Islam in America; exploration of the roots of Islam in the Atlantic world and antebellum America to the current day; urban-based African American Muslim communities; interactions between African American Muslim women and South Asian Muslim women around issues of gender; focus on Islamic political experiences and artistic expressions to explore the connections between the civil rights movement, black power movement, and African American music genres such as jazz; creative ways in which Muslim Americans have engaged with hip hop culture—including rap, poetry, and protest—in the wake of 9/11.

RELS:2486 Religious Coexistence and Conflict in the Middle East 3 s.h.

Examination of coexistence and conflict in the region that includes Iraq, Israel/Palestine, Lebanon, Syria and Yemen; relationship between religion and politics in the Middle East; how the region's diverse ethnic and religious communities coexisted in the past and what now seems like a remarkably tolerant environment; investigation of questions (Did Muslims, Christians, and Jews really live together in peace? If so, how and why has that changed?); history of communal relations in the Middle East; use of this background to analyze how religion and ethnicity function in contemporary politics.

RELS:2510 Fed Up with Organized Religion 3 s.h.

Explores the rise of discontent with organized religion in America and the flourishing of alternative means for understanding the meaning and purpose of life and the universe.

RELS:2540 The Walls Between Us: Historic Uses of the Bible Defining the Other 3 s.h.

Major events in Western history in which people disagreed about who deserves to be treated as human; students examine how the Bible was used to expand and restrict the circle of humanity, ranging from the Crusades and the Reformation to slavery and women's suffrage. Recommendations: some background in religion and religious studies is helpful.

RELS:2552 Atheism, Agnosticism, and Religion 3 s.h.

History and analysis of religious skepticism in Western culture from the classical period through modern times. Same as CLSA:2552.

RELS:2570 Introduction to Islamic Psychology 3 s.h.

Psychology in Islamic civilization; the nature of the human being; pathology, illness, healing, and therapies in the Islamic tradition; Islamic models compared with Euro-American frameworks. Recommendations: basic knowledge of psychology and Islam. Same as GHS:2570, IS:2570.

RELS:2620 Politics, Sex, and the Bible 3 s.h.

Examination and analysis of the role of the Bible in contemporary culture; how different groups can read the exact same passages, yet reach different conclusions about how they and others should live. Recommendations: basic familiarity with the Bible or religion.

RELS:2674 You Are What You Eat: Food, Belief, and Identity 3 s.h.

Introduction to study of food and identity in a global context.

RELS:2700 Sacred World of Native Americans 3 s.h.

GE: Values and Culture. Same as NAIS:2700.

RELS:2730 African American Islam 3 s.h.

Same as AFAM:2730.

RELS:2771 Sexual Ethics 3 s.h.

Introduction to religion and ethics; diverse secular, Jewish, and Christian perspectives on human sexuality and sexual activity; religious views underlying divergent attitudes toward same-gender sexuality and abortion. Same as GWSS:2771.

RELS:2775 The Bible and the Holocaust 3 s.h.

Religious and philosophic implications of the Holocaust viewed through survivors' writings.

RELS:2791 Religion and Social Life 3 s.h.

Religion as a dimension of experience that can find diverse forms of expression, especially in social life and production of culture, not simply a social institution that is defined by a set of beliefs and practices.

RELS:2834 Philosophy of Religion 3 s.h.

Historical to contemporary treatments of central issues; nature of faith, existence and nature of God, science and religion, ethics and religion, miracles, religious experience, interpretation of religious texts. Requirements: sophomore or higher standing. Same as PHIL:2534.

RELS:2852 Women in Islam and the Middle East 3 s.h.

Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: International and Global Issues; Values and Culture. Same as GWSS:2052.

RELS:2855 Human Rights, Law, Religion, and Culture 3 s.h.

Application of historical and analytical approaches to explore social norms, political principles, religious teachings, cultural practices, and legal doctrines that have shaped the debate on human rights in the global context and within Islamic societies; analysis of historical accounts, legal documents, and past and current events to introduce students to human rights beyond its international law framework.

RELS:2877 Sport and Religion in America 3 s.h.

Sport as a religion; religiosity in sports; examination of religion and sport as connected in important ways in American society. Same as SPST:2077.

RELS:2912 The Bible in Film: Hollywood and Moses 3 s.h.

How Hollywood has interpreted the Biblical stories of Adam and Eve, Moses, and David the King.

RELS:2930 Digital Media and Religion 3 s.h.

Influences of digital media on religion and spirituality today. Same as COMM:2079.

RELS:2947 Quest II: Sex, Love, and Death 3 s.h.
Readings from the Hebrew Bible, Sophocles' *Antigone*, Melville's *Billy Budd*, Hemingway's *The Sun Also Rises*, Salinger's *A Perfect Day for Banana Fish*, the film *From Here to Eternity*.

RELS:2980 Religion and Contemporary Popular Culture 3 s.h.
Representation and appropriation of world religions in contemporary popular culture (film, television, music, new media); new religious movements arising within popular culture; religion in the digital age; commodification and globalization; focusing on cultural production in North America and Asia.

RELS:2986 Religion and Women 3 s.h.
Sexism and its disavowal in biblical narrative, law, wisdom texts, Gospels, epistles; contemporary impact. GE: Values and Culture.

RELS:3003 Classical and Hellenistic Periods I 3 s.h.
Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: CLSG:2002. Same as CLSG:3003.

RELS:3020 Religion and Politics 3 s.h.
Major trends in Islamic religious thought since the colonial period, focusing on encounters between Islamic and the modern world; Ibn Khaldun; renewal movements; varieties of religious reform and accommodation; nationalism, socialism, and so forth. Recommendations: prior course work in content topic.

RELS:3055 Death, Dying, and Beyond in Asian Religions 3 s.h.
Survey of cultural and religious approaches to the dying process, post-death rituals, and conceptions about the afterlife in different religions in Asia. Same as ASIA:3055.

RELS:3103 Biblical Archaeology 1,3 s.h.
Contributions of Syro-Palestinian archaeological research to understanding historical, cultural backgrounds of biblical period.

RELS:3105 The World of the Old Testament 3 s.h.
Historical, intellectual background; focus on patterns of thought, religion in Near East, relation to Israelite religion.

RELS:3129 Native American Prophets and Prophecy 3 s.h.
Religious movements, effects of prophecies on followers of religious movements, and resulting tensions with Americans; powerful visions described as messages from a spirit being experienced by several 19th-century Native Americans after waking from coma-like states—wonderful prophecies of the restoration of Native American world to what it once was before American colonization, prophecies leading to religious movements that called for return to traditional practices, rejection of many elements of white American culture, and warnings of an impending destruction of the world.

RELS:3190 Medieval to Modern: The Birth of Protestantism 3 s.h.
Same as HIST:3190.

RELS:3243 Pagans and Christians: The Church from Jesus to Muhammad 3 s.h.
Introduction to history of early Christianity, from time of Jesus to rise of Islam; focus on major movements, intellectuals, institutions in this period; growth of Christianity in different geographical areas including the Middle East, Greece, Western Europe, Africa; Christian relations with Jews, pagans, Muslims; conversion; orthodoxy, heresy, making of biblical canon; martyrdom; women and gender roles; asceticism, monasticism, sexuality; church and state; theological controversy and schisms; cult of saints; the Holy Land and pilgrimage. Same as CLSA:3443.

RELS:3245 Mythology of Otherworldly Journeys 3 s.h.
Examination of mythology of otherworldly journeys from earliest religions to Hellenistic period; historical context; comparison for common themes in their evolution over time; directed readings of mythological texts dealing with otherworldly journeys; ways in which past cultures confronted larger mysteries of life and death. Same as CLSA:3445.

RELS:3247 Banned from the Bible: Pseudepigrapha and Apocrypha 3 s.h.
Introduction to biblical Pseudepigrapha and Apocrypha; writings dating from third century B.C.E. to third century C.E. fictionally attributed to characters in the Hebrew Bible and New Testament, or written as though they originated in the First or Second Temple periods, not included in Jewish or major Christian canons of scripture; English translations of documents from this period; key themes and interpretative techniques common throughout biblical texts that provide tremendous insight into the worlds that produced the Hebrew Bible and New Testament. Same as CLSA:3247.

RELS:3333 Economics and Islam 3 s.h.
Origins, functions, and impact of Islamic and related religions' ideas and practices in the realms of economic development, financial services and products, business models, and matters of social justice. Same as IS:3333.

RELS:3340 Recovering Eden: The Afterlife in Early Judaism and Christianity 3 s.h.
Development of afterlife ideology in Jewish and Christian traditions; ideas that influenced this development, particularly as related to problem of suffering. Same as CLSA:3440.

RELS:3360 Religion Beyond Reason: Emotion and Communication 3 s.h.
How we communicate emotion by using and defying language; a collaborative effort to think about religion beyond the boundaries of rationality where it extends into emotion, passion, and social energy. Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as COMM:3360.

RELS:3375 Birth of the Holy Land: Art and Architecture in the Ancient Middle East 3 s.h.

Major developments in architecture, sculpture, ceramics, and mosaics in Israel, Palestine, Syria, and Arabia from death of Alexander the Great to rise of Islam (4 B.C.E. to 8 C.E.); Greek and Roman influences versus local traditions; Roman Empire; growth of churches, synagogues, and mosques; identity and religion. Same as ARTH:3375.

RELS:3385 Early Modern Catholicism 3 s.h.

Same as HIST:3485.

RELS:3431 Gender and Sexuality in Asia 3 s.h.

Conceptions of sex, gender, and sexuality in the religions of China, Korea, and Japan; asceticism and celibacy; sexual alchemy; the difference between male and female bodies and souls; intersexed persons; female saints and immortals; transgressive sexuality; gender and sexuality in colonial Asia; East Asian religions and postcolonial feminism. Same as GWSS:3131.

RELS:3448 The Allure of Krishna: Sacred Sexuality in Indian Culture 3 s.h.

For thousands of years, Krishna, the dark-skinned flute-player, has been central to the religious experience of many Hindus; his diverse roles as mischievous divine child, sensual teenage cowherd, and adult statesman, warrior, and philosopher celebrated in poetry and prose, painting and sculpture, music, dance, drama, film, and television; exploration of multiple facets of Krishna's character through literary and visual sources, performances; focus on Indian interpretations of erotic content prominent in his story and to the figure of Radha, Krishna's mistress and beloved. Same as SOAS:3448.

RELS:3520 Dying for the Promised Land: Martyrdom and Warfare in the Western World 3 s.h.

How martyrdom evokes images of innocents who are killed for their faith and terrorists who commit suicide bombings; how these groups may appear distinct, but share a heritage that relates absolute obedience to God and (often human) sacrifice to conquest and possession of a Promised Land; development of martyrdom ideology and its uses in religious and political conflict in Western history; examination of the Crusades, Reformation, and modern religious and political conflicts beginning with works from the Bible, Greco-Roman culture, and early Jewish and Christian literature. Same as CLSA:3520.

RELS:3524 The Devil in Judaism and Christianity 3 s.h.

While known by many names, the Devil as a central figure in Western religious tradition; surprisingly, how he is not found in earliest texts in the Old Testament; the Devil as embodiment of evil that has his genesis in early Jewish and Christian sectarian conflicts; how he is used as a terrifying dragon or seductive stranger to demonize those perceived as threats to a group's existence; how the Devil is used to explain righteous suffering and create cultural boundaries throughout Western culture, from ancient texts and medieval witch trials to modern cinema and politics. Recommendations: some background in Judeo-Christian tradition. Same as CLSA:3524.

RELS:3550 Social Justice, Religion, and Spirituality: Faith and Belief Ignited 3 s.h.

Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as GWSS:3550, SJUS:3550.

RELS:3572 Comparative Ritual 3 s.h.

Practice and theory; rituals from religions, including Hinduism, Buddhism, Christianity, Indian religions; theories of interpretation. Same as ASIA:3890.

RELS:3575 East Meets West: The Western Reception of Eastern Religion 3 s.h.

Introduction of religious ideas and forms from India, China, and Japan into Europe and America to late 20th century, from Greeks to New Age. Same as ASIA:3775.

RELS:3580 Religion and Healing 3 s.h.

Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, ASIA:3561, GHS:3113.

RELS:3582 Enlightenment: Cross-Cultural Experiments in Religious Realization 3 s.h.

Enlightenment as one of the most important ideas that feeds contemporary religious and spiritual imagination; exploration of this concept in contemporary religious and spiritual discourse. Same as SOAS:3920.

RELS:3644 Gandhi and His Legacy 3 s.h.

In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as HIST:3644, SOAS:3644.

RELS:3645 Buddhist Philosophy 3 s.h.

Theories and arguments concerning the Buddhist path to enlightenment. Same as PHIL:3845.

RELS:3655 Zen Buddhism 3 s.h.

Same as ASIA:3655, HIST:3655.

RELS:3660 Japanese Religion and Thought 3 s.h.

Same as JPNS:3660.

RELS:3666 The History of a Religious and Spiritual Practice: Yoga in Asia and Beyond 3 s.h.

Historical, textual, and anthropological readings; visual material, yoga demonstrations, discussions of yoga practices; theory underlies readings, including ritual theory and practice theory; psychology and inquiries into the nature of religious adaptation and syncretism.

RELS:3700 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, NURS:3595, SSW:3500.

RELS:3701 Nonprofit Organizational Effectiveness II**3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, NURS:3600, SSW:3600.

RELS:3704 Egyptian Art**3 s.h.**

Sculpture, painting, architecture, and luxury arts from Pyramid Age to Death of Cleopatra. Same as ARTH:3320.

RELS:3714 Anthropology of Religion**3 s.h.**

Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as ANTH:3114.

RELS:3716 Greek Religion and Society**3 s.h.**

From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. Same as CLSA:3416.

RELS:3745 Twentieth-Century African American Religion: Civil Rights to Hip-Hop**3 s.h.**

Twentieth-century African American religious history; major political and cultural movements, such as civil rights, black power, black feminism/womanism, hip-hop. Same as AFAM:3245.

RELS:3808 Malcolm X, King, and Human Rights**3 s.h.**

Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as AFAM:3500.

RELS:3834 Arab Spring in Context: Media, Religion, and Geopolitics**3 s.h.**

Protest movements that started in Tunisia in 2011 and swept across North Africa and the Middle East transforming Arab and Islamic societies in radically different ways; function of social media, satellite television, communication technology; influence of religious leaders and groups on some protest outcomes; impact of wealth and geopolitics on social fabric of Islamic societies within and outside Arab countries. Same as IS:3834, JMC:3146, WLLC:3834.

RELS:3845 Islam in Africa**4 s.h.**

African Islamic history beginning with earliest Muslim migrants from Arabia to Ethiopia in early 7th century C.E. to dawn of 21st century; focus on historical development of Islam on African continent, specific regions, and particular themes; part of Islamic Studies Virtual Curriculum and Committee on Institutional Cooperation (CIC) CourseShare Program. Same as HIST:3745, IS:3745.

RELS:3855 Human Rights and Islam**3 s.h.**

Human rights in religious and secular discourse, seventh century to present; Islamic law, human rights law, religion, politics. GE: International and Global Issues. Same as IS:3855.

RELS:3976 American Indian Environmentalism**3 s.h.**

Clean water, plant diversity, animal health as worldwide issues; Native American relationships and responsibilities to the living things of their homelands—from the earth itself to the raindrops that fall from the sky—and how those relationships have been altered in the last 150 years; explore innovative Native American efforts to restore their relationships to plants, animals, and landscapes that have been damaged by resource development, manufacturing, population growth, and political interests. Same as NAIS:3276.

RELS:4001 Biblical Hebrew I**4 s.h.****RELS:4002 Biblical Hebrew II****4 s.h.****RELS:4124 Digital Archaeological Modeling****1-3 s.h.**

Introduction to foundational theory, methodology, programming skills, and conceptual understanding necessary to model remains and reconstructions of archaeological sites in various three-dimensional digital modeling environments. Recommendations: background in archaeology. Same as CLSA:4131.

RELS:4153 Magic Machines: Technology and Social Change**3 s.h.**

How media has altered culture, society, and human consciousness throughout history with focus on last two centuries (or modernity); how communication has been shaped by a variety of media (i.e., gesture, language, writing, printing, calendars, clocks, photography, telegraph, telephone, phonograph, film, radio, television, computers); 21st-century questions concerning technology and how few communicate today without aid of some kind of machine or technique. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, AFAM:2070, COMM:2070, COMM:2075, COMM:2076, COMM:2077, RELS:2930, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, CL:2248). Same as COMM:4153.

RELS:4155 Religious Conflict: Early Modern Period**3 s.h.**

Religious conflict among European Christians (Catholics, Lutherans, Calvinists, and Radicals), as well as between Christians and non-Christians from the Late Middle Ages through the Reformation of the 16th century and beyond. Same as HIST:4455.

RELS:4181 Special Topics in Western Religion**3 s.h.**

Examination of a specific topic of interest related to Western religious traditions. Recommendations: some background in Judaism, Christianity, or classics.

RELS:4352 The Dead Sea Scrolls**3 s.h.**

Introduction to the Dead Sea Scrolls; reading of the scrolls in English translation; examination of Qumran site archaeology; survey of broader sociopolitical context of Second Temple Judaism (586 B.C.E. to 135 C.E.) out of which the scrolls emerged. Same as CLSA:4452.

RELS:4730 Religion and Environmental Ethics 3 s.h.

How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as ANTH:4130.

RELS:4741 Varieties of American Religion 3 s.h.

Examination of varied 20th- and 21st-century American religious individuals and groups; understand and analyze unique communities. Same as HIST:4241.

RELS:4870 Islamic Cultural Presence in Spain 3 s.h.

Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above. Same as SPAN:4870.

RELS:4893 Classical Arabic: Vocabulary, Syntax, and Grammar 1-3 s.h.

Arabic grammar, syntax, and reading fluency. Prerequisites: ARAB:2001. Corequisites: RELS:3855.

RELS:4950 Senior Majors Seminar 3 s.h.

Issues central to academic study of religion.

RELS:4960 Individual Study: Undergraduates arr.**RELS:4970 Honors Tutorial 2-3 s.h.****RELS:4975 Honors Essay 2-4 s.h.****RELS:5001 Biblical Aramaic 4 s.h.**

This course introduces the basics of Biblical Aramaic grammar and syntax and provides an introduction to the Biblical lexicon. There will be extensive grammatical exercises, both in class and at home, as well as frequent opportunities to apply grammatical and lexical knowledge to the Biblical text. Recommendations: Biblical Hebrew recommended.

RELS:5002 Targumic Aramaic 4 s.h.

Language used by Targums—Aramaic translations of the Hebrew Bible—for use in the study of interpretative traditions of later Jewish groups.

RELS:5067 Readings in Islamic Studies arr.

Current scholarship in the field of Islamic studies; major works in areas such as modern Islamic thought, Islamic legal and philosophical traditions, religion and politics.

RELS:5100 Teaching and Public Engagement 1-3 s.h.

Critical importance of educating people about religion within increasingly globalized and digitized contexts; preparation to excel as classroom teachers and facilitators of cross-religious dialogue in public sphere.

RELS:5200 Varieties of Religion in the Contemporary World 3 s.h.

Limited content of multiple religious traditions from different parts of contemporary world; conversing knowledgeably about global religious diversity; preparation to design and teach a world religions course.

RELS:5300 Genealogies of Religion 3 s.h.

Genealogies of the idea of religion, academic study of religion, and comparative study of religions; intellectual and ideological foundations of discipline; preparation to work skillfully across traditions.

RELS:5400 Methods and Theories in the Study of Religion 3 s.h.

Principal methods, theories in academic study of religion.

RELS:6040 Tiberius to Trajan arr.

Authors and topics from the first and second centuries C.E. Same as CLSL:6013.

RELS:6070 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, LAW:8751, MGMT:9150, SPST:6010, SSW:6247, URP:6278.

RELS:6075 Nonprofit Organizational Effectiveness II 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, LAW:8752, MGMT:9160, SPST:6020, SSW:6248, URP:6279.

RELS:6150 American Religious Histories 3 s.h.

Focused examination of the variety and vagaries of religious experiences in the Americas, 16th to 21st centuries. Same as HIST:6250.

RELS:6200 Seminar: Religious Ethics 3 s.h.**RELS:6350 Gender and Religion 3 s.h.**

What contemporary religious and spiritual groups and their members believe about sex, sexuality, and gender; how they define and redefine what it means to be a "man" and a "woman"; exploration of contemporary "conservative" and "progressive" cosmologies and theologies; underlying beliefs that construct these perspectives and the impact on individual and group practices; broader implications of individual and group beliefs and practices on national and global policies. Same as GWSS:6350.

RELS:6475 Seminar: Reformation Culture arr.

Culture and thought of 16th-century Europe. Same as HIST:6475.

RELS:6520 Seminar: South Asian Religion 3 s.h.

Topics in South Asian religions. Same as ASIA:6520.

RELS:6580 Seminar: Religion and Society 3 s.h.**RELS:6625 Seminar: Religion and Health 3 s.h.**

Examination of global perspectives on relationships between religion, health, disease, living well, and dying. Same as ANTH:6625, GHS:6625.

RELS:6723 Seminar on Islamic Law and Government 3 s.h.

Islamic legal and political legacy from formative period until modern time; critical analysis of logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with Caliphate system and ending with modern nation-state models. Same as LAW:9723.

RELS:7100 Readings in American Religions arr.**RELS:7200 Readings in Religious Ethics arr.****RELS:7260 French Paleography 1,3 s.h.**

Independent study of original French writings.

RELS:7300 Critical Theories of Religion 1-4 s.h.

Exploration of theories that pertain to religion with an emphasis on contemporary critical theory.

RELS:7400 Readings in Theology and Religious Thought arr.**RELS:7450 Readings in History of Christianity arr.****RELS:7500 Readings in Asian Religions arr.**

RELS:7600 Readings in Islamic and Middle Eastern Studies **1-3 s.h.**

Advanced works and/or texts in primary languages (Arabic, Persian, etc.) in the broad field of Islamic and Middle Eastern studies. Requirements: proficiency in Modern Standard Arabic.

RELS:7650 Readings in Ancient Near Eastern Religions **arr.**

Ancient Near Eastern religious texts; focus on their place in ancient Near Eastern history and religious thought.

RELS:7900 Individual Study: Graduates **arr.****RELS:7950 Thesis** **arr.**

Religious Studies, B.A.

Learning Outcomes

Students will:

- gain an understanding of the academic study of religion;
- gain knowledge of diverse cultures and religious experiences;
- learn to think critically about the relationship between religion and other elements of culture, such as media, health, social justice, politics, ethics, and history;
- study the influences of different religious traditions on global events;
- demonstrate an ability to communicate effectively in writing and speech; and
- gain an ability to access and interpret religious information in a digital world.

Overview

The major in religious studies helps students gain strengths they will need in an increasingly globalized world: curiosity, open-mindedness, critical thinking, the ability to communicate effectively about controversial issues, global cultural competency, knowledge of diverse religions and their influences, and the ability to use intelligence and creativity in addressing humanitarian concerns.

Because religious ideas inform every aspect of life, many students who major in religious studies choose to earn a second major in another discipline, such as anthropology, biology, classics, English, history, journalism and mass communication, philosophy, political science, or psychology.

Requirements

The Bachelor of Arts with a major in religious studies requires a minimum of 120 s.h., including 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. A maximum of 15 s.h. of transfer credit may be counted toward the major; transfer credit is evaluated individually.

Course work for the major includes core courses and electives. Courses for the major may not be taken pass/nonpass. Students may count a maximum of three religious studies courses toward the GE CLAS Core [p. 459] requirements.

The B.A. with a major in religious studies requires the following course work.

Code	Title	Hours
Core Courses		6
Electives from Religious Traditions and/or Critical Issues		24
Total Hours		30

Core Courses

Code	Title	Hours
Both of these:		
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs	3
RELS:4950	Senior Majors Seminar	3

The course RELS:1015 Religions in a Global Context: The Critical Role of Religion in International Affairs provides an introduction to the study of the world's religions; students should take it as early as possible.

The capstone course RELS:4950 Senior Majors Seminar is offered each spring semester. Ideally, students take it during their senior year, but they may take it during their junior year.

Electives

Students complete 24 s.h. of elective course work (at least eight courses) chosen from either or both of two categories: religious traditions and critical issues (listed below) as follows.

Code	Title	Hours
At least two foundation courses numbered 1000-1999		6
At least three advanced courses numbered 2000-4999		9
At least three courses at any level		9

The department advises students to choose electives that will enable them to examine a variety of traditions and issues.

Religious Traditions

Courses in this category generally focus on religious traditions or movements in historical perspective, within particular geographical areas, or across regions. They may address foundational stories of creation and cosmic order, archaeological findings, the compilation and interpretation of revered texts, religious doctrines, social norms, rituals and practices, or conflicts and schisms.

Code	Title	Hours
RELS:1000	First-Year Seminar	1
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:1113	Gateway to the Bible	3
RELS:1130	Introduction to Islamic Civilization	3
RELS:1225	Medieval Religion and Culture	3
RELS:1250	Modern Religion and Culture	3
RELS:1323	Life in the Biblical World	3
RELS:1410	Introduction to Indian Religions	3
RELS:1430	The Bible: Frequently Asked Questions	3
RELS:1502	Asian Humanities: India	3
RELS:1506	Introduction to Buddhism	3

RELS:1510	Gods, Buddhas, and Ghostly Officials: The Past and Present of Chinese Religions	3	RELS:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:1610	Japanese Religions	3	RELS:3845	Islam in Africa	4
RELS:1620	Bhagavad Gita: Essential Teachings of Indian Religion	3	RELS:4001	Biblical Hebrew I	4
RELS:1765	U.S. Latino Religions	3	RELS:4002	Biblical Hebrew II	4
RELS:2041	Understanding "The Muslim World"	3	RELS:4124	Digital Archaeological Modeling	1-3
RELS:2064	Tricksters, Fools, and Creators: Mythical Agents of Change	3	RELS:4155	Religious Conflict: Early Modern Period	3
RELS:2090	Issues in American Catholicism	3	RELS:4181	Special Topics in Western Religion	3
RELS:2182	Ancient Mediterranean Religions	3	RELS:4352	The Dead Sea Scrolls	3
RELS:2225	Messianic and Apocalyptic Prophecy in the Bible	3	RELS:4870	Islamic Cultural Presence in Spain	3
RELS:2320	Jesus and the Gospels	3	RELS:4893	Classical Arabic: Vocabulary, Syntax, and Grammar	1-3
RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3	RELS:4960	Individual Study: Undergraduates	arr.
RELS:2475	Islam in America	3	RELS:4970	Honors Tutorial	2-3
RELS:2700	Sacred World of Native Americans	3	RELS:4975	Honors Essay	2-4
RELS:2986	Religion and Women	3	Critical Issues		
RELS:3003	Classical and Hellenistic Periods I	3	Critical issues courses generally focus on ideas, arguments, or problems, often with reference to influential texts or oral traditions. They may explore religious perspectives on the nature of reality or the meaning of human existence, and they may focus on issues of gender, sexuality, race, ethnicity, class, globalization, human rights, or law and politics.		
RELS:3103	Biblical Archaeology	1-3	Code	Title	Hours
RELS:3105	The World of the Old Testament	3	RELS:1000	First-Year Seminar	1
RELS:3129	Native American Prophets and Prophecy	3	RELS:1010	CLAS Master Class	1-3
RELS:3190	Medieval to Modern: The Birth of Protestantism	3	RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3
RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3	RELS:1350	Introduction to African American Religions	3
RELS:3245	Mythology of Otherworldly Journeys	3	RELS:1404	Living Religions of the East	3
RELS:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3	RELS:1702	Religion in America Today	3
RELS:3375	Birth of the Holy Land: Art and Architecture in the Ancient Middle East	3	RELS:1810	Happiness in a Difficult World	3
RELS:3385	Early Modern Catholicism	3	RELS:1903	Quest for Human Destiny	3
RELS:3520	Dying for the Promised Land: Martyrdom and Warfare in the Western World	3	RELS:1997	Harry Potter: The Mystery and Magic of Life	3
RELS:3524	The Devil in Judaism and Christianity	3	RELS:2068	Jews in Popular Culture	3
RELS:3644	Gandhi and His Legacy	3	RELS:2080	Public Life in the U.S.: Religion and Media	3
RELS:3655	Zen Buddhism	3	RELS:2087	Narnia and Beyond: The Writings of C.S. Lewis	3
RELS:3660	Japanese Religion and Thought	3	RELS:2090	Issues in American Catholicism	3
RELS:3666	The History of a Religious and Spiritual Practice: Yoga in Asia and Beyond	3	RELS:2110	Diversity in American Religious History: Experimenting with Gender and Sexuality	3
RELS:3704	Egyptian Art	3	RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:3716	Greek Religion and Society	3	RELS:2265	Hard Cases in Healthcare at the End of Life	3
			RELS:2272	Religion and Film	3
			RELS:2289	Jerusalem: The Holy City	3

RELS:2333	Economics and Religion: Theories and Practices	3
RELS:2353	Love: Journey of an Idea Through Time	3
RELS:2420	Do Androids Dream of Being Human? Human Identity in Science Fiction	3
RELS:2486	Religious Coexistence and Conflict in the Middle East	3
RELS:2510	Fed Up with Organized Religion	3
RELS:2540	The Walls Between Us: Historic Uses of the Bible Defining the Other	3
RELS:2552	Atheism, Agnosticism, and Religion	3
RELS:2570	Introduction to Islamic Psychology	3
RELS:2620	Politics, Sex, and the Bible	3
RELS:2674	You Are What You Eat: Food, Belief, and Identity	3
RELS:2730	African American Islam	3
RELS:2771	Sexual Ethics	3
RELS:2775	The Bible and the Holocaust	3
RELS:2791	Religion and Social Life	3
RELS:2834	Philosophy of Religion	3
RELS:2852	Women in Islam and the Middle East	3
RELS:2877	Sport and Religion in America	3
RELS:2912	The Bible in Film: Hollywood and Moses	3
RELS:2930	Digital Media and Religion	3
RELS:2947	Quest II: Sex, Love, and Death	3
RELS:2980	Religion and Contemporary Popular Culture	3
RELS:2986	Religion and Women	3
RELS:3020	Religion and Politics	3
RELS:3055	Death, Dying, and Beyond in Asian Religions	3
RELS:3333	Economics and Islam	3
RELS:3340	Recovering Eden: The Afterlife in Early Judaism and Christianity	3
RELS:3360	Religion Beyond Reason: Emotion and Communication	3
RELS:3431	Gender and Sexuality in Asia	3
RELS:3448	The Allure of Krishna: Sacred Sexuality in Indian Culture	3
RELS:3572	Comparative Ritual	3
RELS:3575	East Meets West: The Western Reception of Eastern Religion	3
RELS:3580	Religion and Healing	3
RELS:3582	Enlightenment: Cross-Cultural Experiments in Religious Realization	3
RELS:3645	Buddhist Philosophy	3
RELS:3700	Nonprofit Organizational Effectiveness I	3

RELS:3701	Nonprofit Organizational Effectiveness II	3
RELS:3714	Anthropology of Religion	3
RELS:3745	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
RELS:3808	Malcolm X, King, and Human Rights	3
RELS:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:3855	Human Rights and Islam	3
RELS:3976	American Indian Environmentalism	3
RELS:4153	Magic Machines: Technology and Social Change	3
RELS:4730	Religion and Environmental Ethics	3
RELS:4741	Varieties of American Religion	3
RELS:4960	Individual Study: Undergraduates	arr.
RELS:4970	Honors Tutorial	2-3
RELS:4975	Honors Essay	2-4

Honors

Honors in the Major

Students majoring in religious studies with a UI cumulative g.p.a. of at least 3.33 and a g.p.a. in UI religious studies courses of at least 3.50 have the opportunity to graduate with honors in the major. Departmental honors students must complete all requirements for the major plus an additional 3 s.h. of advanced course work, earning at least 33 s.h. for the major. They may apply 3 s.h. of RELS:4960 Individual Study: Undergraduates or RELS:4970 Honors Tutorial toward the 33 s.h. of credit required for the honors major. Honors students must take RELS:4975 Honors Essay under the supervision of a faculty advisor; copies of the completed and approved essay are submitted to the Department of Religious Studies and to University Archives.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the religious studies major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: one or two courses in the major

Before the seventh semester begins: three to six courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: five to seven courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Religious Studies, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: religious studies 1000-level course ^a		3
GE CLAS Core: Diversity and Inclusion ^b		3
Elective course ^c		3
CSL:1600	Success at Iowa	2
Hours		14-15
Spring		
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs ^{d, e}	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: Social Sciences ^b		3
Elective course ^c		2
Hours		15-16
Second Year		
Fall		
Major: religious studies 1000-level course ^a		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^c		3
Elective course ^c		3
Hours		16-17
Spring		
Major: religious studies 2000-4999 level course		3
GE CLAS Core: International and Global Issues ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^c		3
Elective course ^c		3
Hours		16-17
Third Year		
Fall		
Major: religious studies 2000-4999 level course		3
Major: religious studies course		3
GE CLAS Core: Historical Perspectives ^b		3

GE CLAS Core: Natural Sciences without Lab ^b	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f	4 - 5
Hours	16-17

Spring

Major: religious studies 2000-4999 level course	3
Major: religious studies course	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5
Elective course ^c	3
Elective course ^c	3
Hours	16-17

Fourth Year

Fall

Major: religious studies course	3
GE CLAS Core: Literary, Visual, and Performing Arts ^b	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

RELS:4950	Senior Majors Seminar ^{e, g}	3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Total Hours		123-129

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d RELS:1015 provides an introduction to the study of the world's religions; students should take it as early as possible.
- e Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g RELS:4950 is a capstone course. Ideally, students take it during their senior year, but they may take it during their junior year.

Career Advancement

Many employers and graduate/professional schools are keen to attract students who have engaged in the academic study of religion, especially in public university settings such as the University of Iowa. This is because individuals who study religion tend to be intellectually curious, concerned about the future of humanity, reflective and duly self-critical, and sensitive to cultural and religious diversity. Also, they are capable of thinking critically about people's ideas and practices without being judgmental, appreciative of the value of historical perspective, effective communicators about things that really matter to people, and eager to cooperate with others in finding solutions to big social problems.

Students who major in religious studies often go on to graduate school, law school, medical school, dental school, or careers in nursing, public health, social work, counseling, human rights advocacy, non-governmental organizations, government, media and communications, or human resource management. The study of human religiosity or spirituality is critical for people who wish to understand and manage human diversity. For many students, the best reason to study religion is to open their minds, stimulate their imaginations, and prepare to engage a complex, dynamic world.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Religion and Media, Minor

The undergraduate minor in religion and media requires a minimum of 18 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work for the minor may not be taken pass/nonpass.

The minor is designed to focus on the intersection of religion and media and to build critical skills in cultural and media literacy. Students are educated on the vital role that religion and media play, historically and in contemporary society, by introducing interdisciplinary perspectives.

The Departments of Religious Studies and Communication Studies [p. 247] collaborate to offer the minor in religion and media. The minor is administered by the Department of Religious Studies.

Students completing a communication studies major or a religious studies major also may complete this minor. Students may double count up to 6 s.h. of course work for the religion and media minor with other programs of study. Courses with GE CLAS Core [p. 459] status are excluded from this double-counting policy.

The minor in religion and media requires the following course work. Students must complete at least 6 s.h. in communication studies course work (prefix COMM) and at least 6 s.h. in religious studies course work (prefix RELS).

Code	Title	Hours
Methods and Approaches in Media Studies Course		3
Methods and Approaches in Religious Studies Course		3
Themes of Religion and Media Courses		6
Religion and Media in Context Courses		6
Total Hours		18

Methods and Approaches in Media Studies

These courses convey major methodological approaches to the study of media.

Code	Title	Hours
One of these:		
COMM:1168	Media, Music, and Culture	3
COMM:1174	Media and Society	3

Methods and Approaches in Religious Studies

These courses convey major methodological approaches to the study of religion.

Code	Title	Hours
One of these:		
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs	3

Themes of Religion and Media

These courses raise broad thematic questions about the relationship of religion and media in diverse historical, geographical, and social contexts.

Code	Title	Hours
At least 6 s.h. from these:		
RELS:2182/ CLSA:2482	Ancient Mediterranean Religions	3
RELS:2272	Religion and Film	3
RELS:2930/ COMM:2079	Digital Media and Religion	3
RELS:3524/ CLSA:3524	The Devil in Judaism and Christianity	3
COMM:4153/ RELS:4153	Magic Machines: Technology and Social Change	3

Religion and Media in Context

These courses engage specific historical, geographical, and cultural contexts in which a relationship between religion and media is important. They teach students to think about the way religion and media matter in everyday life.

Code	Title	Hours
At least 6 s.h. from these:		
RELS:2064	Tricksters, Fools, and Creators: Mythical Agents of Change	3
RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2265/ GHS:2265	Hard Cases in Healthcare at the End of Life	3
RELS:2877/ SPST:2077	Sport and Religion in America	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
RELS:3745/ AFAM:3245	Twentieth-Century African American Religion: Civil Rights to Hip-Hop	3
RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:3976/ NAIS:3276	American Indian Environmentalism	3
COMM:2080/ RELS:2080	Public Life in the U.S.: Religion and Media	3
COMM:2088	Media and Democracy	3

Religious Studies, Minor

The undergraduate minor in religious studies requires a minimum of 15 s.h. in religious studies courses, including 12 s.h. completed at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work for the minor may not be taken pass/nonpass. With the recommendation of the department's undergraduate committee and approval of the faculty, students may count a maximum of 3 s.h. of transfer credit toward the minor.

Students are encouraged to include RELS:1015 Religions in a Global Context: The Critical Role of Religion in International Affairs and RELS:4950 Senior Majors Seminar in the minor.

The minor in religious studies requires the following course work.

Code	Title	Hours
At least two foundation courses numbered 1000-1999		6
At least two advanced courses numbered 2000-4999		6
One course at any level		3
Total Hours		15

Religious Studies, M.A.

Graduate study in the department addresses the idea of religion and the ways in which religious traditions originate, develop, and interact over time. Students learn to identify and use multiple methods for the study of religion, including historical, philosophical, ethical, literary, linguistic, psychological, ethnographic, and digital approaches.

Graduate study is flexible. Students create individualized programs of study in consultation with their advisors and core committee members, in light of faculty expertise within the department and around the University. Programs often are developed in relation to one of the following four areas of concentration:

- religions in the Middle East, Ancient Near East, and Mediterranean;
- religions in Asia;
- religions in the Americas and Europe; or
- religion, ethics, and society.

Programs also are developed across these areas or thematically in relation to the department's central focus which is religion and public life, most notably religion's impact on the construction of individual and group identities and the dynamics of social change. Included in this focus is religion's relationship to gender, race, ethnicity, and other markers of identity, and the practice and study of religion in a digital age.

For more information about graduate study and the faculty, see Graduate Program and People on the department's website.

Requirements

The Master of Arts program in religious studies requires a minimum of 30 s.h. of graduate credit and is offered with or without thesis. Students must complete 24 s.h. of the credit required for the degree at the University of Iowa and must maintain a cumulative g.p.a. of at least 3.20.

The program is designed for students who wish to advance their understanding of a particular area of religious studies or explore a variety of traditions and topics. It also is intended to prepare students to educate the public about religion and its influences, within a variety of life and career contexts.

Requirements for languages and other research tools vary according to the student's study focus. Students are supervised by a three-person committee consisting of an advisor and two additional faculty members.

All students complete the following five courses.

Code	Title	Hours
RELS:5100	Teaching and Public Engagement	3
RELS:5200	Varieties of Religion in the Contemporary World	3
RELS:5300	Genealogies of Religion	3
RELS:5400	Methods and Theories in the Study of Religion	3

One graduate seminar

Students select remaining course work depending on their interest area and in consultation with their core committee.

In their M.A. thesis work, students demonstrate and refine their research and writing skills. They may count a maximum

of 6 s.h. of thesis credit toward the degree. Students must defend their thesis. Those who choose not to write a thesis must pass an examination that tests their competence in completed course work.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants to the M.A. program ordinarily must have a verbal reasoning score of at least 153 and a quantitative reasoning score of at least 147 on the revised Graduate Record Examination (GRE) General Test (verbal reasoning score of at least 500 and quantitative reasoning score of at least 580 on the old GRE General Test) and a g.p.a. of at least 3.00.

Application materials must include an application form; a transcript of all undergraduate and graduate work (one copy must be sent to the University's Office of Admissions and a second copy must be sent to the Department of Religious Studies); an application or waiver of consideration form for graduate assistantships; three confidential letters of recommendation; and a writing sample that demonstrates the applicant's ability to engage in critical analysis. Applicants also must submit a brief personal essay that explains their objectives for graduate study and states which area of graduate study in religion will suit their objectives best. Students may indicate one of the four areas of concentration below or an area that crosses the concentrations and is well supported by faculty expertise. For details, see Graduate Admission, Financial Aid, and Additional Funding on the department's website.

Areas of concentration include:

- religions in the Middle East, Ancient Near East, and Mediterranean;
- religions in Asia;
- religions in the Americas and Europe; and
- religion, ethics, and society.

All application materials must be received by January 15 to receive full consideration for fall admission.

Career Advancement

Graduate students in religious studies acquire a wide range of competencies that are useful for almost any career they pursue. Students gain research skills; they master the craft of writing; they learn to plan, manage, and complete large projects; they gain teaching skills that are useful both inside and outside the academy; they learn to argue a point persuasively; they gain the ability to communicate with others about controversial issues; they learn how to understand and mediate differences in religious perspectives and values; they acquire highly valued language skills; and they gain expertise in the use of digital technologies for research and teaching.

Graduate study in religion can prepare a student to become a professor of religious studies. It also can provide the ability to integrate a deep and theoretically sophisticated understanding of religion and its influences into other professions, such as medicine, nursing, law, political leadership, policy making, journalism, or counseling.

Students who earn an M.A. often gain admission to excellent Ph.D. programs in religious studies and in other areas

of study, such as journalism and mass communication. Others have gone on to divinity school, law school, and into careers within media and communication, church leadership, government, and public service.

Religious Studies, Ph.D.

Graduate study in the department addresses the idea of religion and the ways in which religious traditions originate, develop, and interact over time. Students learn to identify and use multiple methods for the study of religion, including historical, philosophical, ethical, literary, linguistic, psychological, ethnographic, and digital approaches.

Graduate study is flexible. Students create individualized programs of study in consultation with their advisors and core committee members, in light of faculty expertise within the department and around the University. Programs often are developed in relation to one of the following four areas of concentration:

- religions in the Middle East, Ancient Near East, and Mediterranean;
- religions in Asia;
- religions in the Americas and Europe; or
- religion, ethics, and society.

Programs also are developed across these areas or thematically in relation to the department's central focus which is religion and public life, most notably religion's impact on the construction of individual and group identities and the dynamics of social change. Included in this focus is religion's relationship to gender, race, ethnicity, and other markers of identity, and the practice and study of religion in a digital age.

For more detailed information on graduate programs in religious studies, contact the Department of Religious Studies or visit Graduate Program on the department's website.

Requirements

The Doctor of Philosophy program in religious studies requires a minimum of 72 s.h. of graduate credit. Students may transfer up to 24 s.h. of credit from another accredited graduate school.

Course requirements for the Ph.D. vary according to concentration area. However, all students must complete the following eight required courses.

Code	Title	Hours
RELS:5100	Teaching and Public Engagement	3
RELS:5200	Varieties of Religion in the Contemporary World	3
RELS:5300	Genealogies of Religion	3
RELS:5400	Methods and Theories in the Study of Religion	3

Four graduate seminars, including at least two in religious studies

During their fourth semester in residence, students must submit a departmental program of study, which must be approved by the religious studies faculty. To gain approval to continue in the Ph.D. program, students must complete three of the required courses listed above and two of the graduate seminars; show satisfactory progress toward the language and course requirements of their individual programs; demonstrate the ability to write scholarly papers at a level satisfactory for the Ph.D., as assessed by their advisor and core committee members (at least two papers must be submitted to the committee); and have a cumulative

University of Iowa g.p.a. of at least 3.40 (language courses that do not count toward the Ph.D. are excluded).

Students must pass a comprehensive examination based on a bibliography that covers their main focus area within religious studies (the history, influential figures, perennial debates, and/or theoretical approaches); a secondary chosen area of focus, distinct from the dissertation topic; and an area of specialization or dissertation topic. The comprehensive exam includes an oral defense. Students also must write a dissertation prospectus and a dissertation based on original research, both of which are defended orally. They may count a maximum of 12 s.h. of dissertation credit toward the degree.

Students working toward a Ph.D. may receive an M.A. upon completing at least 30 s.h. of course work and successfully passing the comprehensive examination.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants to the Ph.D. program ordinarily must have a verbal reasoning score of at least 158 and a quantitative reasoning score of at least 147 on the revised Graduate Record Examination (GRE) General Test (verbal reasoning score of at least 580 and quantitative reasoning score of at least 580 on the old GRE General Test) and a g.p.a. of at least 3.40.

Application materials must include an application form; a transcript of all undergraduate and graduate work (one copy must be sent to the University's Office of Admissions and a second copy must be sent to the Department of Religious Studies); an application or waiver of consideration form for graduate assistantships; three confidential letters of recommendation; and a writing sample that demonstrates the applicant's ability to engage in critical analysis. Applicants also must submit a brief personal essay that explains their objectives for graduate study and states which area of graduate study in religion will suit their objectives best. Students may indicate one of the four areas of concentration listed below, or choose an area that crosses the concentrations and is well supported by faculty expertise. For details, see Graduate Admission, Financial Aid, and Additional Funding on the department's website.

Areas of concentration include:

- religions in the Middle East, Ancient Near East, and Mediterranean;
- religions in Asia;
- religions in the Americas and Europe; and
- religion, ethics, and society.

All application materials must be received by January 15 to receive full consideration for fall admission.

Financial Support

All Ph.D. students in religious studies receive funding. The department offers financial support for graduate students in the form of teaching assistantships.

The Gilmore Scholarship, for doctoral students who study the intersection of religion, the visual arts, and humanistic values, pays up to full tuition for one year. It is awarded every few years.

Career Advancement

Graduate students in religious studies acquire a wide range of competencies that are useful for almost any career they pursue. Students gain research skills; they master the craft of writing; they learn to plan, manage, and complete large projects; they gain teaching skills that are useful both inside and outside the academy; they learn to argue persuasively; they gain the ability to communicate with others about controversial issues; they learn how to understand and mediate differences in religious perspectives and values; they acquire rare language skills; and they gain expertise in the use of digital technologies for research and teaching.

Graduate study in religion can prepare a student to become a professor of religious studies. It also can provide the ability to integrate a deep and theoretically sophisticated understanding of religion and its influences into other professions, such as medicine, nursing, law, political leadership, policy making, journalism, or counseling.

Students who earn a Ph.D. in religious studies often go on to become scholars and teachers in university or college settings. Other degree recipients have become professional ethicists, leaders of nongovernmental organizations, school or church administrators, nonacademic educators, digital media specialists, and government employees in the area of international affairs.

Resilience and Trauma-Informed Perspectives

Chair, School of Social Work

- Sara Sanders

Coordinator, Resilience and Trauma-Informed Perspectives

- Yvonne R. Farley (Social Work)

Undergraduate certificate: resilience and trauma-informed perspectives

Website: <https://clas.uiowa.edu/socialwork/>

Many students are majoring in areas where they will encounter individuals who have experienced trauma. Untreated adverse childhood experiences (ACEs) are connected to mental illness, substance abuse, and suicide. ACEs include physical and emotional neglect; physical, sexual, and emotional abuse; parental separation or divorce; mental illness; domestic violence; substance abuse; and incarceration of a parent.

Expanded ACE surveys include poverty, discrimination, homelessness, and community violence. The presence of four or more ACEs is associated with increased risk of poor behavioral, social, mental, and medical health. In adults, 13-15 percent of the population reported four or more ACEs (Center for Disease Control, 2010). On college campuses, the rate of depression may affect up to 10 percent of college students, and anxiety, up to 15 percent of students. Suicide rate among college students is about 8 in 100,000 students. Acknowledging the importance of identifying and treating ACEs, certificate students could positively impact these numbers, and will be better prepared to provide interventions to others.

The primary audience for the certificate program includes undergraduate students that are in helping professions such as social work, education, psychology, nursing, and public health. Students from health sciences programs, including the Carver College of Medicine, the physician assistant studies and services program, and the College of Law, could benefit as well. All undergraduate students are eligible to participate.

The Colleges of Liberal Arts and Sciences, Education, Nursing, and Law, and the Carver College of Medicine graduate the teachers, social workers, nurses, physicians, police officers, attorneys, judges, prosecutors, nonprofit organization workers and administrators, and public health workers that are employed across the nation. These professionals encounter the most traumatized individuals in society. Preparing undergraduate students in their professional fields with a good understanding of trauma, trauma-sensitive responses, and trauma-informed prevention and care provides skills that supplement their chosen professions.

Students who complete the certificate program will be able to:

- describe adverse childhood experiences (ACEs) and the influence ACEs have on physical, mental, emotional, and spiritual outcomes in childhood and adulthood;
- identify their own trauma, if any, and learn how to process it to become healthier and more resilient in their own lives;
- describe resiliency, its dynamics, and ways to strengthen resiliency;

- analyze strategies to decrease or eliminate trauma in society including learning how to create trauma-informed organizations; and
- describe the impact of ACEs on communities and formulate strategies to prevent ACEs in communities and their field of practice.

The interdisciplinary Certificate in Resilience and Trauma-Informed Perspectives is sponsored by the School of Social Work and the College of Education, with support from the Colleges of Nursing and Public Health. The certificate is administered by the School of Social Work [p. 917].

Programs

Undergraduate Program of Study Certificate

- Certificate in Resilience and Trauma-Informed Perspectives [p. 902]

Resilience and Trauma-Informed Perspectives, Certificate

The undergraduate Certificate in Resilience and Trauma-Informed Perspectives requires 18 s.h. of course work. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. They may count a maximum of 6 s.h. completed for a major, minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Resilience and Trauma-Informed Perspectives.

The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

The Certificate in Resilience and Trauma-Informed Perspectives requires the following course work; courses taught online are indicated below.

Required Courses

Code	Title	Hours
Both of these:		
SSW:3700	Introduction to Understanding Trauma and Resilience	3
RCE:4173	Trauma Across the Lifespan (online)	3

Electives

Code	Title	Hours
At least 12 s.h. from these:		
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span (online and on campus)	3-4
SSW:3797	Child Welfare Policy and Practice (online)	3
SSW:5200	Grief Work with Individuals and Families (when topic is trauma-informed family practice)	2-3
ANTH:2164/ GHS:2164	Culture and Healing for Future Health Professionals	3
CCCC:2220	Foundations of Critical Cultural Competence	3
ENGL:1200	The Interpretation of Literature (when topic is identity, trauma, and resiliency)	3
ENGL:3444	Literatures of the American Peoples (when topic is writing trauma, imaging hope)	3
OEH:4510/ CPH:4230/ EPID:4510	Injury and Violence Prevention	3
PSQF:1027	Mindfulness Foundations in the Helping Professions	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:3330	Childhood Psychopathology	3

THTR:2120	Movement: Special Topics (when topic is vinyasa yoga)	2-3
Independent study in the Rape Victim Advocacy Training Program (consult certificate coordinator)		
Additional related courses (consult certificate coordinator for approval)		
May include one of these:		
SSW:3729	Substance Use and Abuse (online and on campus)	3
RCE:4185	Introduction to Substance Abuse (online)	3
May include one of these:		
SSW:3796	Family Violence (on campus)	2-3
SSW:3799	Selected Aspects of Social Work and Social Welfare (Des Moines campus)	arr.

Rhetoric

Chair

- Steve Duck

Undergraduate minor: rhetoric and persuasion

Faculty: <https://clas.uiowa.edu/rhetoric/people>

Website: <https://clas.uiowa.edu/rhetoric/>

The Department of Rhetoric offers undergraduate courses that fulfill the Rhetoric requirement of the different colleges at the University; see GE CLAS Core [p. 459] in the Catalog. It also provides individual instruction in its Writing Center, Speaking Center, Conversation Center, and the Iowa Digital Engagement and Learning Initiative (IDEAL) multimodal composition studio and offers other undergraduate courses, graduate seminars, and an undergraduate minor.

Rhetoric for the GE CLAS Core

Rhetoric courses help students to develop skills in speaking, writing, listening, and critical reading. They also build competence in research and inquiry as well as in analysis and persuasion, starting with public controversies in their social contexts and generalizing to all forms of idea presentation, whether academic readings, everyday debates, media messages, or student papers. Writing and speaking skills are emphasized and developed.

All rhetoric classes follow specific department goals, but each instructor uses a unique set of texts and contexts to teach rhetorical concepts. Rhetoric courses are sometimes organized around a special topic, such as the STEM fields (science, technology, engineering, and mathematics), nursing, or law, but the primary emphasis is always on responsible inquiry and analysis. Some course sections involve special activities, such as service-learning components, but the workload across all sections is comparable, with a fixed number of major assignments and a department-approved library of readings.

During their first year at the University, students enroll in the rhetoric course indicated on their degree audit unless they are required to complete one or more prerequisite courses in English as a Second Language (ESL) as a result of their English proficiency evaluation.

Students planning to transfer to the University of Iowa should discuss rhetoric course equivalencies as soon as possible with the University of Iowa Office of Admissions. To learn more about the GE CLAS Core requirement, see GE CLAS Core [p. 459] in the Catalog.

Students who undergo formal evaluation by Student Disability Services and are found to be learning disabled in reading, writing, or speaking should request reasonable accommodations in order to complete rhetoric. Accommodations may be arranged by Student Disability Services in consultation with the Department of Rhetoric and individual instructors.

Programs

Undergraduate Program of Study Minor

- Minor in Rhetoric and Persuasion [p. 908]

Courses

Rhetoric Courses

RHET:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

RHET:1010 Writing for Academic Success 0-2 s.h.

Individualized instruction in the Writing Center; in conjunction with GE CLAS Core Rhetoric courses.

RHET:1020 Reading and Comprehension 3 s.h.

Transitional course to help prepare students for RHET:1030, focusing specifically on reading and comprehension strategies, and foundational writing strategies.

RHET:1030 Rhetoric 4-5 s.h.

Analysis and critique to discover, question, explain, and justify positions and claims made in writing and speaking; reading and listening to comprehend and assess arguments; employment of rhetorical concepts (e.g., purpose, audience); understanding research as responsible inquiry for speaking and writing; special topics, activities. Requirements: completion of any required ESL courses. GE: Rhetoric.

RHET:1040 Writing and Reading 3 s.h.

Introductory course in writing required of students who have completed a college-level public speaking course, but have not otherwise satisfied the rhetoric requirement. Requirements: completion of GE CLAS Core speaking requirement and any required ESL courses. GE: Rhetoric - Writing.

RHET:1060 Speaking and Reading 3 s.h.

Introductory course in speaking required of students who have completed 6 s.h. of college writing instruction, but have not completed a 3 s.h. college-level speaking course; intended to improve speaking, listening, critical, analytical, and advocacy skills. Requirements: completion of GE CLAS Core writing requirement and any required ESL courses. GE: Rhetoric - Speech.

RHET:2000 Big Ideas: Creativity for a Lifetime 3 s.h.

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; integration of teamwork and opportunities for individual growth that allow for personal development; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, ASP:2000, EDTL:2000.

RHET:2031 Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect 3 s.h.

Exploration of desire, sex, consent, and sexual violence in practical and theoretical dimensions; recent demands by students to change the way sexual violence is addressed; theory and sources from popular media; lectures by scholars, activists, and professionals; sexual violence, rape culture, and sexuality-based oppression confronted with academic/therapeutic/political knowledge; real world strategies to help better understand and combat sexual violence, theories. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as GWSS:2000.

RHET:2055 Persuasion and Advocacy 3 s.h.

History of women's rhetoric in the West and ways in which these approaches can be adapted to modern demands; strategies of prominent women rhetors analyzed from antiquity to present; how our own historical moment constrains, shapes, and enables women's public speaking and writing today; projects that take advantage of multimodal presentation platforms and apply insights from class to causes of interest to UI students; enables students from all disciplinary and professional backgrounds to improve persuasive skills relevant to their careers. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as GWSS:2055.

RHET:2065 Persuading Different Audiences: Launching a Successful Career 3 s.h.

Examination of ways people sway one another in different contexts; best means to impel a specific audience in a particular moment, recognizing that audiences and contexts are multiplied by technology; students critique current presentational techniques with special attention to how each succeeds or fails in its approach to relevant audiences; creation of multimodal projects for real world purposes (e.g., personal websites, persuasive video or audio essays, promotional project for local advocacy group, public performance); formal presentations on results of inquiry-guided research. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2070 Persuasive Stories: The Cultural Phenomenon of the West 3 s.h.

Examination of the persuasive dimension of stories; students master the skill of storytelling by examining stories circulating within their culture and exploring the effects these stories have on thinking about their identities and discovering their own voices; integration of speaking and writing skills with persuasive storytelling skills through short oral and written assignments that lead to a final multimodal project of two interrelated storytelling assignments—production of a website and a podcast. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2075 Digital Selves: Online Identities 3 s.h.
Production of a persuasive self in social media; issues of identity and performance in electronic forms. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2085 Speaking Skills 3 s.h.

How to become confident and effective speakers; assignments include formal presentations and shorter, informal speaking activities; peer and instructor feedback help improve the impression students create as speakers; strengths developed include earning credibility, capturing and maintaining audience interest, and coming across as personable, professional, and confident. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2090 Conversation Practicum 3 s.h.

Intercultural conversation with international students in small groups or pairs; readings, classroom discussions, and in-class training to develop cultural competence and related skills. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2095 Fundamental Strategies of Persuasion 3 s.h.

Strategies of approaching persuasion in a variety of personal, professional, and communal contexts; fundamentals of persuasion including audience adaptation, creating reasoned and passionate appeals, conveying character, and enabling identification taught from perspective of production. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: completion of GE CLAS Core Rhetoric.

RHET:2250 Negotiation and Conflict Resolution 3 s.h.

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios.

RHET:2400 Idea to Innovation 3 s.h.

Opportunity for creative, self-motivated students to begin making a difference in their communities today; examination of how cities and communities are organized spatially and socially; case studies detailing social innovators in a variety of disciplines; preparation to effectively communicate ideas to a broad range of audiences; identification of research opportunities, community partners, and mentors connected to students' areas of interest with a goal of implementing innovative social change.

RHET:2610 Acting for Success 3 s.h.

How skills learned by actors in the theatre world can be applied to presentations and interactions in business, education, and beyond; business world reliance on technology for communication; ability to connect and communicate on a personal level with others as the x-factor to stand out as a team player and a leader; acting techniques traditionally used in theatre to open up communication in office and interviews; presentations and elevator pitches (armed with techniques to avoid stage fright); how to connect and bring authentic self to everything you do. Corequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative. Same as THTR:2610.

RHET:2620 Body Language: Study of Movement and Gesture in Speaking 3 s.h.

How to effectively analyze and perform movement and gesture in public and interpersonal speaking situations; development of skills; use of movement and gesture in many types of public speeches including academic and professional presentations, political debates, ceremonial addresses, protest demonstrations; readings from classical treatises on oratory to recent social science research on nonverbal communication. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2800 Social Media: Persuasion, Influence, Connection 3 s.h.

Developing social skills and networking; influence and power in social media, sharing and "trending"; themes of being connected and being isolated, privacy and surveillance. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:2993 Online Portfolio 2-3 s.h.

Practical training to create an online portfolio; creation of web page through WiX that gives a comprehensive view of student's experience and aspirations to enter job market; personal and professional identity profiles ("about me"), WordPress blogs to reinforce personal/professional identity profiles, section or video with pertinent experience, résumé or a link to LinkedIn. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfaction of GE CLAS Core Rhetoric.

RHET:3009 Negotiation and Conflict Resolution 3 s.h.

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios. Same as URP:3217.

RHET:3085 Advanced Speaking Skills 3 s.h.

Preparation for speaking as a leader; how to speak effectively, authoritatively, and eloquently in a variety of settings; assignments including podcasts, video-recorded speeches, and TED talks; informal assignments provide occasions to practice, and give and receive quality feedback, as well as experiment with unique and memorable ways of speaking that give life to things that are abstract, technical, philosophical, and poetic. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:3130 Rhetorics of Animal Advocacy 3 s.h.

Explore the range of social, ethical, and environmental problems that motivate animal advocacy past and present, and analyze several advocacy campaign responses to those problems (e.g., People for the Ethical Treatment of Animals, Farm Sanctuary, The American Society for the Prevention of Cruelty to Animals, The National Humane Alliance); students will examine self-selected animal-related problems and design animal advocacy campaigns of their own choosing. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:3138 Writing to Change the World 3 s.h.

Writers who can frame questions, weigh competing perspectives, structure an argument, and write with clarity and respect for diverse audiences as powerful agents for change; writers who have inspired human rights movements; public forms of writing with local organizations whose missions are shaped by social attitudes to gender and sexuality; how language, imagery, popular culture, and history affect perceptions of gender and sexuality; conducting research and evaluation of evidence; best practices for communicating and collaborating; skills needed to be an effective advocate. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as GWSS:3138, SJUS:3138.

RHET:3140 Nature and Society: Controversies and Images 3 s.h.

Theoretical perspectives that explain and/or interpret environmental change and human environmental interactions; conceptual tools to understand complex relationship between nature and society at multiple scales; ways in which individuals and communities have overcome economic and environmental limitations in economically developed countries and economically developing countries; critical thinking through exposure to contentious viewpoints and assessment of their strengths and weaknesses. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: completion of GE CLAS Core Rhetoric.

RHET:3150 Narratives of Gender and Masculinity 3 s.h.

Engaging with and deconstructing the stories men and women tell about what it means to be a man in the 21st century; topics may include cultural differences in the construction of gender and masculinity, queer masculinity, masculinity and social justice movements (especially feminism), history of the present moment in masculinity, masculinity from a non-binary perspective, literary representations of masculinity, and masculinity in mass culture. Requirements: completion of GE CLAS Core Rhetoric. Same as GWSS:3700.

RHET:3250 Persuasive Writing for Science and Health Care Professionals 3 s.h.

Writing persuasively in professional settings; students write short papers in every class meeting and receive ample feedback from their peers and instructor; exploration of various writing formats including letter, personal essay, blog, project proposal, and grant proposal; for students majoring in science or health care areas. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative.

RHET:3260 Persuasive Speaking for Science and Health Care Professionals 3 s.h.

How to speak persuasively in professional settings; students speak in every class meeting and receive ample feedback from their peers and instructor with the goal of developing a presentational style of speaking that blends the personable and professional; exploration of various speaking forms including report, interview, video-recorded presentation, podcast, and large audience presentation (TED Talks); for students majoring in science and health care areas. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative.

RHET:3290 Advanced Business Speaking 3 s.h.

Speaking as a purpose-specific, audience-oriented, and situation-bound activity whose demands change from one setting to another; students learn to speak with authority, come across as professionals, and manage the impression they create in their audience by speaking in various business settings including business presentations, boardroom meetings, employee briefings, customer complaints, and peer meetings. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:3360 Classical Techniques in Modern Speaking 3 s.h.

Examination of public speaking in context of ancient Greece, when the shift from aristocracy to democracy made public speaking the only way to rise to a position of power; excerpts from ancient texts that demonstrate link between public speaking and democracy; strategies ancients used in public, celebratory, political, and judicial settings to make the best case for themselves; application of these strategies in modern settings for public speaking. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:3585 Speak, to Change the World: The Art of Speechwriting and Speechmaking 3 s.h.

Students focus on "speaking that makes a difference" by studying famous, classic, and contemporary speeches designed to change the world; addressing communal/societal causes of students' choice; writing eloquent and persuasive speeches; delivering scripted speeches in ways that earn character, credibility, and authority; for students interested in community or enterprise leadership; writing political, journalistic, public relations, or entrepreneurial speeches; and delivering scripted speeches professionally.

RHET:3600 Issues in Rhetoric and Culture: Crafting Online Persuasion 3 s.h.

Rhetorical theory and criticism as culturally embedded practices; rhetorical production of selves and social difference; relationships between rhetoric and literature, philosophy, popular texts. Prerequisites: RHET:1030 or (RHET:1060 and RHET:1040). Requirements: communication studies majors must complete: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1814, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2051, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2085, COMM:2086, COMM:2087, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248) prior to enrolling in this course. Same as COMM:3600.

RHET:3610 Writing in the Presence of Death: Rhetoric, Narrative, and Hospice 3 s.h.

Role of rhetoric in health care practice, decisions, and ethics; rhetorical production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfactory completion of GE CLAS Core Rhetoric. Same as ASP:3610, GWSS:3610.

RHET:3620 Exploring Travel Adventure Tales: Following in their Footsteps 3 s.h.

Works by contemporary travelers who followed in the footsteps of previous travelers and used the first voyagers; accounts in their own narratives; works include *Chasing Che: A Motorcycle Journey in Search of the Guevara Legend*; *The Cruelest Journey: Six Hundred Miles to Timbuktu*; *In the Footsteps of Marco Polo*; and *Voyage of Rediscovery: Exploring the New West in the Footsteps of Lewis and Clark*; optional camping/hiking trip in the spring following in the footsteps of Lewis and Clark along the Missouri River. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:3630 Apology and the Art of Verbal Self-Defense 3 s.h.

Apology as defense of actions, opinions, or personal character; how the quality of an apology can have profound effects on whether you go to jail, lose your lover, raise your grade, or get fired or promoted; different types of apologies across personal and professional life, from showing up late to an interview to making a corporate apology for an airline disaster; identifying and practicing skills of effective apologies in the interpersonal and public spheres. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfactory completion of GE CLAS Core Rhetoric.

RHET:3700 Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience 3 s.h.

How sustainable approaches to meeting critical social needs (food, water, shelter, air, work) have influenced food systems, policies on development, environmental problems, social justice, and policy both local and global in scope; readings and field research activities leading to creation of work of multimodal advocacy. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: fulfillment of GE CLAS Core Rhetoric.

RHET:4980 Special Projects for Undergraduates arr.

Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

RHET:5100 Practicum: College Teaching and Professional Development for Teaching Assistants arr.

Guidance for teaching assistants seeking introduction to teaching at college level; focus on practical pedagogical concerns, including how to structure a course, devise learning outcomes, develop a syllabus and a calendar of assignments, evaluate student work, and create a student-centered classroom with collaborate learning experiences; pre-semester intensive training session, weekly meetings during first month of semester, periodic meetings to address midterm and late-semester issues; concurrent with TA teaching assistantships. Recommendations: interest in teacher training and preparation. Same as CLAS:5100.

RHET:5330 Directing a Writing Center arr.

Supervised tutoring in Writing Center involving graduate and undergraduate tutors and fellows across disciplines; providing instruction on recruitment and development of writing support teams; helping a variety of persons on campus (undergraduate, graduate, faculty) to improve their writing skills in many different areas, ranging from class or conference papers to publicity materials. Requirements: professional development program and rhetoric teaching.

RHET:5335 Directing a Speaking Center arr.

Supervised tutoring in Speaking Center involving graduate and undergraduate tutors and fellows across disciplines; providing instruction on recruitment and development of writing support teams; helping a variety of persons on campus (undergraduate, graduate, faculty) to improve their speaking skills in many different areas, ranging from class or conference papers to publicity materials. Requirements: professional development program and rhetoric teaching.

RHET:5350 Colloquium: Teaching Rhetoric 3 s.h.

Professional development program for new rhetoric teachers; includes three-day workshop.

RHET:5352 Seminar: Topics in Teaching and Professional Development 3 s.h.

Professional development and advanced study of pedagogical theories and practices; focus on teaching as a rhetorical act; readings on pedagogy, composition theories, and learning process; academic and alt-ac career options; teaching philosophy statement, teaching portfolio, peer classroom observations, and research project; for experienced rhetoric instructors and others teaching writing-intensive, process-oriented courses. Recommendations: previous or current teaching experience in composition-intensive courses.

RHET:5375 Teaching in a Writing Center 3 s.h.

Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as CNW:5375.

RHET:5385 Teaching in a Speaking Center 3 s.h.

Preparation to teach in University of Iowa Speaking Center or similar settings; seminar component on speaking and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in speaking center.

RHET:6071 Sentimentalism and Affect Theory 3 s.h.

Readings in sentimentalism as literary genre, rhetorical practice, cultural mode, and psychosocial phenomenon; focus on attendant theories of affect; integration of literature and culture with work on politics of affect in postcolonial and transnational studies, critical race and ethnic studies, American studies, gender and sexuality studies. Same as ENGL:6075.

RHET:6330 Writing for Learned Journals 1-4 s.h.

Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as GRAD:6300.

RHET:6400 Current Issues in Rhetoric 3 s.h.

Ethical, social, or cultural issues; rhetoric's role in their contemporary significance; traditional aspects of rhetoric, their pertinence to present concerns. Same as COMM:6400.

RHET:6965 Topics in Second Language Acquisition: Writing 3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as SLA:6965, SPAN:6965.

RHET:7500 Science Communication in the Digital Age 2-3 s.h.

Preparation for communicating scientific discoveries and importance of scientific endeavors in digital media; focus on adaptable and transferable skills; relevant preparation for digital communication in academic and nonacademic career paths; develop aptitude with speaking and performance skills relevant to video presentation; develop familiarity with video composition and editing processes.

RHET:7900 Special Project for Graduate Students arr.**RHET:7920 Innovative Methods in Pedagogy: Radical Feminist Pedagogy 3 s.h.**

Readings in history, theory, and practice of pedagogical innovations appropriate to composition instruction and other interdisciplinary teaching; project-based assignments that produce materials appropriate for classroom use. Same as GWSS:7920.

RHET:7930 Writing in the Disciplines arr.

Writing instruction.

RHET:7940 Public Speaking for Academics 3 s.h.

Prepares graduate students for the public speaking occasions germane in their home disciplines and in their future professions; students gain experience moving between different rhetorical registers in public speaking through engaging in cross-disciplinary conversations about performance and speaking practices while refining discipline-specific speaking strategies; honing the ability to communicate the same information in different forms and styles (along with understanding the corresponding advantages and limitations of such) will contribute to students' teaching and scholarly skill sets.

Rhetoric and Persuasion, Minor

The undergraduate minor in rhetoric and persuasion requires a minimum of 15 s.h., including 12 s.h. earned in courses taken at the University of Iowa and at least 12 s.h. earned in Department of Rhetoric courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor educates students in responsible, credible, and effective methods to take active leadership roles in engaging social issues in personal, professional, and communal settings. The program empowers students to look at the world as a place open to change and receptive to influence and to view themselves as agents capable of improving the world and their place in it. The minor aims to professionalize students—whether in their capacity as individual citizens, members of the community, or leaders in the workplace—by guiding them to understand audiences and situations, to use language responsibly and strategically, and to develop the integrity and authority of their own voice.

The minor in rhetoric and persuasion requires the following course work.

Code	Title	Hours
A maximum of five of these courses may count toward the minor:		
RHET:2000/ ARTS:2000/ ASP:2000/ EDTL:2000	Big Ideas: Creativity for a Lifetime (when taught by a rhetoric instructor)	3
RHET:2031/ GWSS:2000	Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect (when taught by a rhetoric instructor)	3
RHET:2055/ GWSS:2055	Persuasion and Advocacy	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2070	Persuasive Stories: The Cultural Phenomenon of the West	3
RHET:2085	Speaking Skills	3
RHET:2090	Conversation Practicum	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2250	Negotiation and Conflict Resolution	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
RHET:3085	Advanced Speaking Skills	3
RHET:3138/ GWSS:3138/ SJUS:3138	Writing to Change the World (when taught by a rhetoric instructor)	3
RHET:3150/ GWSS:3700	Narratives of Gender and Masculinity (when taught by a rhetoric instructor)	3

RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
RHET:3260	Persuasive Speaking for Science and Health Care Professionals	3
RHET:3290	Advanced Business Speaking	3
RHET:3585	Speak, to Change the World: The Art of Speechwriting and Speechmaking	3
RHET:3630	Apology and the Art of Verbal Self-Defense	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
RHET:4980	Special Projects for Undergraduates	arr.
A maximum of one of these courses may count toward the minor:		
BUS:3000	Business Communication and Protocol	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
COMM:1816	Business and Professional Communication	3
GWSS:3138/ RHET:3138/ SJUS:3138	Writing to Change the World (qualifies for this group if not being taught by rhetoric instructor)	3
LATH:3000	Latham Fellows: Science Communication Skill Building	1-2
LATH:3001	Latham Fellows: Science Outreach Project	2
RHET:2610/ THTR:2610	Acting for Success	3
THTR:1140	Basic Acting	3

Second Language Acquisition

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Director, Second Language Acquisition

- Chuanren Ke

Graduate degree: Ph.D. in second language acquisition

Faculty: <https://clas.uiowa.edu/dwllc/flare/affiliated-faculty>

Website: <https://clas.uiowa.edu/dwllc/flare/second-language-acquisition-phd-program>

Second language acquisition (SLA) is a multidisciplinary field whose goal is to understand the processes that underlie non-native language learning. The doctoral program in second language acquisition draws from varied academic disciplines, among them linguistics, psychology, psycholinguistics, sociology, sociolinguistics, discourse analysis, conversation analysis, and education.

The interdisciplinary Ph.D. in second language acquisition is sponsored by Foreign Language Acquisition Research and Education (FLARE). More than 20 faculty members affiliated with SLA are drawn from various departments in the College of Liberal Arts and Sciences and the College of Education.

The SLA doctoral program emphasizes theory, research, and classroom-based teaching and learning. All students take courses in SLA theory, multimedia, research methods, language learning and linguistics. In addition, each student defines an area of specialization, in consultation with a SLA advisor. The two broad areas of specialization are language learning and postsecondary education, and linguistics and psycholinguistics.

Students in the language learning and postsecondary education specialization area demonstrate interest in issues where SLA and pedagogy converge. This includes classroom discourse, assessment, and the acquisition of grammatical knowledge in the classroom context. Students also may focus on aspects of technology and how it facilitates second language acquisition.

Students in the linguistics and psycholinguistics specialization area exhibit interest in areas of formal linguistics (e.g., syntax, phonology, morphology) and/or applied linguistics issues that relate to their particular second language focus. Student projects include the acquisition of the syntactic structures and/or phonological features of a second language, and generative and cognitive approaches to explaining acquisition. Students who work in psycholinguistics also may focus on the relationship between language processing and language acquisition.

Second Language Acquisition is one of the units in the Division of World Languages, Literatures and Cultures [p. 336].

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Second Language Acquisition [p. 912]

Facilities

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small-group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of Iowa. Any current University of Iowa student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Courses

Second Language Acquisition Courses

SLA:3302 Introduction to Chinese Linguistics 3 s.h.

Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as CHIN:3302, LING:3302.

SLA:3400 Articulatory and Acoustic Phonetics 3 s.h.

Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as LING:3005.

SLA:4300 Introduction to Spanish Syntax 3 s.h.

Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis. Prerequisites: SPAN:3100. Same as SPAN:4150.

SLA:4301 Introduction to Spanish Phonology 3 s.h.

Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Same as SPAN:4100.

SLA:4401 Methods of Teaching English as a Second Language 3 s.h.

Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: LING:3005 and LING:4040. Same as LING:4050.

SLA:5000 Teaching and Learning Languages 3 s.h.

Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Same as FREN:5000, GRMN:5001, SPAN:5000, WLLC:5000.

SLA:5010 Introduction to Syntax 3 s.h.

Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: LING:5000. Same as LING:5010.

SLA:5020 Introduction to Phonology 3 s.h.

Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: LING:3005. Same as LING:5020.

SLA:5401 First Language Acquisition 3 s.h.

Child language from a crosslinguistic perspective. Prerequisites: LING:3005 and (LING:4040 or LING:5010). Same as LING:5030.

SLA:5441 Japanese as a Foreign Language: Practical Applications 3 s.h.

Instructional methodology, curriculum, and material design; hands-on experience. Same as JPNS:5401.

SLA:6010 Syntactic Theory 3 s.h.

Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: LING:5010. Same as LING:6010.

SLA:6011 Phonological Theory 3 s.h.

Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: LING:5020. Same as LING:6020.

SLA:6301 Topics in Spanish Language Acquisition 3 s.h.

Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Requirements: at least one course in linguistics (e.g., general introduction to linguistics). Same as SPAN:6150.

SLA:6302 Topics in Comparative Romance Linguistics 3 s.h.

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Recommendations: additional graduate course work in linguistics. Same as LING:6190, SPAN:6190.

SLA:6303 Spanish Phonology 3 s.h.

Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Requirements: phonology or linguistics course. Same as SPAN:6110.

SLA:6304 Spanish Syntax 3 s.h.

Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Requirements: one course in syntax. Same as SPAN:6120.

SLA:6403 Special Topics in Japanese Linguistics 3 s.h.

Topics in applied linguistics and language pedagogy related to Japanese language. Same as JPNS:6403.

SLA:6452 Topics in Second Language Acquisition 3 s.h.

Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: (LING:3010 or LING:5010) and (LING:3020 or LING:5020). Same as LING:6080.

SLA:6500 Issues in Foreign Language Education 3 s.h.

Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as EDTL:6480.

SLA:6501 Reading in a Second Language 3 s.h.

Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as EDTL:6484.

SLA:6502 Principles of Course Design for Second Language Instruction 3 s.h.

Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as EDTL:6497.

SLA:6503 Fundamentals of Second Language Assessment 3 s.h.

How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as EDTL:6400.

SLA:6504 Second Language Program Management 3 s.h.

Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as EDTL:6402.

SLA:6506 Second Language Classroom Learning 3 s.h.

Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as ASIA:6483, EDTL:6483.

SLA:6901 Second Language Acquisition Research and Theory 3 s.h.

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as ASIA:6901, FREN:6901, JPNS:6901, SPAN:6901.

SLA:6902 Second Language Acquisition Research and Theory II 3 s.h.

Continuation of SLA:6901. Prerequisites: SLA:6901. Same as ASIA:6903, SPAN:6902.

SLA:6920 Multimedia and Second Language Acquisition 3 s.h.

Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Same as FREN:6920, GRMN:6920, SPAN:6920.

**SLA:6950 Topics in Second Language Acquisition:
Speaking** **3 s.h.**

Theory, pedagogy, research, and assessment in second language speaking. Same as FREN:6950, SPAN:6950.

**SLA:6965 Topics in Second Language Acquisition:
Writing** **3 s.h.**

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as RHET:6965, SPAN:6965.

SLA:6970 Cultural Curriculum **3 s.h.**

Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as EDTL:6409.

SLA:7020 Readings in Second Language Acquisition **arr.**

**SLA:7025 Special Projects in Second Language
Acquisition** **arr.**

SLA:7030 Ph.D. Thesis **arr.**

SLA:7401 Advanced Syntactic Theory **2-3 s.h.**

Recent developments in syntax; comparison of theories, argumentation, and uses of data. Prerequisites: LING:6010. Same as LING:7010.

SLA:7404 Seminar: Problems in Linguistics **2-3 s.h.**

Intensive study of theoretical and practical problems. Same as LING:7090.

**SLA:7405 Teaching Chinese as a Second Language V:
Seminar in Research and Design** **3 s.h.**

Qualitative and quantitative research design theories and techniques. Prerequisites: CHIN:7401 and PSQF:4143. Same as CHIN:7405.

**SLA:7406 Teaching Chinese as a Second Language I:
Theories and Research** **3 s.h.**

Research, theory on acquisition of Chinese as a non-native language. Same as CHIN:7401.

**SLA:7804 Teaching Chinese as a Second Language IV:
Testing and Assessment** **3 s.h.**

Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a second language. Same as CHIN:7404.

Second Language Acquisition, Ph.D.

FLARE stands for Foreign Language Acquisition Research and Education, and it is the name of the interdisciplinary program that sponsors the Ph.D. in second language acquisition.

The Doctor of Philosophy program in second language acquisition began in fall 2000. To date, more than 20 Ph.D. students have graduated and there are 20-25 full-time students in the program. Students are able to take a variety of courses taught by more than 20 affiliated faculty members from a number of departments and programs across campus.

Requirements

The Doctor of Philosophy in second language acquisition is a research-oriented degree. This interdisciplinary program, which focuses on languages other than English, requires 72 s.h., including a maximum of 33 s.h. earned in work toward a master's degree. Students must earn a minimum of 61 s.h. at the University of Iowa. Those interested in pursuing the Ph.D. must hold a master's degree in an appropriate field (e.g., linguistics, foreign language education) or have equivalent academic experience.

A course may be used to fulfill only one requirement. All courses taken to fulfill program requirements must be taken on a graded basis; no graduate credit is awarded for a grade lower than C-minus. To remain in good standing, Ph.D. students must maintain a cumulative g.p.a. of at least 3.00.

The required curriculum includes 14 courses, including two foundation courses, three courses in the area of research methods, two courses in the area of language learning, two courses in the area of linguistics, and five courses in a student's area of specialization. Students may specialize in language learning and postsecondary education, which includes a focus on technology in language acquisition and learning; or in linguistics and psycholinguistics, with focus on phonetics/phonology or on syntax in a particular second language. In addition, the Ph.D. requires successful completion and defense of a dissertation representing original research in second language acquisition.

Students may extend their interdisciplinary interests by taking relevant elective course work offered by the Departments of Communication Sciences and Disorders, French and Italian, German, Linguistics, Psychological and Brain Sciences, Rhetoric, Spanish and Portuguese, and Asian and Slavic Languages and Literatures in the College of Liberal Arts and Sciences; and the Departments of Psychological and Quantitative Foundations, and Teaching and Learning in the College of Education.

The Ph.D. in second language acquisition requires the following course work.

Code	Title	Hours
	Foundation Courses	6
	Research Methods Courses	10
	Language Learning Courses	6
	Linguistics Courses	6
	Specialization Courses	15
	Elective Courses	
	Thesis	2-15

Foundation Courses

Code	Title	Hours
Both of these:		
SLA:6901	Second Language Acquisition Research and Theory	3
SLA:6920	Multimedia and Second Language Acquisition	3

Research Methods

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	4
One of these:		
CHIN:7405	Teaching Chinese as a Second Language V: Seminar in Research and Design	3
EDTL:7405	Research Methods in Second Language Teaching and Learning	3
And:		
	A course to complement dissertation research (consult advisor)	3

Language Learning

Code	Title	Hours
Two of these:		
SLA:6950	Topics in Second Language Acquisition: Speaking	3
SLA:6965	Topics in Second Language Acquisition: Writing	3
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6409	Cultural Curriculum	3
EDTL:6483	Second Language Classroom Learning	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3

Linguistics Courses

Code	Title	Hours
Both of these:		
	Two courses (chosen in consultation with advisor)	6

Specialization Courses

Each student selects one of two specialization areas—linguistics and psycholinguistics or language learning and postsecondary education—and takes five courses (total of 15 s.h.) in one area, not including courses taken above to satisfy requirements. Courses that could be used in these areas are listed below. Each student's specific specialization area and set of courses will be determined in consultation with the advisor.

Linguistics and Psycholinguistics

Code	Title	Hours
LING:6020	Phonological Theory	3
LING:6080	Topics in Second Language Acquisition	3
LING:7010	Advanced Syntactic Theory	3
PSY:3670	Language Processes	3
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:4170	Linguistic Aspects of Second Language Acquisition	3
SPAN:6150	Topics in Spanish Language Acquisition	3

Other courses (chosen in consultation with advisor)

Language Learning and Postsecondary Education

Code	Title	Hours
CHIN:5024	Teaching Chinese as a Second Language VII: Pedagogical Grammar	3
CHIN:7401	Teaching Chinese as a Second Language I: Theories and Research	3
CHIN:7403	Teaching Chinese as a Second Language III: Instruction and Practicum	3
CHIN:7404	Teaching Chinese as a Second Language IV: Testing and Assessment	3
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6480	Issues in Foreign Language Education	3
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture	arr.
PSQF:6205	Design of Instruction	3
PSQF:6208	Designing Educational Multimedia	3
PSQF:6215	Web-Based Learning	3
PSQF:6265	Program Evaluation	3

Other courses (chosen in consultation with advisor)

Elective Courses

Students also may take elective course work relevant to their research interests, including the following independent project courses.

Code	Title	Hours
SLA:7020	Readings in Second Language Acquisition	arr.
SLA:7025	Special Projects in Second Language Acquisition	arr.

Thesis

Students must complete a thesis (maximum of 15 s.h., with a minimum of 2 s.h.)

Code	Title	Hours
SLA:7030	Ph.D. Thesis	arr.

Admission

Admission is for fall semester; students are admitted only for full-time study. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Strong applicants hold a master's degree in a related area, have a cumulative g.p.a. of at least 3.50 in master's degree work, and speak and write English and another language at a professional level. Applicants must submit a writing sample that demonstrates their ability to synthesize and analyze information using standard academic English.

Financial Support

Teaching assistantships are available to qualified students. Assistantships usually involve teaching elementary or intermediate language courses. Visit the FLARE website for details.

Social Science Analytics

Chair, Department of Political Science

- Wenfang Tang

Coordinator, Social Science Analytics

- Frederick J. Boehmke (Political Science)

Undergraduate certificate: social science analytics

Website: <https://clas.uiowa.edu/polisci/undergraduate/social-science-analytics-certificate>

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences.

The certificate will ensure students are more competitive for careers and opportunities with political campaigns, policy analysis, public opinion firms, consulting and government agencies, and local communities.

The Certificate in Social Science Analytics is interdisciplinary and a number of departments collaborate to leverage distinct strengths and offer courses applicable to the certificate, including the Departments of Geographical and Sustainability Sciences, Political Science, Sociology, and Statistics and Actuarial Science. The certificate is administered by the Department of Political Science [p. 837].

Programs

Undergraduate Program of Study Certificate

- Certificate in Social Science Analytics [p. 915]

Social Science Analytics, Certificate

The undergraduate Certificate in Social Science Analytics requires a minimum of 18 s.h. Students complete requirements in five different component areas for a total of at least six courses. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. They may count a maximum of 6 s.h. completed for a major, a minor, or another certificate offered by the College of Liberal Arts and Sciences toward the Certificate in Social Science Analytics.

The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Some of the certificate courses have prerequisites not included in the certificate requirements. Students should select courses for which they have met the prerequisites.

The Certificate in Social Science Analytics requires the following course work.

Code	Title	Hours
	Introduction to Data and the Social Sciences Course	3
	Social Science Research Design and Data Analysis Course	3
	Core Statistics Courses	6-8
	Building Skills and Data Science Course	3-4
	Applied Research Experience	3
Total Hours		18-21

Introduction to Data and the Social Sciences

Code	Title	Hours
This course:		
POLI:1050/ RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3

Social Science Research Design and Data Analysis

Code	Title	Hours
One of these:		
POLI:2000	Designing Political Research	3
SOC:2170	Research Methods	3

Core Statistics

Code	Title	Hours
Two of these:		
POLI:3000	Analyzing Political Data	3
STAT:3120/ IGPI:3120	Probability and Statistics	4
STAT:3200/IE:3760/ IGPI:3200	Applied Linear Regression	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	4

May include one of these:

STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
SOC:2160	Applied Statistics for Social Scientists	3

Building Skills and Data Science

Code	Title	Hours
One of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction	3
CS:3980	Topics in Computer Science I	3
ECON:4800	Econometric Analysis	3
GEOG:1050	Foundations of GIS	4
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
GEOG:3540/ IGPI:3540	Introduction to Geographic Visualization	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
GEOG:4870/ EES:4870	Applied Geostatistics	3
MSCI:3200	Database Management (must complete prerequisite course work)	3
MSCI:3250	Analyzing Data for Business Intelligence (must complete prerequisite course work)	3
MSCI:3500	Data Mining (must complete prerequisite course work)	3
POLI:3050	Problems in Methods	3-4
SOC:3880	The Sociology of Networks	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6560	Applied Time Series Analysis	3

Applied Research Experience

Code	Title	Hours
At least 3 s.h. from these:		
GEOG:4030	Senior Project Seminar	3
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project	2-3
POLI:3001	Hawkeye Poll	3
POLI:3127	Legislative Policy Seminar	3
POLI:4600	Honors Research Project	3

POLI:4702	Senior Research Project/ Paper	3
SOC:4998	Honors Research	arr.
STAT:6220	Statistical Consulting	3

Social Work

Director

- Sara Sanders

Director, Bachelor of Arts Program

- Amy C. Butler

Director, Master of Social Work Program

- Julia L. Kleinschmit

Director, Doctor of Philosophy Program

- Man Guo

Undergraduate major: social work (B.A.)

Undergraduate minor: social work

Graduate degrees: M.S.W.; Ph.D. in social work

Faculty: <https://clas.uiowa.edu/socialwork/people/faculty>

Website: <https://clas.uiowa.edu/socialwork/>

The School of Social Work's mission is to develop, disseminate, and integrate excellent and compelling research-based knowledge, practice, and policy, particularly that related to children, families, and older adults. The school operates from strengths-based perspectives and systems perspectives. It educates its graduates to be culturally competent scholars and practitioners who are committed to social justice and social work values and ethics, and who are prepared to serve in and have a positive impact on a broad range of family-centered and community-based practice settings throughout the State of Iowa and beyond.

The school provides a program of professional training accredited by the Council on Social Work Education at the baccalaureate and master's degree levels, aimed at developing effective intervention in multiple systems and using professional social work values and ethics. It also offers a Ph.D. program, which prepares students to conduct research that contributes to the knowledge base of social work, to be leaders in setting policy and practice, and to teach in colleges and universities. In addition, the School of Social Work administers the programs listed below.

Minor

Aging and Longevity Studies

The School of Social Work administers the undergraduate minor in the Aging and Longevity Studies Program; see the minor in aging and longevity studies [p. 34] in the Catalog.

Certificates

Aging and Longevity Studies

The School of Social Work administers the undergraduate and graduate certificates in the Aging and Longevity Studies Program; see Aging and Longevity Studies [p. 32] in the Catalog.

Critical Cultural Competence

The School of Social Work administers the undergraduate certificate program in critical cultural competence; see the Certificate in Critical Cultural Competence [p. 306] in the Catalog.

Resilience and Trauma-Informed Perspectives

The School of Social Work administers the undergraduate certificate program in resilience and trauma-informed perspectives; see the Certificate in Resilience and Trauma-Informed Perspectives [p. 902] in the Catalog.

Projects, Seminars

Students may become involved in special projects such as the National Resource Center for Family-Centered Practice and the School of Social Work's programs in gerontology and in end-of-life care.

The school also offers students the opportunity to participate in travel/study seminars.

Continuing Education

Nondegree students may enroll in selected courses. Students who complete continuing education work and later enroll in a degree program may be able to apply a limited amount of their continuing education work toward their degree requirements; applicable credit is determined by the School of Social Work.

Programs

Undergraduate Programs of Study

Major

- Major in Social Work (Bachelor of Arts) [p. 923]

Minor

- Minor in Social Work [p. 927]

Graduate Programs of Study

Majors

- Master of Social Work [p. 928]
- Doctor of Philosophy in Social Work [p. 935]

Courses

Social Work Courses

SSW:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

SSW:1022 Social Justice and Social Welfare in the United States 3 s.h.

Historical development of social welfare and social justice in the United States; individual values and ethics; role and responsibilities of enhancing society; contemporary practice to address social injustices including poverty, discrimination, various forms of violence; small group discussions and debates of various issues to allow for an exchange of diverse views and perspectives; volunteer work. GE: Values and Culture. Same as SOC:1022.

SSW:1800 Aging Matters: Introduction to Gerontology 3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, NURS:1800, TR:1800.

SSW:2042 Intercultural Communication 3 s.h.

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as COMM:2042, IS:2042.

SSW:2222 Introduction to Social Work 4 s.h.

Social welfare as a social institution; settings, methodologies of social work, practice; profession of social work; historical development of American social welfare, social work; a minimum of 45 hours volunteer work. Requirements: sophomore or higher standing.

SSW:3135 Global Aging 3 s.h.

Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as ASP:3135, GHS:3050.

SSW:3187 Continuing Education: Individual Study arr.

Project related to student interest carried out under direction of faculty member. Requirements: individual study contract.

SSW:3191 Individual Study arr.

Project related to student interest carried out under direction of faculty member.

SSW:3500 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, NURS:3595, RELS:3700.

SSW:3600 Nonprofit Organizational Effectiveness II 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, NURS:3600, RELS:3701.

SSW:3700 Introduction to Understanding Trauma and Resilience 3 s.h.

Introduction to understanding key concepts of trauma-informed systems of care in multiple settings; identification of various types of trauma along with behaviors and responses seen in survivors of trauma; students trace effects of historical trauma of marginalized communities and multiple trauma survivor groups to understand the consequences of trauma and its impact in the culture; resilience and strategies to offset consequences of trauma. Same as PSQF:3700.

SSW:3712 Human Sexuality, Diversity, and Society 1-3 s.h.

Introduction to human sexuality from a biopsychosocial, sex-positive perspective; sexuality as a normal and essential component of human existence and expression throughout the life span; influence of gender, class, religion, race, ethnicity, sexual orientation, ability status, age, and culture on sexuality interwoven and highlighted; diversity of perspectives and experiences shared through active participation and respectful dialogue. Same as NURS:3712.

SSW:3729 Substance Use and Abuse 3 s.h.

Chemical dependency for helping professions; etiological, physiological, psychological, legal, sociological aspects; treatment methods.

SSW:3786 Death/Dying: Issues Across the Life Span 3-4 s.h.

Introduction to the field of end-of-life care; examination of student concerns about death, dying, and grieving process; historical, cultural, societal, and personal perspectives of death and dying in modern society. Same as ASP:3786.

SSW:3796 Family Violence 2-3 s.h.

Thinking critically about one of the most damaging family problems prevalent in the United States today—family violence; students examine the phenomena of child abuse and neglect, domestic violence, and elder abuse, including definitions, causes, risk factors, consequences, reporting, assessment, intervention, prevention, and policy.

SSW:3797 Child Welfare Policy and Practice 3 s.h.

Public and private child welfare practice and organizations in the United States; historical and legal aspects, co-occurring issues, foster care, adoption, family preservation.

SSW:3799 Selected Aspects of Social Work and Social Welfare arr.

Human behavior, practice, social welfare policy.

SSW:3840 Human Behavior in the Social Environment 3-4 s.h.

Behavior and development in context of social, ecological systems and human diversity; overview of biopsychosocial dimensions, individual behavior, and development throughout lifespan; contexts of diverse family, group, community, organization, and cultural systems.

SSW:3841 Fundamentals of Social Work Practice 3 s.h.

Professional practice: functions, roles, skills, conceptual frameworks, values, ethics; focus on integrated approach to practice, including assessment, intervention, evaluation of interventions, termination with individuals, families, groups; emphasis on empirically based practice. Corequisites: SSW:3840, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

SSW:3842 Interpersonal Skills Laboratory 2 s.h.

Practice of interpersonal skills required in the helping relationship. Corequisites: SSW:3841, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

SSW:3844 Introduction to Social Work Research 4 s.h.

Scientific approach to knowledge building, with emphasis on critical use of research; quantitative and qualitative methods, evaluation of practice, computerized data analysis, ethics and diversity in social work research. Requirements: admission to social work B.A. program.

SSW:3845 Social Work Processes 4 s.h.

Context of practice examined to understand structural factors that affect clients and communities; culturally competent practice using empowerment perspective. Corequisites: SSW:3840, if not taken as a prerequisite. Requirements: admission to social work B.A. program.

SSW:3847 Discrimination, Oppression, and Diversity 3 s.h.

Theoretical and historical perspectives on racism, sexism, other forms of discrimination; applications to social work, culturally competent practice, change strategies. Requirements: admission to social work B.A. or M.S.W. program.

SSW:3904 Human Services Administration 2 s.h.

Effects of organizational structures/processes on individual performance; models of management, communication patterns, leadership styles; skill in technical writing, decision making, personnel and financial management, applied professional ethics. Requirements: completion of foundation courses.

SSW:4100 Social Work in the Criminal Justice System 3 s.h.

How social work practice intersects with different aspects of the criminal justice system; focus on integrating social work values into criminal justice field; social work's responsibility to address social justice problems (e.g., mental illness, racial disparity, gender, human rights) within criminal justice system; critical examination of past and present practices in criminal justice and implications for social work practice and policy when working with individuals in criminal justice system.

SSW:4130 Family Development Specialist Model 3 s.h.

Use of family development specialist model of family-centered practice to facilitate improved family functioning, economic independence; relationship building, systems theory, family-centered case management, conflict management, empowerment strategies. Requirements: completion of family development specialist certification course.

SSW:4155 Treatment of Substance Use and Co-Occurring Disorders 3 s.h.

Treatment of individuals presenting substance related issues (abuse, dependency, co-occurring disorders); etiological, physiological, psychological, legal, and sociological aspects; evaluation of current research and direct application of contemporary treatment modalities to client situations encountered as helping professionals. Recommendations: introductory course in substance abuse.

SSW:4188 Continuing Education: Honors arr.

Supervised individual research. Requirements: honors standing.

SSW:4189 Field Experience Seminar 1 s.h.

Opportunity for students to recount their experiences from generalist practice in agencies; application of knowledge, skills, and values of culturally competent social work. Corequisites: SSW:4193. Requirements: completion of course work in the major.

SSW:4190 Aging Studies Internship and Seminar 3 s.h.

Opportunities for students in various disciplines to relate their areas of study to older adults and aging; interdisciplinary relationships, approaches to meeting needs of older adults; an online seminar that meets regularly is included in this experience. Same as ASP:4190.

SSW:4192 Honors in Social Work arr.

Supervised individual research. Requirements: honors standing.

SSW:4193 Field Experience arr.

Supervised experience in selected social welfare organizations; application of knowledge and skill common to generalist practice in an agency setting. Corequisites: SSW:4189. Requirements: completion of course work in the major and social work senior standing.

SSW:4700 Motivational Interviewing in Diverse Application 3 s.h.

Application of motivational interviewing (MI) skills, as a collaborative process and communication style, while working with individuals presenting with ambivalence to change; MI skills are used to guide across the change process ("Stages of Change") by evoking the intrinsic motivation for change; includes application to diverse populations (e.g., cultural groups, veterans, adolescents) and psychological issues individuals may exhibit.

SSW:4843 Social Welfare Policy and Practice 3 s.h.

Basic social welfare policies and programs; economic, social, ideological, and political conditions that have influenced formation and implementation of social policy, current structure of major social welfare policies.

SSW:5194 Social Work Practice in Health Care Settings 2 s.h.

Introduction to organization, provision of social work services in health care settings; practice issues such as models of intervention, ethical questions, impact of cultural diversity on health care.

SSW:5200 Grief Work with Individuals and Families 2-3 s.h.

Complexity of grief and its multifaceted impact on family systems; utilizing grief theories, including Worden's Tasks of Mourning, ambiguous loss theory, several family systems models; examination of multi-generational dynamics that affect how we learn to grieve, how we experience grief, and how we live after a loss; acknowledged and unacknowledged grief and loss; generational family dynamics; difficulties and strengths passed from one generation to the next; assessing grief at individual, family, group, and community levels; how loss can affect personal well-being and professional practice, particularly when working with an interdisciplinary team. Requirements: social work graduate standing.

SSW:5219 Aging and the Family 2-3 s.h.

Research related to aging and the family; intergenerational relations, marital status in later life, diversity of older families, caregiving, elder abuse, policy issues. Same as ASP:5219.

SSW:5240 Trauma Informed Family Practice 3 s.h.

Theory, knowledge, and skills informing evidence-based assessment and intervention for traumatized children and adolescents in child welfare system, including those exposed to abuse, neglect, witnessing interpersonal crime (e.g., domestic violence, community violence); family events within their ecological context, various family forms, cultural patterns; controversial issues in child welfare, conclusions based on scholarly research, presentation of conclusions in professional oral and written form.

SSW:6145 Organization and Community Practice 3 s.h.

Models that underlie theories of organization, community practice; principles of macro social work and skill development in relationship building, needs assessment, decision making, planning, implementing, ethics, program and self-evaluation. Requirements: admission to M.S.W. program.

SSW:6146 Computer Laboratory**1 s.h.**

Instruction and hands-on skills in the use of computer applications for research and statistical analysis. Requirements: admission to M.S.W. program.

SSW:6148 Research Practice I**3 s.h.**

Knowledge and skills for evaluating practice and carrying out social work research; formulation of research questions; research design and methodology; sampling techniques; protection of human subjects; descriptive statistics; computerized data analysis. Requirements: admission to M.S.W. program.

SSW:6150 Social Work Practice with Individuals, Families, and Groups**3 s.h.**

Models and underlying theories of empirically based direct social work practice; emphasis on an ecosystem strengths perspective; phases of helping relationship, strengths-based assessment, change process in interpersonal helping relationships. Prerequisites: SSW:3840. Requirements: admission to M.S.W. program; for students who have completed 60 s.h., concurrent enrollment in SSW:6151, SSW:6290, and SSW:6291.

SSW:6151 Social Work Practice Skills Laboratory**2 s.h.**

Interpersonal skills practice in the helping relationship; small-group format. Corequisites: SSW:6150 and SSW:6290 and SSW:6291, if not taken as prerequisites. Requirements: admission to M.S.W. program.

SSW:6220 Family Law**3 s.h.**

Legal systems, rights, and processes related to families including marriage, divorce, custody, protective services, reproductive rights, adoption, commitment, delinquency, education, poverty, and discrimination; roles of lawyers and social workers in legal system. Prerequisites: SSW:4843.

SSW:6224 Spirituality and Ethics in Social Work**2-3 s.h.**

Knowledge, values, and skills that provide a framework for spiritually sensitive social work practice; preparation for responding competently and ethically to diverse spiritual perspectives, for recognizing and reflecting on one's own spiritual beliefs, and for identifying appropriate ways to apply personal beliefs to practice with varied populations while safeguarding client autonomy and self-determination.

SSW:6228 Theories of Personality and Psychopathology**2 s.h.**

Theories and their relevance to social work practice with diverse populations. Prerequisites: SSW:3840. Requirements: social work graduate standing.

SSW:6232 Therapy with Couples**2 s.h.**

Introduction to working with couples in interaction and as a social system; theories of functional and dysfunctional systems; theoretical bases for couple's therapy and techniques of intervention; special attention to couple assessment. Requirements: completion of foundation courses.

SSW:6233 School Social Work Practice**2 s.h.**

Evidence-based school social work services from a multilevel approach with student, family, school, and community grounded in social work standards, values, ethics and cultural competence; social and political influences on education and practice; prevention, assessment and intervention; specific practices include response to intervention and positive behavior supports; evaluating and serving students with disabilities including use of functional behavior assessment and development of behavior intervention plans; consultation and collaboration with teachers and school staff, engaging in culturally sensitive practices.

SSW:6234 Social Work Practice and Use of the Diagnostic and Statistical Manual of Mental Disorders**3 s.h.**

Major categories of psychopathology and the DSM-5 system of classification; the use of the DSM-5 approach to diagnosis allows one to consider all aspects of an individual's behavior and presentation of symptoms; included in the DSM is information about effects of culture, developmental stage, and gender on the presentation of mental disorders.

SSW:6236 Interventions with Individuals**2 s.h.**

Specialized practice; emphasis on thinking about how one works with individuals and importance of emotional (affective) regulation in the professional relationship; focus on emerging findings from the neurosciences combined with attachment theory and object relations; class deliberations involve theory and practice; understanding the overall interpersonal and psychotherapeutic process. Requirements: completion of foundation courses.

SSW:6237 Social Work Practice with Children, Youth, and Families**2 s.h.**

Preparation for practice in child welfare, family service agencies; family life cycle, child development, child maltreatment, problems of adolescence, social services for families and children, legal issues. Requirements: completion of foundation courses.

SSW:6238 Introduction to Play Therapy**2 s.h.**

Major theories and techniques of play therapy, relevance to social work practice.

SSW:6247 Nonprofit Organizational Effectiveness I**3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, LAW:8751, MGMT:9150, RELS:6070, SPST:6010, URP:6278.

SSW:6248 Nonprofit Organizational Effectiveness II**3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, LAW:8752, MGMT:9160, RELS:6075, SPST:6020, URP:6279.

SSW:6281 Social Work Practice: Selected Aspects**arr.**

Topics not covered in another course; diversity, social justice and ethics issues related to a social work practice area.

SSW:6282 Grant Writing**1-2 s.h.**

Same as URP:6282.

SSW:6290 Foundation Practicum in Social Work**3 s.h.**

Generalist practice experience with individuals, families, small groups, organizations, communities; communication skills, change process, professional values and ethics applied at multiple system levels; students evaluate their own practice using a learning contract in an agency setting. Corequisites: SSW:3840, SSW:3847, SSW:4843, SSW:6145, SSW:6146, SSW:6150, SSW:6151, and SSW:6291; if not taken as prerequisites. Requirements: admission to M.S.W. program.

SSW:6291 Foundation Practicum Seminar 1 s.h.

Integration of academic, experiential learning; self-assessment, peer feedback to promote model of professional accountability. Corequisites: SSW:3840, SSW:3847, SSW:4843, SSW:6145, SSW:6146, SSW:6150, SSW:6151, and SSW:6290; if not taken as prerequisites. Requirements: admission to M.S.W. program.

SSW:7000 Seminar for Accelerated Advanced Standing Program 3 s.h.

Preparation for advanced micro and macro SSW course work; builds on foundation knowledge students obtained about working with individuals, group, families, communities, and organizations at the undergraduate level by introducing them to advanced theory and practice models seen in graduate level courses and practice situations. Requirements: admission to accelerated advanced standing M.S.W. program.

SSW:7250 Family-Centered Theory and Practice I 3 s.h.

Examination and comparison of models and underlying theories of empirically based direct social work for family-centered practice; focus on skill development in problem analysis, case assessment, intervention and implementation of multiple change strategies at the family level. Requirements: completion of M.S.W. foundation courses.

SSW:7251 Family-Centered Theory and Practice II 3 s.h.

Examination and practice of specific in-depth techniques for assessment and intervention in family-centered practice and evaluation of student's own practice; intervention examined for specific family and couple presenting problems (domestic violence, substance abuse, etc.); students are encouraged to select one practice approach to learn in greater depth. Prerequisites: SSW:7250.

SSW:7252 Advanced Social Policy for Family Practice 3 s.h.

Systematic basis for examining social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable individuals and families. Requirements: completion of M.S.W. foundation courses.

SSW:7260 Integrated Social Work Theory and Practice I 3 s.h.

Practice models, theories, skills, evaluation, and ethical issues relevant to creating change at organizational, community, state, and national levels; strategic plans to benefit marginalized, oppressed, and vulnerable people; utilization of technology, including social media, to generate understanding about social work issues and practice areas; developing and carrying out culturally competent, client-focused individual, organizational, and community interventions; leadership in social work; effective use of professional social work behavior, technology, community resources, and evidence-based practice to advance social, economic, and environmental justice at multiple levels. Requirements: completion of foundation courses.

SSW:7261 Integrated Social Work Theory and Practice II 3 s.h.

Builds on theories, skill development, evaluation, and ethical issues introduced in SSW:7260; focus on how to create and lead organizational change regardless of position in the organization; project management, advanced leadership skills, and capacity development; emphasis on organizational level as it relates to other system levels (individual, family, coalitions, community, policy); major skills include culturally competent organizational, interorganizational, and community intervention, supervision, and program evaluation.

SSW:7262 Advanced Social Policy for Integrated Practice 3 s.h.

Systematic basis for critical examination of social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable populations, service providers, communities. Requirements: completion of M.S.W. foundation courses.

SSW:7268 Continuing Education: Individual Study arr.

Project related to student interest; directed by faculty member. Requirements: completion of course contract.

SSW:7269 Continuing Education: Thesis arr.

Thesis research project.

SSW:7270 Research Practice II 2-3 s.h.

Research project relevant to social work practice that builds on knowledge and skills developed in SSW:6148; data analysis, report of results; ethical principles applied to research. Prerequisites: SSW:6148. Requirements: admission to M.S.W. program.

SSW:7271 Individual Study arr.

Project related to student interest; directed by faculty member.

SSW:7272 Thesis arr.**SSW:7292 Advanced Practicum in Family-Centered Practice I and II arr.**

Family-centered practice theory and skills implemented in interventions with individuals, families; two semester field course. Corequisites: SSW:7250, SSW:7251, SSW:7252, and SSW:7270; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses, and concurrent enrollment in SSW:7293 or SSW:7294.

SSW:7293 Advanced Practicum Seminar in Family-Centered Practice I 1 s.h.

Two-semester field course; family-centered practice theory and skills implemented in interventions with individuals, families. Corequisites: SSW:7292. Requirements: completion of M.S.W. foundation courses.

SSW:7294 Advanced Practicum Seminar in Family-Centered Practice II 1 s.h.

Continuation of SSW:7293. Prerequisites: SSW:7293. Corequisites: SSW:7292.

SSW:7295 Advanced Practicum in Integrated Practice arr.

Integrated social work theories and interventions implemented in work with individuals, families, organizations, formal and informal networks; two semester field course. Corequisites: SSW:7260, SSW:7261, SSW:7262, and SSW:7270; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses; for fall semester—concurrent enrollment in SSW:7297 or SSW:7298.

SSW:7296 Advanced Practicum in School Social Work arr.

Field course; social work theories and interventions implemented in schools. Corequisites: SSW:7250 or SSW:7260, SSW:7251 or SSW:7261, and SSW:7252 or SSW:7262; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses.

SSW:7297 Advanced Practicum Seminar in Integrated Practice I 1 s.h.

Two-semester course; social work knowledge, skills, values, and professional identity integrated in context of advanced practice and direct multisystemic interventions. Corequisites: SSW:7295 or SSW:7296.

SSW:7298 Advanced Practicum Seminar in Integrated Practice II 1 s.h.

Continuation of SSW:7297. Prerequisites: SSW:7297. Corequisites: SSW:7295 or SSW:7296.

SSW:7800 Social Work Proseminar 1 s.h.

Orientation for new Ph.D. students to program and degree requirements; how to formulate research questions; introduction to faculty research and interests. Requirements: admission to social work doctoral program.

SSW:7803 Social Work Research Practicum 1-4 s.h.

Student work with faculty on various phases of research process including research design, measurement, sampling, data collection, data analysis, human subjects review, and writing for publication. Requirements: admission to social work doctoral program.

SSW:7804 Thesis Writing Seminar 2-3 s.h.

Writing a thesis and an argument; synthesizing literature and justifying methods; development of scientific communication skills; defending ideas at proposal hearing and thesis defense.

SSW:7806 Teaching Practicum 1-2 s.h.

Development of knowledge, skills, and values needed to become effective, culturally competent social work educators through an applied teaching experience; faculty mentors provide ongoing instruction on how to teach and assess student learning. Requirements: admission to social work doctoral program, and concurrent enrollment in or completion of teaching seminar.

SSW:7807 Introduction to College Teaching for Social Workers 1 s.h.

Development of knowledge and skills needed to become effective, culturally competent educators; topics may include theories of adult learning, course design, creating a learning culture that is inclusive, instructional strategies, accreditation processes, and writing a teaching philosophy.

SSW:7808 Seminar in Social Work Theory and Knowledge 3 s.h.

Examination of fundamental relationship between theory and research and epistemology of micro-level theories used in social work research; emphasis on critical evaluation of theories and understanding the difference between frameworks, theories, conceptual models, and their functions; students present and defend their own analysis of theories applicable to their program of scholarship and engage other students in discussion. Requirements: admission to University of Iowa doctoral program.

SSW:7815 Seminar: Human Service Organizations 3 s.h.

Theories of organizations and applying theory to research within and about human services organizations; range of theories and their application to problems of conducting organizational research from Weber's "bureaucracy" to contemporary "learning organization" popularized by Senge; organizational culture and climate, interorganizational networks, supervision and turnover, gender and diversity in relation to organizational research; students lead sessions and facilitate discussion of critical concepts and readings.

SSW:7816 Psychological Trauma, Trauma-Informed Practice, and Trauma Research 3 s.h.

Theory related to psychological trauma, trauma-informed practice, and trauma research; origins of psychological trauma; history and development of trauma theories; trauma-related mental health disorders; trauma-sensitive/trauma-informed practice; challenges associated with applying and testing theory in direct practice and research.

SSW:7830 Ph.D. Dissertation arr.

Ongoing and substantial feedback to doctoral candidates on development and defense of dissertation. Prerequisites: SSW:7800 and SSW:7801 and SSW:7803 and SSW:7806 and SSW:7807. Requirements: submission of comprehensive exam.

Social Work, B.A.

Learning Outcomes

The specific mission of the B.A. program in social work is to prepare culturally aware generalist social workers whose practice is consistent with social work values and ethics, including a commitment to social justice and social change. The program's goals are to:

- prepare students for culturally competent generalist social work practice with individuals, families, small groups, organizations, and communities;
- provide students with a base for continuing graduate education in social work and for lifelong learning; and
- prepare students for active engagement with issues of social justice, oppression, and social welfare in local, state, regional, national, and global goals.

The program draws on a liberal arts perspective; social and behavioral science theory; social research; social policy development, analysis, and implementation; culturally competent intervention and prevention approaches in working with individuals, families, small groups, organizations, and communities; social integration; multiple systems assessment and evaluation; and knowledge pertaining to diversity.

Knowledge and practice in social work values and ethics is also an integral part of students' education. Knowledge and skill related to the evaluation of practice are integrated throughout the curriculum, beginning in SSW:1022 Social Justice and Social Welfare in the United States, continuing through practice and research courses, and culminating in the field experience and field seminar.

Overview

The undergraduate program in social work has been accredited continuously by the Council on Social Work Education (CSWE) since 1974 and is designed to be consistent with the council's 2015 Educational Policy Statement competencies.

Consistent with CSWE standards, the program views dimensions of diversity as intersections of multiple factors, including age, class, color, culture, disability, ethnicity, gender, gender-identity and expression, immigration status, political ideology, race, religion, sex, and sexual orientation. Students learn that, as a consequence of difference, a person's life experiences may include oppression, poverty, marginalization, and alienation as well as privilege, power, and acclaim.

Admission to the Major

The School of Social Work endeavors to maintain a heterogeneous student body by enrolling students who represent diverse backgrounds and cultural perspectives.

A limited number of students are admitted to the major each year. The application deadline is February 15. Admission to the undergraduate program in social work requires:

- completion of SSW:1022 Social Justice and Social Welfare in the United States with a grade of C or higher during the sophomore year;
- a cumulative g.p.a. of at least 2.50 (exceptions may be made for persons who do not meet the grade-point

average requirement if they are strong candidates on the basis of other criteria); and

- completion of application forms and statement.

Students should complete SSW:1022 in their first year or in fall of their sophomore year and apply to the major during their sophomore year. Students who apply during their junior year and are admitted must expect to complete an additional summer session, or more, in order to fulfill the requirements of the major.

All of the items above are required for transfer students, except that substitution of SSW:1022 is permitted with a grade of C or higher in a course approved by the department, such as introduction to social work or introduction to human services. Students who have completed the equivalent of introduction to social work at another institution also must submit a completed recommendation form and transcripts. Recommendations and letters of reference will otherwise not be accepted.

The School of Social Work criteria for selective admission for a B.A. in social work is detailed in the "B.A. Social Work Admissions Policy Statement and Guidelines for Application" on the school's Admission web page.

Meeting the admission requirements above does not guarantee admission. Admission often is limited by available instructional resources and opportunities for field placement. The school does not grant academic credit for life experience or previous work experience.

For more information about admission policies, contact the program administrator at the School of Social Work.

Social Work Interest

Students who are interested in applying to the social work major may declare a social work interest at any time after they enroll at the University and before they earn more than 72 s.h. of credit, and preferably while they still will have time to enter and complete the major in a total of four years of study. Students may not declare a social work interest after they have earned 72 s.h., even if they already have declared another major.

Declaration of a social work interest qualifies students with at least sophomore standing to be advised by a senior academic advisor assigned to social work interest students. Declaration allows students to participate in the Social Work Student Association and other social work activities, but does not allow them to register for required courses in the major. They may take electives in the social work department prior to formal admission to the major.

Students may continue their social work interest standing until they are admitted to the major or until they have earned more than 72 s.h. of credit.

Social Work Courses in Des Moines

In addition to its on-campus undergraduate program in Iowa City, the School of Social Work offers social work courses for the Bachelor of Arts through its program in Des Moines. Students in the Des Moines program take courses in sequence, completing the social work courses required for the degree in a minimum of two years. Courses are offered in a classroom setting. Students may complete other requirements for the B.A. in online and/or classroom course work. The Des Moines program is approved by the Council on Social Work Education. For more information about the social work

program in Des Moines, contact the University of Iowa School of Social Work program administrator.

Requirements

The Bachelor of Arts with a major in social work requires a minimum of 120 s.h., including at least 60-64 s.h. of work for the major (a minimum of 35-38 s.h. in social work courses, 13-14 s.h. in cognate areas, 6 s.h. in one other department or in social work courses, and 6 s.h. in social work electives). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Courses used to fulfill GE CLAS Core requirements may not be used to satisfy the social work electives requirement.

Students must complete SSW:1022 Social Justice and Social Welfare in the United States (3 s.h.) to be admitted to the major and before enrolling in the remaining social work courses required for the major; this course also fulfills the Values and Culture requirement of the GE CLAS Core. A transfer student may be given approval by the department to substitute this requirement if they have completed an introduction to social work or introduction to human services course at another institution, or if they complete SSW:2222 Introduction to Social Work (section EXW), in place of SSW:1022 to be admitted to the major; SSW:2222 would not fulfill the GE CLAS Core requirement. If transferring the course from another institution, a student may be able to reduce the social work credit required for the major by 3 s.h.

Many students use the major's required course BIOL:1140 Human Biology to partially fulfill the GE CLAS Core [p. 459] Natural Sciences requirement.

The B.A. with a major in social work requires the following course work.

Code	Title	Hours
Social Work Courses		35-38
Required Electives		12
Cognate Areas		13-14
Total Hours		60-64

Social Work Courses

Code	Title	Hours
All of these:		
SSW:1022	Social Justice and Social Welfare in the United States	3
SSW:3840	Human Behavior in the Social Environment	4
SSW:3841	Fundamentals of Social Work Practice	3
SSW:3842	Interpersonal Skills Laboratory	2
SSW:3844	Introduction to Social Work Research	4
SSW:3845	Social Work Processes	4
SSW:3847	Discrimination, Oppression, and Diversity	3
SSW:4189	Field Experience Seminar	1
SSW:4193	Field Experience	8-11
SSW:4843	Social Welfare Policy and Practice	3

Required Electives

Students must complete a minimum of 6 s.h. of social work electives and 6 s.h. of courses in one other discipline or they can select additional course work in social work. If they opt to complete 6 s.h. from another discipline, students typically select courses in areas closely related to social work, such as African American studies (prefix AFAM), aging and longevity studies (prefix ASP), American studies (prefix AMST), anthropology (prefix ANTH), communication studies (prefix COMM), economics (prefix ECON), entrepreneurial management (prefix ENTR), health and human physiology (prefix HHP), journalism and mass communication (prefix JMC), management and organizations (prefix MGMT), political science (prefix POLI), psychological and brain sciences (prefix PSY), religious studies (prefix RELS), sociology (prefix SOC), Spanish (prefix SPAN), sport studies (prefix SPST; see American studies), Tippie College of Business nondepartmental courses (prefix BUS), and gender, women's and sexuality studies (prefix GWSS).

Courses used to fulfill GE CLAS Core requirements may not be applied to the elective requirements.

Students who are working on a minor or a certificate may apply up to 6 s.h. toward this requirement.

Students must complete the following.

Code	Title	Hours
These:		
	Social work electives	6
	Electives in another discipline related to social work	6
Or this:		
	Social work electives	12

Cognate Areas

Students must complete the following.

Code	Title	Hours
Natural and Social Sciences		
All of these:		
BIOL:1140	Human Biology	4
POLI:1100	Introduction to American Politics	3
PSY:1001	Elementary Psychology	3
SOC:1010	Introduction to Sociology	3-4

Honors

Honors in the Major

Students majoring in social work have the opportunity to graduate with honors in the major. Honors students complete in-depth study in areas that interest them. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 to participate in the program. Consult the School of Social Work for more information about graduating with honors in the major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the social work major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Admission to the major in social work is selective. The four-year graduation plan applies only to students who are admitted by the beginning of their fifth semester.

Before the fifth semester begins: four courses in the major and admission to the major

Before the seventh semester begins: five more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: five more courses in the major and finalized field placement

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Social Work, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students apply to the Social Work B.A. program through a selective process. Acceptance is not guaranteed. ^a		
Hours		0
First Year		
Fall		
SSW:1022	Social Justice and Social Welfare in the United States ^{b, c}	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^e		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
BIOL:1140	Human Biology ^c	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
SOC:1010	Introduction to Sociology ^c	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5

Elective course ^f	2 - 3
Hours	16-20

Second Year

Fall

PSY:1001	Elementary Psychology ^c	3
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3
Elective course ^f		3
Hours		16-17

Spring

POLI:1100	Introduction to American Politics ^c	3
GE CLAS Core: Natural Sciences without Lab ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^e		4 - 5
Elective course ^f		3

Admission Application: Students apply to the B.A. program through a selective process. Applications are only accepted once a year in the spring semester. See Social Work Interest advisor or department website for more information.^g

Hours	16-17
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Third Year

Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the School of Social Work.

Hours		0
Fall		
SSW:3840	Human Behavior in the Social Environment	4
SSW:3847	Discrimination, Oppression, and Diversity	3
Major: social work elective course (prefix SSW) ^h		3
Major: social work elective course ⁱ		3
GE CLAS Core: Historical Perspectives ^d		3
Hours		16

Spring

SSW:3844	Introduction to Social Work Research	4
SSW:3845	Social Work Processes	4
Major: social work elective course (prefix SSW) ^h		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^f		1

Hours	15
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Fourth Year

Fall

SSW:3841	Fundamentals of Social Work Practice	3
SSW:3842	Interpersonal Skills Laboratory	2
SSW:4843	Social Welfare Policy and Practice	3
Major: social work elective course ⁱ		3
Elective course ^f		3
Elective course ^f		1

Field Experience planning (attend meeting,
interview, match with agency)

Hours	15
Spring	
SSW:4189 Field Experience Seminar	1
SSW:4193 Field Experience	8 - 11
Elective course ^f	3
Hours	12-15
Total Hours	121-132

- a The Academic Advising Center and the College of Liberal Arts and Sciences advise Social Work Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b Students must complete SSW:1022 to be admitted to the major and before enrolling in the remaining social work required major courses. Students may take this course in any semester, but must have completed the course before admission is finalized. It is recommended that it be taken in the first three semesters. Students may alternatively enroll in SSW:2222 Introduction to Social Work, but it does not fulfill a General Education requirement.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students are expected to apply to the major in their sophomore year. Juniors are permitted to apply and if they do so, it is with the expectation that at least one additional summer session of coursework will be necessary to complete all of the requirements of the major, due, in part, to the sequencing of social work courses.
- h Students must take two elective courses in social work (6 s.h.).
- i Students must take an additional two courses (6 s.h.) of electives. They make take the two courses as additional social work electives, or they may take two courses in a related discipline (i.e., psychology, sociology, political science, anthropology, or gender, womens, and sexuality studies).

Career Advancement

The social work major prepares students for employment in social service areas such as public welfare, child welfare, human service organizations, mental health, health providers (such as hospitals, hospice, skilled care, substance abuse treatment), senior services, group services, residential treatment for youth and persons with disabilities, and corrections. Many graduates continue with advanced study in social work or related physical and mental health professions. Overall employment of social workers is projected to grow 16 percent from 2016-2026 (Bureau of Labor Statistics).

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Social Work, Minor

The undergraduate minor in social work requires a minimum of 15 s.h. in social work courses, including 12 s.h. in courses numbered 3000 or above taken at the University of Iowa. Students complete one required course and 12 s.h. of elective course work. They must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work for the minor may not be taken pass/nonpass.

Social work courses required for the major are not available to students who are not admitted to the social work program.

The minor in social work requires the following course work.

Required Course

Code	Title	Hours
One of these:		
SSW:1022	Social Justice and Social Welfare in the United States	3
SSW:2222	Introduction to Social Work	4
Equivalent course from another institution (must be approved by the School of Social Work)		

Electives

Students select 12 s.h. from the following; many courses have an online section.

Code	Title	Hours
SSW:3135	Global Aging	3
SSW:3500	Nonprofit Organizational Effectiveness I	3
SSW:3600	Nonprofit Organizational Effectiveness II	3
SSW:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	3
SSW:3786	Death/Dying: Issues Across the Life Span	3-4
SSW:3796	Family Violence	2-3
SSW:3797	Child Welfare Policy and Practice	3
SSW:3799	Selected Aspects of Social Work and Social Welfare	arr.
SSW:3904	Human Services Administration	2
SSW:4100	Social Work in the Criminal Justice System	3
SSW:4155	Treatment of Substance Use and Co-Occurring Disorders	3
SSW:4700	Motivational Interviewing in Diverse Application	3

Master of Social Work, M.S.W.

The M.S.W. program prepares social workers for leadership in the profession and for advanced social work practice in a wide range of settings. The program's general focus is on family systems and social change, both domestic and international. Primary program goals are met through a set of professional foundation requirements and advanced courses which enable students to understand the dynamics of human development and change; to understand the links between society's structures and families; to acquire skills for working with individuals, families, small groups, and communities; and to learn how to enhance the responsiveness of human service organizations.

The goals of the M.S.W. program are to:

- prepare students to shape the profession's future by providing education in family-based, community-based, and culturally competent practice approaches using the person-in-environment framework; and
- prepare competent professionals for autonomous practice and leadership within the professional community, including advanced interventions at multiple system levels, supervision, program development, program administration, training, evaluation of practice, dissemination of new models of practice, and policy development.

The program has been continually accredited by the Council on Social Work Education (CSWE) since 1951. See the CSWE Assessment of Student Learning Outcomes for the M.S.W. program.

Explore how social workers help individuals, groups, and families across their lifespans at the National Association of Social Workers website.

Master in Social Work Program Options

Three options are available to complete the M.S.W. in Iowa City and Des Moines, Iowa, depending upon an applicant's prior preparation. Applicants to the three-year programs in the Quad Cities (located in the Davenport/Bettendorf area on Iowa's eastern border) or in Sioux City, Iowa, may choose from the first two options. Applicants to any of the options, at any of the centers, complete the same application.

60 s.h. option (regular standing): Designed for individuals who have completed a degree in a discipline other than a CSWE-accredited social work degree program. Applicants apply for fall admission; the deadline is February 1.

48 s.h. option (advanced standing): Designed for individuals who have completed the B.A. in social work or the B.S.W. from a CSWE-accredited social work degree program. Applicants apply for fall admission; the deadline is February 1.

41 s.h. option (accelerated advanced standing): Designed for individuals who have completed the B.A. in social work or the B.S.W. from a CSWE-accredited social work degree program and who meet additional entrance criteria. Additional forms and written requirements are part of the application. Applicants apply for summer admission; the deadline is January 4.

M.S.W. Professional Association

Students and graduates of the social work program are eligible for membership in the National Association of Social Workers (NASW), the largest membership organization of professional social workers in the world with 132,000 members. NASW works to enhance the professional growth and development of its members, to create and maintain professional standards, and to advance sound social policies. The NASW Code of Ethics is intended to serve as a guide to the everyday professional conduct of social workers.

Graduates of accredited M.S.W. programs may be eligible for membership in many specialized areas of practice, for example, associate membership in the American Association for Marriage and Family Therapy (AAMFT) upon fulfilling certain curriculum requirements at the graduate level. Courses are not automatically accepted; graduates need to demonstrate that specific courses meet the AAMFT's requirements, usually by sending course outlines.

Requirements

The Master of Social Work requires 60 s.h. of graduate credit; the requirement is 48 s.h. for students who hold an undergraduate degree in social work from a program accredited by the Council on Social Work Education (CSWE). Students who have earned an undergraduate degree in social work from a program accredited by the CSWE and who meet other entrance criteria can satisfy M.S.W. requirements with a 41 s.h. option. Students must maintain a cumulative g.p.a. of at least 3.00 and they must be in compliance with the school's student advancement policy. The degree is offered with or without thesis.

Requirements for the M.S.W. include 27 s.h. in foundation-level courses and 33 s.h. in advanced courses. All students must earn a minimum of 36 s.h. after admission to the M.S.W. program. Credit toward the M.S.W. may be applied from previous graduate course work if specific criteria are met.

All M.S.W. students follow a structured sequence of courses. They must obtain permission to revise their plan, and they must complete the degree within a maximum of four years.

The specific mission of the M.S.W. program is to prepare social workers for leadership in the profession and for advanced social work practice in one of two concentrations. Both concentrations allow students to develop advanced skills to work with families and communities and advocate for social change. The two concentrations of the program, family-centered practice and integrated practice, teach students knowledge and skills to work with children, elders, families, small groups, organizations, and communities. The program provides students the opportunity to develop the competencies necessary for leadership in addressing the unique challenges of the state of Iowa, including a large proportion of elders, recent immigrants to rural communities, and rural poverty.

The M.S.W. program helps students develop high levels of skill in applying the values and ethics of the social work profession to complex ethical issues. The program has a strong liberal arts focus, and the research mission of the University ensures students learn about faculty research, critical thinking, analytic and scientific ways of thinking, and practice and program evaluation. While students are not required to declare a field of practice, opportunities to specialize are available in fields such as aging, end-of-life care, school social

work, child welfare, trauma-informed practice, social work in health and mental health settings, and many others.

The school offers the M.S.W. program on the University's Iowa City campus and at three off-campus sites: Des Moines and Sioux City, Iowa, and the Quad Cities area of Iowa and Illinois (see "M.S.W. Off Campus" below). Each site provides the required structured sequence of courses and includes opportunities for students to individualize their plans of study. All sites give students access to the resources of a very high research activity university (R1/VH Research University).

The full-time M.S.W. program is completed in five semesters, beginning in fall and including a summer session. Full-time students complete the degree in the spring semester of their second year. Students whose degree requirement is 48 s.h. may enroll full-time or part-time their first year, following the sequenced plan.

Full-time study and a four-year part-time program are available in Iowa City and Des Moines. A three-year sequence of courses is available at all sites, although the Sioux City and Quad Cities sites admit new entering classes only on a three-year cycle.

Following are course sequences for full-time and part-time 60 s.h. programs, full-time and part-time 48 s.h. programs, and the 41 s.h. full-time program. For more information on the family-centered practice or integrated practice concentration areas a student can choose as part of each degree program, see "Concentrations" below.

- Two-Year (60 Semester Hour) Full-Time Program [p. 929]
- Three-Year (60 Semester Hour) Full-Time Program [p. 929]
- Four-Year (60 Semester Hour) Part-Time Program [p. 930]
- Two-Year (48 Semester Hour) Full-Time Program [p. 930]
- Three-Year (48 Semester Hour) Part-Time Program [p. 931]
- One-Year (41 Semester Hour) Full-Time Program [p. 931]

Two-Year (60 Semester Hour) Full-Time Program

This program is for students who earned a bachelor's degree in a major other than a CSWE-accredited social work program.

Code	Title	Hours
First Year: Foundation		
SSW:3840	Human Behavior in the Social Environment	3
SSW:3847	Discrimination, Oppression, and Diversity	3
SSW:4843	Social Welfare Policy and Practice	3
SSW:6145	Organization and Community Practice	3
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3
SSW:6150	Social Work Practice with Individuals, Families, and Groups	3
SSW:6151	Social Work Practice Skills Laboratory	2
SSW:6290	Foundation Practicum in Social Work	3

SSW:6291	Foundation Practicum Seminar	1
SSW:7270	Research Practice II	3
Second Year: Concentration		
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3
or SSW:7262	Advanced Social Policy for Integrated Practice	
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	
SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	
Electives		
Students complete 11 s.h. in elective course work (consult advisor for guidelines)		11
Total Hours		60

* Students must take one of these concentration courses twice for 5 s.h. each.

Three-Year (60 Semester Hour) Full-Time Program

This program is for students who earned a bachelor's degree in a major other than a CSWE-accredited social work program.

Code	Title	Hours
First Year		
SSW:3840	Human Behavior in the Social Environment	3
SSW:3847	Discrimination, Oppression, and Diversity	3
SSW:4843	Social Welfare Policy and Practice	3
SSW:6145	Organization and Community Practice	3
SSW:6150	Social Work Practice with Individuals, Families, and Groups	3
SSW:6151	Social Work Practice Skills Laboratory	2
SSW:6290	Foundation Practicum in Social Work	3

SSW:6291	Foundation Practicum Seminar	1
Second Year		
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3
or SSW:7262	Advanced Social Policy for Integrated Practice	
SSW:7270	Research Practice II	3
Third Year		
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	
SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	
Electives		
Students complete 11 s.h. in elective course work (consult advisor for guidelines)		11
Total Hours		60

* Students must take one of these concentration courses twice for 5 s.h. each.

Four-Year (60 Semester Hour) Part-Time Program

This program is for part-time students who earned a bachelor's degree in a major other than a CSWE-accredited social work degree program.

Code	Title	Hours
First Year		
SSW:3840	Human Behavior in the Social Environment	3
SSW:3847	Discrimination, Oppression, and Diversity	3
SSW:4843	Social Welfare Policy and Practice	3
SSW:6145	Organization and Community Practice	3
Second Year		
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3

SSW:6150	Social Work Practice with Individuals, Families, and Groups	3
SSW:6151	Social Work Practice Skills Laboratory	2
SSW:6290	Foundation Practicum in Social Work	3
SSW:6291	Foundation Practicum Seminar	1
SSW:7270	Research Practice II	3
Third Year		
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3
or SSW:7262	Advanced Social Policy for Integrated Practice	
Fourth Year		
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	
SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	
Electives		
Students complete 11 s.h. in elective course work (consult advisor for guidelines)		11
Total Hours		60

* Students must take one of these concentration courses twice for 5 s.h. each.

Two-Year (48 Semester Hour) Full-Time Program

This program is for students who earned a B.A. degree with a major in social work.

Code	Title	Hours
First Year		
SSW:6145	Organization and Community Practice	3
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3
SSW:6150	Social Work Practice with Individuals, Families, and Groups	3
SSW:7270	Research Practice II	3

Second Year		
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3
or SSW:7262	Advanced Social Policy for Integrated Practice	
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	
SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	
Electives		
Students complete 14 s.h. in elective course work (consult advisor for guidelines)		14
Total Hours		48

* Students must take one of these concentration courses twice for 5 s.h. each.

Three-Year (48 Semester Hour) Part-Time Program

This program is for students who earned a B.A. degree with a major in social work.

Code	Title	Hours
First Year		
SSW:6145	Organization and Community Practice	3
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3
SSW:6150	Social Work Practice with Individuals, Families, and Groups	3
SSW:7270	Research Practice II	3
Second Year		
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3

or SSW:7262 Advanced Social Policy for Integrated Practice

Third Year		
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	
SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	

Electives		
Students complete 14 s.h. in elective course work (consult advisor for guidelines)		14
Total Hours		48

* Students must take one of these concentration courses twice for 5 s.h. each.

One-Year (41 Semester Hour) Full-Time Program

This degree program is for students who earned a B.A. with a major in social work or a B.S.W. from a CSWE-accredited social work degree program within the last five years.

Code	Title	Hours
SSW:6146	Computer Laboratory	1
SSW:6148	Research Practice I	3
SSW:7000	Seminar for Accelerated Advanced Standing Program	3
SSW:7250	Family-Centered Theory and Practice I	3
or SSW:7260	Integrated Social Work Theory and Practice I	
SSW:7251	Family-Centered Theory and Practice II	3
or SSW:7261	Integrated Social Work Theory and Practice II	
SSW:7252	Advanced Social Policy for Family Practice	3
or SSW:7262	Advanced Social Policy for Integrated Practice	
SSW:7270	Research Practice II	3
SSW:7292	Advanced Practicum in Family-Centered Practice I and II	10
or SSW:7295	Advanced Practicum in Integrated Practice	
SSW:7293	Advanced Practicum Seminar in Family-Centered Practice I	1
or SSW:7297	Advanced Practicum Seminar in Integrated Practice I	

SSW:7294	Advanced Practicum Seminar in Family-Centered Practice II	1
or SSW:7298	Advanced Practicum Seminar in Integrated Practice II	
Students complete 10 s.h. in elective course work (consult advisor for guidelines)		10
Total Hours		41

* Students must take one of these concentration courses twice for 5 s.h. each.

Concentrations

In the advanced year of the master's program, students choose one of two concentrations: family-centered practice or integrated practice. These advanced specialized curricula build on the school's liberal arts perspective and on the professional foundation. Both are based on a comprehensive eco-systemic theoretical perspective, and both apply the principles that are part of the school's mission statement, with a focus on culturally competent family-centered and community-based approaches.

Family-Centered Practice

The family-centered practice concentration teaches knowledge and skills necessary for advanced social work practice with individuals and families. These include clinical practice methods that mobilize and develop clients' coping skills, empowering them to manage difficult situations, and culturally sensitive methods for collaborating with clients, their families, and other professionals in planning interventions. Students also learn about advocating for clients, facilitating client self-advocacy, coordinating services to meet multiple needs, and influencing social policy on behalf of clients.

The concentration prepares students to work with individuals and families at appropriate levels of intensity, mobilize existing strengths, and enhance coping skills. Using principles of family-centered practice, students learn to take community and larger systems into account while working in partnership with individuals and families in all aspects of assessment and intervention planning. The concentration emphasizes sensitivity to a variety of family forms and to cultural diversity within family forms. Family is broadly defined to include step families, single-parent families, same-sex-couple families, grandparent-as-parent families, adult parent-adult child families, and traditional forms of families.

Integrated Practice

The integrated practice concentration teaches methods of advanced practice that empower organizational and community change at multiple system levels. Students learn skills for assessment, planning, and direct intervention in larger systems such as neighborhoods, social support networks, and service delivery systems, and for policy making. They develop skills for a broad range of interventions, including direct practice, case management, community education, community development and practice, management and administration, organizational and interorganizational planning and program development, team building, organization and program evaluation, and social policy advocacy. They also learn culturally sensitive methods to collaborate with families and communities; identify strengths, assets, and challenges; and develop services and programs that will meet clients' needs.

Building on strengths and assets of organizations and communities, students learn how to mobilize community members in advocacy and change efforts—skills useful for case managers, service coordinators, supervisors, program planners and developers, and administrators. Students also learn how to apply advanced skills to advocacy, community assessment, planning and mobilizing resources, and influencing social policy.

The concentration prepares students for practice in varied settings, including hospitals and community health programs, schools, mental health centers, neighborhood and family resource centers, community- and family-based community service agencies, correctional facilities, and programs that serve the elderly, both in the community and in care facilities. In many of these settings, social workers work as interdisciplinary team members and team leaders within organizations. They also collaborate with community organizations, community residents, and service providers. Many social workers are involved in staff supervision, program development, and agency administration. Content areas include grant writing; intervention in multiple systems, including team and network building; policy practice; and design of evaluation methods for client assessment and program evaluation.

M.S.W. Off Campus

The School of Social Work delivers the M.S.W. curriculum to three off-campus sites: Des Moines and Sioux City, Iowa, and the Quad Cities area of Iowa and Illinois. Each site is administered by the School of Social Work in cooperation with Distance and Online Education. Social work faculty members teach required courses at each center and are available for student advising. The off-campus programs have been evaluated by the Council on Social Work Education and the University of Iowa Graduate Council as providing a program comparable to that available on the Iowa City campus.

Courses at each off-campus site are taught in classrooms by tenure-track, clinical, visiting, and adjunct faculty members. Instructional connections between sites are maintained through varied technologies, including computer-based instruction.

For program entry and application dates, contact the School of Social Work.

Des Moines

The M.S.W. program in Des Moines, in central Iowa, offers courses sequenced to accommodate both part-time and full-time study. Students may complete the entire degree program at the Des Moines center, although they may choose to travel to Iowa City for selected elective courses offered during the summer. All classes, beginning in January, will be held at the John and Mary Pappajohn Education Center.

Quad Cities

Students in the Quad Cities part-time program can complete their degree entirely off campus and online with the exception of some electives, which they can take during summer sessions in Iowa City. The School of Social Work offers this part-time program to a cohort admitted once every three years. In addition to the part-time cohort students, there are some full- or part-time students from Iowa City in practicum in the Quad Cities. The Quad Cities program is located in the Davenport/Bettendorf area on Iowa's eastern border, and courses are offered at Scott Community College.

Sioux City

The Sioux City part-time program is nearly identical to the Quad Cities part-time program. Most courses are offered in classroom space at Briar Cliff University in Sioux City, Iowa.

M.S.W./Ph.D.

The school offers a Master of Social Work/Doctor of Philosophy in social work for students who have completed course work in research and statistics and have postbaccalaureate experience related to social work practice. The program permits students to apply a limited amount of credit toward both graduate degrees, reducing the time required to graduate. Individuals must apply to the M.S.W. program and the Ph.D. program; applications are reviewed by the admissions panels of both programs. For more information, contact the School of Social Work.

Combined Programs

The School of Social Work collaborates with other colleges to offer combined degree programs. Each program permits students to apply up to 12 s.h. of graduate credit toward both degrees, reducing the time required to graduate.

Applicants must apply to each program separately and be admitted to each one before they may be admitted to the combined degree program. Information about the combined programs is available from the School of Social Work's program administrator.

M.S.W./M.A. or M.S. in Urban and Regional Planning

The School of Social Work along with the School of Urban and Regional Planning to offer the combined Master of Social Work/Master of Arts or Master of Science in urban and regional planning. For more information, see Urban and Regional Planning [p. 1492] (Graduate College) in the Catalog.

M.S.W./M.B.A. (Professional Program)

The School of Social Work and the Tippie College of Business offer the combined Master of Social Work/Master of Business Administration programs. For more information, see the M.B.A. Professional Program [p. 1135] (Tippie College of Business) in the Catalog.

M.S.W./J.D.

The School of Social Work collaborates with the College of Law to offer the combined Master of Social Work/Juris Doctor programs. For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

The School of Social Work seeks to maintain a heterogeneous student body by enrolling students who represent diverse backgrounds and cultural perspectives. Previous experience in human services and cross-cultural experiences is desirable. The school does not grant academic credit for life experience or previous work experience.

Admission to the M.S.W. 60 s.h. program requires a bachelor's degree from an accredited college or university, with a reasonable distribution of courses in the liberal arts and

sciences (the humanities and the social, behavioral, and biological sciences). Admission to the M.S.W. 48 s.h. program requires a bachelor's degree in social work from a CSWE-accredited college or university. Applicants must have an undergraduate g.p.a. of 3.00 or higher, or a g.p.a. of 3.00 or higher on 12 s.h. of letter-graded graduate course work; consult the University's Office of Admissions for assistance in calculating grade-point average. Competence on personal computers and spreadsheet applications is required. Admission to the 41 s.h. program requires a bachelor's degree in social work from a CSWE-accredited program, earned within the previous five years, with a cumulative g.p.a. of at least 3.20 and a major g.p.a. of at least 3.50.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Applicants must submit three letters of recommendation, including one regarding academic abilities and one from the applicant's most recent employer (if the employment was social work-related); and a personal statement addressing criteria specified by the School of Social Work. Applicants to the 41 s.h. program must provide additional materials.

Applications for the 48 s.h. and 60 s.h. programs are accepted beginning September 1 and must be completed by February 1 to be considered for the next academic year. Applications for the 41 s.h. program are due December 1.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

For a complete statement of graduate admission policies, contact the School of Social Work.

Financial Support

Students seeking financial assistance should apply for aid through the University of Iowa Office of Student Financial Aid. Students may apply for a limited number of research and teaching assistantships available from the School of Social Work. Application materials for research or teaching assistantships are available from the school each spring, or as positions become available. Aid received through the Office of Student Financial Aid does not preclude students from consideration for aid through the School of Social Work.

Career Advancement

Professional social workers are found in every facet of community life—in schools, health settings (such as hospitals, hospice, skilled care facilities, substance abuse treatment, mental health clinics), senior centers, elected office, private practices, prisons, military, corporations, and in numerous public and private agencies that serve individuals and families in need. Many also serve as social and community service directors.

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), professional social workers are the nation's largest group of mental health services providers. There are more clinically trained social workers—over 200,000—than psychiatrists, psychologists, and psychiatric nurses combined. Federal law and the National Institutes of Health recognize social work as one of five core mental health professions.

The U.S. Department of Veterans Affairs employs more than 10,000 professional social workers. It is one of the largest

employers of M.S.W. individuals in the United States. More than 40 percent of all disaster mental health volunteers trained by the American Red Cross are professional social workers. There are hundreds of social workers in national, state and local elected office.

Projected growth in social work jobs is estimated to be greater than average for all occupations (Bureau of Labor Statistics).

Today, almost 50 special interest organizations contribute to the vitality and influence of the social work profession. There are social work groups for educators and researchers, as well as organizations for practitioners in health care leadership, nephrology, oncology, child welfare, schools, prisons, courts, and many other settings.

Social Work, Ph.D.

Requirements

The Doctor of Philosophy program in social work prepares students to conduct research that contributes to the knowledge base of social work, to become leaders in the profession, and to teach social work in postsecondary educational institutions.

Students are required to earn 82 s.h. to earn the degree. Those who enter the program with a M.S.W. are granted 30 s.h. credit; they must complete an additional 52 s.h. for the degree. Individuals with master's degrees in related disciplines (for example, psychology or sociology) may choose to earn a Ph.D. in social work without first earning the M.S.W. Credit from a related master's degree may be applied to the Ph.D. degree program, as determined by the School of Social Work.

Students complete required course work, research, and teaching practicums; pass a comprehensive exam; write a dissertation; and defend it in an oral exam. Their work includes courses in one of four outside disciplines—sociology, psychology, public health, or education—to assist them in preparation for the comprehensive examination and dissertation defense.

Individualized and Interdisciplinary Curriculum

The program allows students to develop a coherent program of study with opportunities to pursue their own scholarly interests. These interests are pursued through a core social work curriculum, a concentration (sociology, psychology, education or public health) and a social work focal area (e.g., family violence). Students may take focal area courses in any college or department at the University of Iowa. The median time to complete the degree is four years.

The School of Social Work provides a supportive environment with substantial opportunities for mentoring and interaction with faculty members. Throughout Ph.D. studies at the University of Iowa, the school assists students in developing a program of study based on their unique educational and career goals. There are many opportunities to work closely with faculty members in a mentoring environment. In the first year, students complete a mentored research practicum with a faculty member and a mentored in-class teaching experience. During the second year, students choose a faculty member to guide them through the comprehensive examination and dissertation process.

Admission

To ensure that all doctoral students receive mentoring, the School of Social Work typically admits three or four students annually; approximately 35 percent of applicants are admitted.

Admission Requirements

Students are required to have a bachelor's degree from an accredited college or university, and a minimum undergraduate g.p.a. of 3.00 (on a 4.00 scale).

For applicants who took the Graduate Record Exam (GRE) General Test prior to August 1, 2011, a score of at least 575

for the verbal and quantitative sections or a composite score of at least 1150 is preferred. For applicants who took the revised GRE after July 2011, a score of 155 for the verbal and quantitative sections or a composite score of at least 310 is preferred.

Students should have completed an introductory statistics course (including graphing techniques for presenting data, descriptive statistics, correlation, introduction to regression, prediction, logic of statistical inference, elementary probability models, estimation and tests of significance) with a grade of B or higher. Research methods courses taken in a M.S.W. program typically do not meet the criteria for an introductory statistics course. Applicants who have not taken an introductory statistics course must complete one before beginning the M.S.W./Ph.D. or the Ph.D. program. Under unusual circumstances, a highly qualified applicant may be conditionally admitted into the program without a statistics course, if they have a high score on the quantitative section of the GRE or if they have taken other mathematics courses. Regardless, applicants still must successfully complete an introductory statistics course the spring or summer semester prior to beginning the M.S.W./Ph.D. or the Ph.D. program.

International applicants must score at least 100 on the Test of English as a Foreign Language (TOEFL) iBT total score or at least 7.0 on the International English Language Testing System (IELTS) overall band score, with no IELTS subscore less than 6.0. A score of 26 on the speaking portion of the TOEFL is preferred. Automatic waivers of the TOEFL or IELTS requirement are granted for applicants who have completed a baccalaureate or more advanced degree from an accredited university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand.

Applicants applying only to the Ph.D. program are required to have a M.S.W. or a master's degree in a related field, such as public policy, public health, sociology, psychology, political science, economics, education, nursing, or anthropology.

Admission and Selection Process

Applications are accepted beginning September 1 for the following academic year; applications are due February 1. Admission decisions are made in February. Typically, all applications are evaluated on the same day. Applicants are notified, in writing, of the decision by April 1. In some years, there may be a waiting list. If applicants are placed on the waiting list, they are notified of this decision by April 1.

The school evaluates applicants based on their potential to independently conduct and disseminate scholarship that contributes to policy or practice and on their potential to prepare students to educate future social workers. Occasionally, an applicant who has been declined is encouraged to reapply in a subsequent year.

Financial Support

The School of Social Work provides full-time students with a competitive, multi-year financial package (full tuition, an assistantship, a health and dental insurance allowance). It also provides fellowships, travel awards and dissertation awards.

In addition to funding provided by the School of Social Work, applicants may be eligible for financial assistance through the Graduate College, other departments at the University of Iowa, and organizations outside the University. The director of the Ph.D. program works with students to identify sources of

funding, and the Division of Sponsored Programs as well as a student's mentor helps the student apply for external funding.

The Graduate College awards fellowships to incoming students, dissertation-year fellowships, summer fellowships, and travel awards. The School of Social Work applies to the Graduate College to secure these awards at the time applicants are selected into the program. The Graduate College website contains a complete list of awards.

Career Advancement

According to the National Association of Social Workers, there is no better time to consider furthering one's education and obtaining a doctorate. Increasingly, there are more openings for social work faculty than there are graduates of Ph.D. programs. To learn more about the academic job market, see the Council on Social Work Education (CSWE) career center. The CSWE posts jobs year round, although most new ads for teaching and research positions are posted between August and November.

Graduates become leaders in education, research, and government. All of the Ph.D. graduates from the University of Iowa's School of Social Work program have obtained employment within one year of graduation. Of these, about 75 percent of graduates obtain teaching or research positions, and about 25 percent obtain policy, administrative, or practice positions.

To learn more about some of the recent graduates' careers, visit the School of Social Work website.

Sociology

Chair

- Jennifer Glanville

Director, Graduate Studies

- Steven Hitlin

Director, Undergraduate Studies

- Mary C. Noonan

Undergraduate majors: criminology, law and justice (B.A., B.S.); sociology (B.A., B.S.)

Undergraduate minors: criminology, law and justice; sociology

Graduate degrees: M.A. in sociology; Ph.D. in sociology

Faculty: <https://clas.uiowa.edu/sociology/people>

Website: <https://clas.uiowa.edu/sociology/>

The Department of Sociology offers undergraduate majors and minors as well as graduate degree programs. The department partners with the Departments of Economics, Philosophy, and Political Science to offer the undergraduate major in ethics and public policy, an interdisciplinary program administered by the Department of Philosophy; see Ethics and Public Policy [p. 431] in the Catalog. In addition, it offers courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 459] requirements and a First-Year Seminar designed for entering undergraduate students.

Certificate

Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Sociology collaborates with the Departments of Geographical and Sustainability Sciences, Political Science, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics; see the Certificate in Social Science Analytics [p. 915] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Sociology (Bachelor of Arts) [p. 944]
- Major in Criminology, Law and Justice (Bachelor of Arts) [p. 949]
- Major in Sociology (Bachelor of Science) [p. 953]
- Major in Criminology, Law and Justice (Bachelor of Science) [p. 958]

Minors

- Minor in Sociology [p. 962]
- Minor in Criminology, Law and Justice [p. 963]

Graduate Programs of Study

Majors

- Master of Arts in Sociology [p. 964]
- Doctor of Philosophy in Sociology [p. 965]

Facilities

Crime and Justice Policy Research Program

The Crime and Justice Policy Research Program conducts research on the causes and consequences of crime, interpersonal violence, and antisocial behavior. The program also considers the implementation and implications of public policies designed to prevent and control criminal offending.

Center for the Study of Group Processes

The Center for the Study of Group Processes (CSGP) has an 18-room small-group laboratory with eight computer-controlled subject rooms that provide audiovisual and psychophysiological recording capabilities, two large-group rooms with an adjoining observation room, an audiovisual control room, a virtual social environment lab, and other flexible research office spaces.

Courses

- Sociology Courses [p. 937]
- Criminology, Law and Justice Courses [p. 941]

Prerequisites for courses are listed in the course descriptions.

Sociology Courses

SOC:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

SOC:1010 Introduction to Sociology 3-4 s.h.

How individuals are organized into social groups, ranging from intimate groups to bureaucracies, and how these influence individual behavior; nature and interrelationships of basic social institutions (family, education, religion, economy). GE: Social Sciences.

SOC:1020 Social Problems 3-4 s.h.

Emergence and distribution of selected social problems; alternative solutions; may include population, inequality, female-male relationships, racism, crime. GE: Social Sciences.

SOC:1022 Social Justice and Social Welfare in the United States 3 s.h.

Historical development of social welfare and social justice in the United States; individual values and ethics; role and responsibilities of enhancing society; contemporary practice to address social injustices including poverty, discrimination, various forms of violence; small group discussions and debates of various issues to allow for an exchange of diverse views and perspectives; volunteer work. GE: Values and Culture. Same as SSW:1022.

SOC:1219 Big Ideas: Equality, Opportunity, and Public Policy in America 3 s.h.

Examination of major social issues and challenges faced by nation, state, and communities; what government's role is in a democratic society; how we decide when, where, and how government acts in ways consistent with social goals and values; focus on pressing social issues (i.e., education, inequality, labor standards, health care); historical development of the problem or policy; ways we address social issues; effectiveness of current policies and alternative policies; ways in which social science contributes to policy design and assessment. GE: Social Sciences. Same as HIST:1219.

SOC:1220 Principles of Social Psychology 3-4 s.h.

Introduction to a range of theories that seek to explain behavior of people within their groups, and dynamics between groups, at various levels of society. GE: Social Sciences.

SOC:1310 Gender and Society 3-4 s.h.

Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Values and Culture. Same as GWSS:1310.

SOC:1420 Law and Society 3 s.h.

Exploration of how society shapes the law and how law shapes the society; definitions and conceptualizations of law; social origins of law; roots of compliance with or deviance from law; legal consciousness and uses of law in everyday life; effect of law on social inequality and distribution of power; law as a venue and a tool for social change.

SOC:1670 Popular Culture and Society 3 s.h.

Explore trends in popular culture through a sociological lens; use examples from popular culture to discuss broader social issues, including interaction between members of different social groups and patterns of social inequality; topics include definitions of popular culture, advertising and branding, rise of reality television, fashion, museums and the consumption of "high culture" clubs and nightlife, social significance of hip hop music, and the impact of social media on everyday life; guest speakers, visits to local cultural venues, and screenings of television shows and films.

SOC:2022 Energy and Society 3 s.h.

Energy—or the power derived from the utilization of physical or chemical resources to provide light and heat or to work machines—is indispensable for modern society; worldwide, human appetite for energy is increasing constantly, and at the same time, environmental costs associated with energy production and consumption also increase rapidly; preparation to understand the technology and sociology of energy; development of a truly interdisciplinary perspective on energy by examining technological and sociological dimensions of energy (i.e., extraction, beneficiation, utilization, history, economics, politics, environment).

SOC:2064 Racial Inequity and the Experiences of African American Families in the U.S. 3 s.h.

Racial inequality and experiences of African American families in the U.S. during 20th and 21st centuries; historical context for contemporary research on African American family; relative impact of structural and cultural factors on various aspects of African American family life, declining marriage rates, family formation patterns; intersections of race and class in family life; research methods used to examine dynamics of African American family life, including quantitative analysis, structured qualitative interviews, and ethnography. Same as AFAM:2064.

SOC:2130 Sociological Theory 3 s.h.

Theoretical perspectives in sociology; construction, evaluation of sociological explanations. Prerequisites: SOC:1010 or SOC:1020 or SOC:1310 or CRIM:1410 or SOC:1420.

SOC:2160 Applied Statistics for Social Scientists 3 s.h.

Applied statistics for sociology majors: frequency distributions, graphic presentation, measures of central tendency, measures of variability, elementary probability, populations and samples, sampling distributions, estimation and confidence intervals, hypothesis testing, chi-square test, regression and correlation, analysis of variance; computer software used in data analysis; emphasis on appropriate use and interpretation of statistics in the study of sociological topics. Recommendations: sociology major.

SOC:2170 Research Methods 3 s.h.

Basic scientific concepts; emphasis on theoretical thinking, statement of researchable propositions, logic and meaning of proof operant in the research process; general issues in designing social research, including problems of sampling and measurement, analysis, presenting research data, interpreting research findings. Prerequisites: SOC:1010 and (ECON:2800 or PSQF:4143 or STAT:1020 or STAT:2010 or SOC:2160 or STAT:3510 or STAT:1030). Requirements: sociology major.

SOC:2710 The American Family 3 s.h.

Structure and process; change over the life cycle; interrelations with other institutions; historical changes; variations by social class and ethnic group. GE: Values and Culture.

SOC:2810 Social Inequality 3 s.h.

Major theoretical perspectives for understanding inequality in economics, power, prestige; the magnitude of social inequality in the United States; sex and race inequality; trends in and causes of social mobility; selected consequences of social inequality. GE: Values and Culture.

SOC:2830 Race and Ethnicity 3 s.h.

Multidisciplinary study of intergroup relations, with emphasis on historical, sociological, and social psychological issues in the study of American minority groups.

SOC:3171 Drugs and Society 3 s.h.

How people use drugs for recreation, performance enhancement, and medical treatment; implications for drug control, treatment, and public policy.

SOC:3200 International Perspectives: Xicotepec 1-3 3 s.h.

Interdisciplinary service-learning course; Mexican culture and history through community-based service project, assigned readings, and discussion; includes a required spring break trip to Mexico. Same as CLAS:3200.

SOC:3220 Sociology of Mental Illness 3 s.h.

The socially constructed nature of mental illness; theoretical perspectives and research on social antecedents and social consequences of mental health. Prerequisites: SOC:1010 or SOC:1220 or SOC:1020.

SOC:3510 Medical Sociology 3 s.h.

Theoretical perspectives and research on social precursors and consequences of physical and mental health ailments; focus on contemporary United States with cross-cultural comparisons; stereotypes and diagnosis, gender and racial/ethnic differences, health inequalities related to socioeconomic status.

SOC:3525 Public Opinion 3 s.h.

Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as POLI:3204.

SOC:3610 Organizations and Modern Society 3 s.h.

Approaches to the sociological study of economic and noneconomic organizations; the role of power and authority within the organization, and between the organization and its environment. Prerequisites: SOC:1220 or SOC:1010.

SOC:3650 Education, Schools, and Society 3 s.h.

Overview of sociology of education; historical and current sociological perspectives on education; race, class, and gender inequality in schooling; higher education; contemporary debates in education (e.g., affirmative action, school choice). Prerequisites: SOC:1010 or SOC:1020.

SOC:3750 Born in the USA: Fertility and Reproduction 3 s.h.

Exploration of when, why, how, and with whom Americans bear children; comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as GWSS:3750.

SOC:3830 Race and Ethnicity 3 s.h.

Multidisciplinary study of intergroup relations, with emphasis on historical, sociological, and social psychological issues in the study of American minority groups.

SOC:3841 Community and Urban Sociology 3 s.h.

Impact of urbanization on social life, social networks; how social forces shape patterns of urban growth; racial segregation, gentrification; consequences of the growth of suburbs; urban crises, including concentrated poverty and crime. Prerequisites: SOC:1010 or SOC:1020.

SOC:3850 Economy and Society 3 s.h.

Economic debates that faced advanced market economies in the 20th century with extensions to the developing world; development and maintenance of investment elites and labor markets, development and extension of state activity.

SOC:3880 The Sociology of Networks 3 s.h.

Introduction to the basic properties of network structure (e.g., density, mutuality, cliques); substantive insights regarding the role and consequences of networks in social life; the role of networks in job searching/hiring processes; how innovations diffuse through networks; and relationships as social resources. Prerequisites: SOC:1020 or SOC:1010.

SOC:4200 Sociology of Religion 3 s.h.

Introduction to the study of religion from a sociological perspective; religions exist in social contexts, are shaped by contexts in which they are embedded, and then often change those social contexts; to understand the relation between religions and other social systems, we must examine the sociological as well as the historical, anthropological, social psychological, and political impacts; students will study religious organizations critically and objectively, exploring and debating classical sociological theories pertaining to religions, as well as contemporary theories that predict religious behavior; social scientific perspective will be presented.

SOC:4210 Social Psychology of Small Groups 3 s.h.

Internal processes governing small groups (e.g., friendship cliques, families, the president's cabinet, committees); how small groups relate to the larger social environment; groups' impact on their members. Prerequisites: SOC:1020 or SOC:1010.

SOC:4225 The Social Psychology of Leadership 3 s.h.

Techniques, proven by research, that enhance students' ability to know, work with, and lead people; recent research in social psychology, how it applies to practical leadership problems.

SOC:4230 Sociology of Self-Improvement 3 s.h.

How self-improvement as a cultural goal shaped development of political, business, educational, and religious institutions in the United States; history of self-improvement movement and industry; selected readings that show how much self-improvement is possible and which techniques are more useful than others.

SOC:4540 Political Sociology and Social Movements 3 s.h.

Social unrest; crowd behavior; social movements treated as a form of social change. Prerequisites: SOC:1010 or SOC:1020.

SOC:4800 Research Practicum in Sociology 3 s.h.

Students engage in a sociological research activity that is not related to an honors project, conducted under the supervision of (or in collaboration with) a faculty member.

SOC:4820 Sociology of Sexuality 3 s.h.

Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: SOC:1010 or SOC:1020. Same as GWSS:4820.

SOC:4900 Selected Topics in Sociology 3 s.h.

Topics vary.

SOC:4902 Selected Topics in Family, Health, and Well-Being 3 s.h.

Varied topics in family structures and practices; social institutions and forces that shape or are shaped by families.

SOC:4903 Selected Topics in Organizations, Networks, and Careers 3 s.h.

Varied topics in macro- and micro-level processes affecting ability to understand and manage organizations, including the groups and individuals that compose them.

SOC:4909 Graduation Portfolio 0 s.h.

Submission of final graduation portfolio first assembled in capstone course required for sociology major. Corequisites: SOC:4910.

SOC:4910 Capstone Course in Sociology 3 s.h.

Senior project illustrating student's accomplishments during the undergraduate career; prepared in collaboration with sociology faculty member or other experts in the student's area of sociological interest; record for student's own reflection, information for potential employers and graduate programs. Prerequisites: SOC:2130 and (SOC:2170 or CRIM:2470). Requirements: major g.p.a. of 2.00.

SOC:4920 Social Services Organization Internship arr.

Student volunteer work with social services organizations. Prerequisites: SOC:1010 with a minimum grade of C or SOC:1020 with a minimum grade of C or SOC:1310 with a minimum grade of C or SOC:2810 with a minimum grade of C. Requirements: sociology major or minor, and junior standing.

SOC:4930 Teaching Internship 3 s.h.

Experience providing supervised support for instructors teaching basic courses in sociology. Requirements: appointment as sociology undergraduate teaching aide.

SOC:4990 Directed Individual Study arr.**SOC:4997 Honors Seminar 1-2 s.h.**

Topic development for senior honors projects. Offered spring semesters. Requirements: sociology honors standing.

SOC:4998 Honors Research arr.

Research projects under faculty supervision.

SOC:5110 History of Sociological Theory 3 s.h.

Ideas of major 19th- and 20th-century social thinkers (e.g., Marx, Weber, Durkheim, Simmel, Mead).

SOC:5130 Sociology of Education 3 s.h.

Effects of school and school organization on educational outcomes; course-taking patterns and tracking, desegregation, differences in school sector; focus on entire span of student's academic career; examination of school and organizational effects at the primary, secondary, and postsecondary levels of education. Same as EPLS:5130.

SOC:5160 Research Design and Methods 3 s.h.

Research designs; sampling designs and techniques; questionnaire construction, interviewing techniques; participant and nonparticipant observation; coding and preparation of data for analysis; measurement techniques, reliability, and validity. Requirements: SOC:6170 or graduate standing.

SOC:5165 Race, Class, and Gender Inequalities in Education 3 s.h.

Role of ascribed characteristics (e.g., race, class, gender) on educational opportunities and outcomes; achievement gaps, school desegregation, social and cultural capital, peer influence, family attributes, neighborhood influence, influence of significant others, course-taking patterns, and educational destinations. Same as EPLS:5131.

SOC:5310 Gender Theory 3 s.h.

Introduction to sociological analysis of gender; multiple ways that gender patterns the social world in which we live; predominant theoretical stances related to study of gender; how gender structures everyday social interaction; how social institutions (e.g., work, family) give rise to and recreate gendered meanings, expectations, structures; possibilities for interventions and change to gender system.

SOC:5680 Sociology of Higher Education 3 s.h.

Sociological approach to study of higher education; issues of inequality and stratification in higher education; focus on relationship between higher education and larger economic and demographic processes; college access, college destinations, attainment, and returns to a college degree. Same as EPLS:5142.

SOC:5810 Education and Social Change 2-3 s.h.

Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as EPLS:5210.

SOC:6080 Master's Thesis arr.**SOC:6110 Theory Construction and Analysis 3 s.h.**

Contemporary theoretical issues and nature of theory, theory's place in research, strategies of theory construction. Requirements: sociology graduate standing.

SOC:6140 Seminar: Selected Topics in Sociological Theory 3 s.h.**SOC:6170 Introduction to Sociological Data Analysis 3 s.h.**

Statistical measures for descriptive methods and association; logic of statistical inference, hypothesis testing; background essential to understanding linear models, models for categorical data analysis. Requirements: introductory statistics.

SOC:6175 Qualitative Methods 3 s.h.

Logic of qualitative research; basic skills necessary for a qualitative research project. Requirements: sociology graduate standing.

SOC:6180 Linear Models in Sociological Research 3 s.h.

Statistical techniques associated with general linear model; emphasis on multiple regression, its generalizations; corresponding computer programs. Requirements: SOC:6170 or graduate standing.

SOC:6210 Contemporary Approaches to Social Psychology 3 s.h.

Review and critical analysis of current theoretical approaches and systems of social psychological analysis. Recommendations: sociology graduate standing.

SOC:6220 Seminar: Selected Topics in Social Psychology 3 s.h.

Selected theoretical and methodological issues.

SOC:6264 Post-Industrial Cities 3 s.h.

Aspects of urban inequality in post-industrial cities; racial inequality, urban poverty, neighborhood inequality, and municipal bankruptcy.

SOC:6310 Gender Stratification Seminar 3 s.h.

Occupational gender segregation; gender gap in pay; role of family caregiving in women's lower pay; evaluation of caregiving work; comparable work.

SOC:6320 Sociology of Religion 3 s.h.

Introduction to the sociological perspective for studying religion; examination of sociological, historical, anthropological, social psychological, and political impacts of religion on social behavior to understand the complex relation between religious institutions and other social systems; exploration of works by classical sociological theorists, as well as contemporary theories and empirical research that describe, explain, and perhaps predict religious behavior; materials focus on religion in the United States; students who wish to use a cross-cultural perspective in discussions and papers are encouraged to do so.

SOC:6410 Seminar: Criminological Theories 3 s.h.

Theories of crime causation and their relationships to the cultures in which they have functioned.

SOC:6420 Seminar: Selected Topics in Deviance and Control 3 s.h.

Critical analysis of current research; emphasis on theoretical contributions and methodological foundations.

SOC:6520 Political Sociology, Social Policy, and Inequality 3 s.h.

Students explore the interplay of the state, citizenship, welfare states, social policy, poverty governance, and inequality; drawing on theoretical and empirical works, the course is designed around three core agendas—it provides an overview of attempts to theorize the state in relation to other social institutions; it examines the inclusion and exclusion of groups as citizens, the role of citizenship, and the relation to social provision and the welfare state; and provides an opportunity to investigate the complex ways that welfare states, social policies, poverty governance, and social inequalities shape one another.

SOC:6610 Complex Organizations 3 s.h.**SOC:6810 Social Stratification 3 s.h.**

Classical and contemporary theories; current research on the causes and magnitude of inequality in economics, power, and prestige; social mobility; critical issues in stratification.

SOC:6850 Seminar: Sociology of Labor Markets 3 s.h.

Sociological and economic theories and research concerning area/regional/local labor markets, industrial sectors and the dual labor market, occupational/internal labor markets; other structural explanations of inequality.

SOC:7010 Teaching Sociology 2-3 s.h.

Supervised preparation for teaching sociology courses; literature on teaching; course objectives, alternative teaching techniques; preparation of course syllabus, lectures, discussions, exams.

SOC:7030 Readings and Research Tutorial arr.**SOC:7090 Ph.D. Dissertation arr.****SOC:7170 Advanced Statistical Modeling of Data 3 s.h.**

Models for analysis of categorical data, including loglinear, logit, related discrete data models. Requirements: advanced graduate standing.

SOC:7175 Social Science Research: Big Data 3 s.h.

New opportunities and challenges faced by social science research with the advent of technologies that collect, store, and analyze massive human digital traces; data collection, manipulation, and curation skills; survey of computational methods commonly used in computational social science; different from other big data courses in connecting new data sources to theory-focused social science; emphasis on how to ask research questions informed by data and how to design analytical strategies to answer those questions. Prerequisites: SOC:6170 and SOC:6180.

SOC:7180 Structural Equation Modeling 3 s.h.

Overview of structural equation models (SEMs), also known as LISREL models, covariance structure models; specific types of SEMs, such as simultaneous equations and confirmatory factor analysis; intermediate topics.

SOC:7270 Scholarly Professionalism and Integrity I 2 s.h.

General introduction to department and discipline for entering graduate students; departmental and graduate college requirements, program and career planning, interaction with faculty members, consideration of student interests and concerns; two semesters beginning in fall. Requirements: sociology graduate standing.

SOC:7271 Scholarly Professionalism and Integrity II 2 s.h.

General introduction to department and discipline for entering graduate students; departmental and graduate college requirements, program and career planning, interaction with faculty members, consideration of student interests and concerns. Requirements: sociology graduate standing.

SOC:7410 Communities and Crime 3 s.h.

Distribution of crime as rooted in community-level conditions such as concentrated affluence or poverty, racial residential segregation, unemployment, family disruption, and immigration. Requirements: sociology graduate standing.

SOC:7460 Sociology of Law Seminar 3 s.h.

Relationship between law and society explored through writings and research of classical and contemporary sociologists and legal scholars. Requirements: sociology graduate standing.

SOC:7500 Seminar: Topics in Political Sociology 3 s.h.

Overview of current research in political sociology; topics related to inequality, citizenship, social change, institutions, social movements, political regimes, and globalization; survey of multiple methodological and theoretical approaches.

SOC:7620 Social Network Analysis 3 s.h.

Relational, data-oriented approach to representing linkages or relationships among social units, and to examine the relevance of these social structures in social processes. Requirements: basic multiple regression.

SOC:7820 Seminar: Selected Topics in Social Stratification 3 s.h.

Requirements: social science graduate standing.

Criminology, Law and Justice Courses

CRIM:1410 Introduction to Criminology 3 s.h.

Nature and causes of crime; the criminal justice process, correctional treatment, crime prevention. GE: Social Sciences.

CRIM:1447 Introduction to the Criminal Justice System 3 s.h.

Organization and function of criminal justice system in the United States; history, organization, and current practices of policing, criminal courts, and correctional system; sociological and criminological research on major subsystems comprising criminal justice systems.

CRIM:2430 Comparative Criminal Justice Systems 3 s.h.

Criminal justice systems around the world; similarities and differences in how justice is defined and operationalized in contemporary legal traditions in terms of police, courts, and corrections examined in light of cultural norms and values; emphasis on link between societal characteristics and legal traditions; differences in defendant rights guaranteed under various legal traditions.

CRIM:2440 Student Practicum in Policing 3 s.h.

Practical application of criminal justice knowledge with physical demonstrations and hands-on exercises; physical participation includes defensive tactics, firearms instruction, and violent intruder training; students journal about student police academy topics and present to faculty. Prerequisites: CRIM:1410 or CRIM:1447. Requirements: background check.

CRIM:2460 Policing in Modern Society 3 s.h.

History, theory, and practice of policing; exploring the link between officer decision making and department expectations; policing subculture; ethical considerations officers face; policing administration; policing/community interaction; legal issues affecting policing practice; contemporary developments in policing emergent crime types.

CRIM:2470 Research Methods in Criminology and Criminal Justice 3 s.h.

Introduction to social science research methods in the fields of criminology and criminal justice; techniques necessary for systematic analysis of research questions and program effectiveness; critical evaluation of existing empirical research and sources of criminal justice data; assessment of data quality. Prerequisites: (STAT:1020 or STAT:1030 or ECON:2800 or SOC:2160 or STAT:2010 or STAT:3510 or PSQF:4143) and (CRIM:1410 or CRIM:1447). Requirements: sociology major.

CRIM:2901 Special Topics in Criminology, Law, and Justice 3 s.h.

Varied topics in criminology, criminal legal system, gender and violence, global criminology.

CRIM:3250 Drugs, Deviance, and Social Control 3 s.h.

Introduction to social reality of drug use, drug users, and attempts to control drug behavior; exploration of relationship to crime and deviance, medicalization, and movements aimed at drugs.

CRIM:3350 Criminals in the Making: A Life Course Approach 3 s.h.

How crime and antisocial behavior develop across the life span from birth onward, and how criminologists utilize methods and concepts of the life course perspective to examine systematic patterns of crime; focus on genetic predispositions, family environments, and biological mechanisms; patterns common to adolescence with considerations of peer settings, community processes, romantic involvement, and school context; examination of the transition to adulthood with emphasis on importance of social institutions, human agency, social change, and relevance of incarceration and criminal justice intervention for offending patterns.

CRIM:3415 Global Criminology 3 s.h.

Crime and the control of crime at the transnational and sub-national levels of analysis; focus on non-U.S. societies; consequences of economic, political, and cultural globalization.

CRIM:3416 Race, Crime, and Justice 3 s.h.

Extent and nature of racial disparities in offending and victimization; interpretation of patterns using various theoretical approaches; examination of race inequalities across many stages of criminal justice process.

CRIM:3417 Community Corrections 3 s.h.

Community corrections; probation, parole, intermediate sanctions (boot camps, intensive supervision, electronic monitoring); contemporary issues in community supervision of offenders.

CRIM:3420 Juvenile Delinquency 3 s.h.

Theories of juvenile delinquency; individual, neighborhood, and societal explanations of delinquency; research on families, schools, peers, neighborhoods, gangs, and delinquency.

CRIM:3425 Women, Crime, and Justice 3 s.h.

Overview of women's experiences with crime and criminal justice system, with reference to experiences of men for purposes of comparison; role of race, ethnicity, and poverty in women's experiences; causes of crime, inequalities in police-citizen interactions, imprisonment, and other aspects of criminal justice system experience. Same as GWSS:3425.

CRIM:3437 American Crime 3 s.h.

Prevailing issues in criminology; extent and nature of disparities in offending and victimization, interpretation of patterns using various theoretical approaches; evaluation of crime-control policies.

CRIM:3450 Criminal Legal System 3 s.h.

Discretionary decision making in U.S. criminal courts from arrest through sentencing; legal and sociolegal issues relevant to each stage of felony adjudication; sociological and social-psychological theories of decision making in adjudication, empirical research testing these theories.

CRIM:3500 Policies and Procedures of Policing 3 s.h.

Basic knowledge and understanding of criminal law, police practices, and procedures that police use as tools to enforce laws in the United States; how criminal laws are interpreted by police officers, attorneys, and the public; students focus on interpreting case law and present arguments to defend their interpretation of the court's ruling. Prerequisites: CRIM:1410 or CRIM:1447.

CRIM:4400 Internship in Criminal Justice and Corrections 3 s.h.

Supervised field work in a criminal justice or correctional agency. Prerequisites: (CRIM:1410 or SOC:1420 or CRIM:1447) and (CRIM:2430 or CRIM:2460 or CRIM:2901 or CRIM:3415 or CRIM:3416 or CRIM:3417 or CRIM:3420 or CRIM:3437 or CRIM:3450 or CRIM:4420 or CRIM:4430 or CRIM:4450 or CRIM:4460 or CRIM:4901). Requirements: criminology, law and justice major or minor, and junior standing.

CRIM:4410 Treatment Interventions in Corrections**3 s.h.**

Introduction to treatment interventions utilized in the criminal justice system that target some of the special populations seen within the system as a whole; specific populations may include mental health, substance abuse, sex offenders, and domestic violence; emphasis on evidence-based practices and successful program outcomes with focus on identification and discussion of ethical issues and concerns that arise when providing specialized services to this population, as well as the sometimes difficult mixture of treatment and safety/security. Prerequisites: CRIM:1410 or CRIM:1447. Requirements: junior, senior, or graduate standing.

CRIM:4420 Criminal Punishment**3 s.h.**

Sociological theories and research on criminal punishment; classical and contemporary theories; research on imprisonment and capital punishment.

CRIM:4430 Interpersonal Violence in Society**3 s.h.**

Extent and nature of interpersonal violence in societies, in general and for specific population subgroups; theoretical explanations for the phenomenon; alternative ways of defining and responding to violence across various social contexts; application of scientific method; relevant literatures from multiple disciplines including sociology, anthropology, criminology, psychology, and behavioral economics; types of violence defined as illegal and those which are deviant but not illegal.

CRIM:4440 Sociology of White-Collar Crime**3 s.h.**

Critical perspectives on causes and consequences of white-collar crime; definitions and types; criminological, social-psychological, and rational-choice theories; political and economic causes of white-collar crime under capitalism and socialism; rates and patterns of white-collar criminality across different social groups (defined by racial, ethnic, class, and gender attributes); control, prevention, and criminal justice response.

CRIM:4450 Juvenile Justice: A Sociolegal Perspective**3 s.h.**

Examination of social, historical, and legal foundations of juvenile justice system in the United States; adjudication processes in juvenile justice, transfer of juveniles to criminal court, contemporary juvenile court, community-based corrections programs, legalities of juvenile system; current and future directions in juvenile justice.

CRIM:4460 Sociology of Law**3 s.h.**

Conceptual, historical, and theoretical issues of law and operation of the criminal justice system; theory and research on law and the criminal justice system.

CRIM:4470 Communities and Crime**3 s.h.**

Why do some neighborhoods have more crime than others? Why do some neighborhoods see increasing rates of crime over time, while others seemingly do not? Although many crime events occur among individuals, scholars have long noted that crime events tend to cluster in neighborhoods and places where people live; students consider explanations for why this spatial patterning occurs; research methods that have been used to learn about crime in spatial context, classic and contemporary studies of this issue, and approaches to crime prevention that involve focusing on neighborhood or place, rather than simply on individuals. Prerequisites: CRIM:1410 or CRIM:1447.

CRIM:4901 Advanced Topics in Criminology, Law, and Justice**3 s.h.**

Varied advanced topics in criminology, criminal legal system, gender and violence, global criminology.

Sociology, B.A.

Learning Outcomes

Students will:

- be able to identify how sociological concepts and theories relate to everyday life,
- possess a critical lens for understanding human behavior and societies,
- articulate the importance of evidence and scientific methods for explanations of social phenomena,
- be able to identify the characteristics of high quality data and methods in sociological research,
- identify disciplinary standards for both the qualitative and quantitative analysis of data, and
- use their sociological knowledge and skills to engage with and impact the world around them.

Overview

A bachelor's degree with a major in sociology provides a liberal arts and sciences education. Sociology provides a broad foundation for a number of careers that require a deep understanding of human interactions and behaviors. Though broad in scope, sociology can be broken down into many marketable specializations including these at the University of Iowa: family, health, and well-being; organizations, networks, and careers; social psychology; and social and political organization.

The department has an active undergraduate organization, the Sociology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

Requirements

The Bachelor of Arts with a major in sociology requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn at least 12 s.h. in sociology course work at the University of Iowa; transfer courses must be approved by a sociology advisor.

The major offers two optional tracks for students with an interest in one of the following concentrations: family, health, and well-being; or organizations, networks, and careers.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science, except B.A. students take 3 s.h. of statistics and two theory and methods courses, while B.S. students take 9 s.h. of advanced statistics and three theory and methods courses.

Choice of a degree program should be dictated by a student's personal career goals. Though not required, students interested in pursuing a graduate program may find the additional math and methods courses helpful.

Students who earn the major in sociology can earn the major in criminology, law and justice. No more than 9 s.h. of major course work can double count for each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

In planning to complete the major, students must take courses in the proper sequence. Introduction to Sociology (SOC:1010) is a prerequisite for all required core theory and methods courses. Statistics is prerequisite for the more advanced methods course. These introductory courses lay the foundation for all other work in the major. The recommended sequence for the major's core requirements is SOC:1010, SOC:2130 Sociological Theory, the statistics requirement, and SOC:2170 Research Methods. See "Four-Year Graduation Plan" under Academic Plans [p. 946] in this section of the Catalog.

The B.A. with a major in sociology requires the following work.

Code	Title	Hours
	Introductory Sociology Course	3-4
	Introductory Statistics Course	3-4
	Theory and Methods Courses	6
	Electives	21
	Capstone Course	3
	Graduation Portfolio	0
	Total Hours	36-38

Introductory Sociology

Code	Title	Hours
This course:		
SOC:1010	Introduction to Sociology	3-4

Introductory Statistics

Code	Title	Hours
One of these:		
SOC:2160	Applied Statistics for Social Scientists	3
ECON:3300	Introduction to Econometrics	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Theory and Methods

Code	Title	Hours
Students should complete both of these as soon as possible:		
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3

Electives

Students complete 21 s.h. of elective course work in sociology (prefix SOC). Four of the required electives must be advanced, chosen from sociology courses numbered 3000-4899, SOC:4920 Social Services Organization Internship, or SOC:4998 Honors Research. With permission, students

may use graduate courses in sociology numbered 5000 or above to satisfy the electives requirement. Two of the four advanced required electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory, an approved course from the "Introductory Statistics" list above, and SOC:2170 Research Methods. Students can use two criminology, law and justice courses (prefix CRIM) toward the electives requirement.

The following courses may not be used as electives.

Code	Title	Hours
SOC:1000	First-Year Seminar	1-2
SOC:4800	Research Practicum in Sociology	3
SOC:4930	Teaching Internship	3
SOC:4990	Directed Individual Study	arr.
SOC:4997	Honors Seminar	1-2

Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students may take it as early as spring of their junior year, as long as they have completed SOC:2130 Sociological Theory, SOC:2170 Research Methods, and the statistics requirement.

Code	Title	Hours
One of these:		
SOC:4800	Research Practicum in Sociology	3
SOC:4910	Capstone Course in Sociology	3
SOC:4920	Social Services Organization Internship	3

Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

Tracks

Family, Health, and Well-Being Track

The family, health, and well-being track requires a minimum of 15 s.h. of credit, including 12 s.h. of course work taken at the University of Iowa. It is open to sociology majors who are interested in understanding family structures and practices, differences between and within families, and those social institutions and forces that shape families or are shaped by them. Additionally, the track cultivates students' understanding of the social context of health, illness, and health care. It is especially well suited for students who are interested in pursuing careers in the fields of social service and health.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The family, health, and well-being track requires the following course work.

Code	Title	Hours
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Required Courses

6 s.h. from these:

SOC:1310	Gender and Society	3
SOC:2710	The American Family	3
SOC:3510	Medical Sociology	3

Electives

9 s.h. from these:

SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
SOC:2810	Social Inequality	3
SOC:3220	Sociology of Mental Illness	3
SOC:3171	Drugs and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4820	Sociology of Sexuality	3
SOC:4902	Selected Topics in Family, Health, and Well-Being	3
CRIM:3420	Juvenile Delinquency	3
CRIM:4430	Interpersonal Violence in Society	3

Or select electives from these graduate courses, with approval of instructor:

SOC:6220	Seminar: Selected Topics in Social Psychology (when topic is life course)	3
SOC:6310	Gender Stratification Seminar	3

Students also may choose the remaining required course as an elective

Organizations, Networks, and Careers Track

The organizations, networks, and careers track requires a minimum of 15 s.h. of credit, including 12 s.h. of course work taken at the University of Iowa. It is open to sociology majors who are interested in understanding the macro- and micro-level processes that affect the ability to understand and manage organizations, as well as the groups and individuals that compose them. The track provides intensive training in both theoretical and empirical approaches to organizations, and combines micro-level insights into work groups with macro-level perspectives on the influence of organizations' environments. It is especially well suited for students who are interested in pursuing careers in various services-providing sectors such as business services, educational services, social assistance, or government.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The organizations, networks, and careers track requires the following course work.

Code	Title	Hours
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Required Courses

6 s.h. from these:

SOC:3610	Organizations and Modern Society	3
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SOC:3880	The Sociology of Networks	3
SOC:4225	The Social Psychology of Leadership	3

Electives

9 s.h. from these:

SOC:1420	Law and Society	3
SOC:2810	Social Inequality	3
SOC:3200	International Perspectives: Xicotepec	1-3
SOC:3650	Education, Schools, and Society	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4903	Selected Topics in Organizations, Networks, and Careers	3
CRIM:4440	Sociology of White-Collar Crime	3

Or select electives from these graduate courses, with approval of instructor:

SOC:6610	Complex Organizations	3
SOC:7620	Social Network Analysis	3
SOC:7820	Seminar: Selected Topics in Social Stratification (when topic is social capital)	3

Emphasis Areas

The following elective courses are grouped by emphasis for students who may want to cluster their electives according to one of the following areas of interest. The emphasis area courses are not tracks. See Courses [p. 937] in this section of the Catalog for a complete listing of sociology courses.

Social Psychology

Code	Title	Hours
SOC:1220	Principles of Social Psychology	3
SOC:3220	Sociology of Mental Illness	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3

Social and Political Organization

Code	Title	Hours
SOC:2810	Social Inequality	3
SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3830	Race and Ethnicity	3
SOC:3850	Economy and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4820	Sociology of Sexuality	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors**Honors in the Major**

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology courses. In order to graduate with honors in sociology, the following course work must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar	1
SOC:4998	Honors Research (honors thesis)	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct sociological research in close consultation with a faculty member of the student's choice.

Honors students also must take at least one sociology course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

National Honor Society

The department sponsors a chapter of Alpha Kappa Delta International Sociology Honor Society. Students who have a cumulative g.p.a. of 3.30, a sociology g.p.a. of at least 3.00 (with four sociology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Kappa Delta faculty advisor for details.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sociology major.

Academic Plans**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of course work is important in meeting the four-year plan.

Before the fifth semester begins: SOC:1010 Introduction to Sociology or equivalent, and one sociology elective

Before the seventh semester begins: SOC:2130 Sociological Theory, a required statistics course, one more sociology elective, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: SOC:2170 Research Methods and one more sociology elective

During the eighth semester: enrollment in all remaining course work in the major, including a capstone course, SOC:4909 Graduation Portfolio, and the last two sociology electives; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Sociology, B.A.

Course	Title	Hours
First Year		
Fall		
SOC:1010	Introduction to Sociology ^a	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
Elective course ^c		1
CSI:1600	Success at Iowa	2
Hours		13-15
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: sociology elective/track course ^d		3
GE CLAS Core: Diversity and Inclusion ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3
Hours		16-18
Second Year		
Fall		
SOC:2130	Sociological Theory	3
GE CLAS Core: Natural Sciences with Lab ^e		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
Major: sociology elective/track course ^d		3
Elective course ^c		2 - 3
Hours		16-18
Spring		
Major: introductory statistics course - STAT:1020 Elementary Statistics and Inference recommended ^a		3
Major: sociology elective/track course ^d		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
Elective course ^c		3

Elective course ^c	3
Hours	16-17

Third Year

Fall

SOC:2170	Research Methods	3
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: Values and Culture ^e		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

Major: capstone course		3
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Fourth Year

Fall

Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: Natural Sciences without Lab ^e		3
GE CLAS Core: Historical Perspectives ^e		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

SOC:4909	Graduation Portfolio	0
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: International and Global Issues ^e		3
Elective course ^c		3
Elective course ^c		3
Elective course ^c		3
Hours		15
Total Hours		121-128

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Students have the option to choose one of two tracks in the major: organizations, networks, and careers; or family, health and well-being.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Upper-level sociology courses (prefix SOC) are numbered 3000 or above. Two of the upper-level electives must be taken after (and not concurrent with) the completion of SOC:2130, an approved introductory statistics course, and SOC:2170.

Career Advancement

The major provides background for employment in fields such as human services, criminal justice, corrections, sales, public relations, advertising, personnel, applied social research, community organization, and teaching social science in secondary schools. It also offers an integrated package of courses, research training, writing enhancement, international

perspective, and internships to provide graduates with impressive credentials.

The sociology degree provides a foundation for graduate or professional study in social work, urban planning, law, criminal justice, social policy, and similar areas. Finally, the major prepares students to work toward advanced degrees in sociology, which qualify them for college or university teaching and work in academic, private, and governmental research or organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Criminology, Law and Justice, B.A.

Learning Outcomes

Students will be able to:

- recognize the causes and consequences of crime at the micro and macro levels and match these with prominent criminological perspectives;
- describe the interrelated institutions and processes of the criminal justice system and legal systems;
- apply theories of crime, legal systems, and criminal justice systems to explain actual and hypothetical scenarios, behaviors, and trends;
- understand the role of formal law in advanced democracies;
- explain the various social science methods of inquiry and use these to test specific criminological research questions;
- recognize and explain social inequities in crime and criminal justice processes by race, social class, gender, region, and age; and
- evaluate the effectiveness of policy interventions for altering social behavior, including those deemed illegal or harmful.

Overview

The criminology, law and justice major examines issues related to race and ethnic diversity, and gender and poverty, heightening awareness of these important topics. Students learn about sociological explanations for crime and criminal justice; the operation of law and the criminal justice system, including their complex interplay with other institutions, such as the economy and politics; and important data sources on crime in the United States and internationally.

The criminology, law and justice course work required for the major is the same for B.A. and B.S. students, but the major for the B.S. includes additional semester hours in theory, statistics, and methods courses.

Requirements

The Bachelor of Arts with a major in criminology, law and justice requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn at least 24 s.h. in criminology, law and justice course work at the University of Iowa; transfer courses must be approved by a sociology advisor.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science. B.A. students take a minimum of 39 s.h. of course work for the major, while B.S. students take a minimum of 48 s.h. which includes additional theory, statistics, and methods courses.

Students who earn the major in criminology, law and justice can earn the major in sociology. No more than 9 s.h. of major course work can double count for each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

The B.A. with a major in criminology, law and justice requires the following course work.

Code	Title	Hours
Introductory Courses		9-11
Theory and Methods Courses		6
Upper-Level Sociology Requirement		3
Electives		18
Capstone Course		3
Graduation Portfolio Course		0
Total Hours		39-41

Introductory Courses

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
SOC:1010 or SOC:1020	Introduction to Sociology Social Problems	3-4
SOC:1420	Law and Society	3
One of these:		
SOC:2160	Applied Statistics for Social Scientists	3
ECON:2800	Statistics for Strategy Problems	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Theory and Methods

Students should complete these courses as soon as possible.

Code	Title	Hours
This course:		
SOC:2130	Sociological Theory	3
One of these:		
CRIM:2470	Research Methods in Criminology and Criminal Justice	3
SOC:2170	Research Methods	3

Upper-Level Sociology Requirement

Code	Title	Hours
3 s.h. from these:		
SOC:2022	Energy and Society	3

SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
SOC:2710	The American Family	3
SOC:2810	Social Inequality	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3510	Medical Sociology	3
SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:3830	Race and Ethnicity	3
SOC:3850	Economy and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4200	Sociology of Religion	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4820	Sociology of Sexuality	3

Electives

Code	Title	Hours
18 s.h. from these:		
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3350	Criminals in the Making: A Life Course Approach	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4470	Communities and Crime	3

CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
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Students may apply one of the following 3 s.h. courses toward the elective requirement:

CRIM:3500	Policies and Procedures of Policing	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3

Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students generally take the course during their last two semesters of course work for the major, as long as they have completed the statistics requirement; SOC:2170 Research Methods; one of the introductory courses in criminology, law and justice; and at least 6 s.h. of electives.

Code	Title	Hours
CRIM:4400	Internship in Criminal Justice and Corrections	3
SOC:4800	Research Practicum in Sociology	3
SOC:4910	Capstone Course in Sociology	3

Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology and criminology, law and justice courses. In order to graduate with honors, the following course work must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar (taken spring of junior year)	1
SOC:4998	Honors Research (honors thesis)	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct research in close consultation with a faculty member of the student's choice.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the criminology, law and justice major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of course work is important in meeting the four-year plan.

Before the fifth semester begins: two introductory courses and a statistics course

Before the seventh semester begins: both theory and methods courses, three additional introductory courses, two electives, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: a capstone course and two additional electives

During the eighth semester: enrollment in all remaining course work in the major, including SOC:4909 Graduation Portfolio; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Criminology, Law and Justice, B.A.

Course	Title	Hours
First Year		
Fall		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course ^a		4 - 5
Major: introductory Criminology course ^b		3
CSI:1600	Success at Iowa	2
Elective course ^c		1 - 3
Hours		13-17
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: introductory Criminology course		3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^a		4 - 5
Elective course ^c		0 - 2
Hours		13-17
Second Year		
Fall		
SOC:2130	Sociological Theory	3
GE CLAS Core: Natural Sciences with Lab ^d		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^a		4 - 5

Major: Elective course	3
Elective course ^c	0 - 2
Hours	14-17

Spring

Major: introductory statistics course - STAT:1020 Elementary Statistics and Inference recommended ^b	3
Major: Elective course	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^a	4 - 5
Elective course ^c	3
Elective course ^c	1 - 3
Hours	14-17

Third Year

Fall

CRIM:2470	Research Methods in Criminology and Criminal Justice	3
Major: Elective course		3
GE CLAS Core: Historical Perspectives ^d		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

Major: capstone course		3
Major: Elective course		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Fourth Year

Fall

Major: Elective course		3
GE CLAS Core: Natural Sciences without Lab ^d		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Spring

SOC:4909	Graduation Portfolio	0
Major: upper-level sociology elective/track course		3
GE CLAS Core: International and Global Issues ^d		3
Major: Elective course		3
Elective course ^c		3
Elective course ^c		3
Hours		15

Total Hours 114-128

- a Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Career Advancement

The major in criminology, law and justice provides a foundation for graduate or professional study in criminology, criminal justice, sociology, psychology, law, social work, urban planning, education, social policy, and similar areas. The major pairs well with majors in other disciplines, such as psychology and social work, and affords students a competitive edge when applying to graduate school in forensic psychology or social work with a corrections emphasis.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Sociology, B.S.

Learning Outcomes

Students will:

- be able to identify how sociological concepts and theories relate to everyday life,
- possess a critical lens for understanding human behavior and societies,
- articulate the importance of evidence and scientific methods for explanations of social phenomena,
- be able to identify the characteristics of high quality data and methods in sociological research,
- identify disciplinary standards for both the qualitative and quantitative analysis of data, and
- use their sociological knowledge and skills to engage with and impact the world around them.

Overview

A bachelor's degree with a major in sociology provides a liberal arts and sciences education. Sociology provides a broad foundation for a number of careers that require a deep understanding of human interactions and behaviors. Though broad in scope, sociology can be broken down into many marketable specializations including these at the University of Iowa: family, health, and well-being; organizations, networks, and careers; social psychology; and social and political organization.

The department has an active undergraduate organization, the Sociology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

Requirements

The Bachelor of Science with a major in sociology requires a minimum of 120 s.h., including at least 45 s.h. of work for the major, with a minimum of 42 s.h. in sociology course work. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn at least 12 s.h. in sociology course work at the University of Iowa; transfer courses must be approved by a sociology advisor.

The major offers two optional tracks for students with an interest in one of the following concentrations: family, health, and well-being; or organizations, networks, and careers.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science, except B.S. students take 9 s.h. of advanced statistics and three theory and methods courses, while B.A. students take 3 s.h. of statistics and two theory and methods courses.

Choice of a degree program should be dictated by a student's personal career goals. Though not required, students interested in pursuing a graduate program may find the additional math and methods courses helpful.

Students who earn the major in sociology can earn the major in criminology, law and justice. No more than 9 s.h. of major course work can double count for each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

In planning to complete the major, students must take courses in the proper sequence. Introduction to Sociology (SOC:1010) is a prerequisite for all required core theory and methods courses. These introductory courses lay the foundation for all other work in the major. The recommended sequence for the major's core requirements is SOC:1010, SOC:2130 Sociological Theory, and SOC:2170 Research Methods. See the "Four-Year Graduation Plan" under Academic Plans [p. 937] in this section of the Catalog.

The B.S. with a major in sociology requires the following work.

Code	Title	Hours
	Introductory Sociology Course	3-4
	Statistics Courses	9
	Theory and Methods Courses	9
	Electives	21
	Capstone Course	3
	Graduation Portfolio	0
	Total Hours	45-46

Introductory Sociology

Code	Title	Hours
This course:		
SOC:1010	Introduction to Sociology	3-4

Statistics

Code	Title	Hours
All of these:		
SOC:2160	Applied Statistics for Social Scientists	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3

Theory and Methods

Code	Title	Hours
Both of these:		
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3
One of these:		
SOC:4800	Research Practicum in Sociology (may count toward the theory and methods requirement or the capstone requirement, but not both)	3
PHIL:2603	Introduction to Symbolic Logic	3
PHIL:3604	Introduction to Philosophy of Science	3

Electives

Students complete 21 s.h. of elective course work in sociology (prefix SOC). Four of the required electives must

be advanced, chosen from sociology courses numbered 3000-4899, SOC:4920 Social Services Organization Internship, or SOC:4998 Honors Research. With permission, students may use graduate courses in sociology numbered 5000 or above to satisfy the electives requirement. Two of the four advanced required electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory and SOC:2170 Research Methods. Students can use two criminology, law and justice courses (prefix CRIM) toward the electives requirement.

The following courses may not be used as electives.

Code	Title	Hours
SOC:1000	First-Year Seminar	1-2
SOC:4800	Research Practicum in Sociology	3
SOC:4930	Teaching Internship	3
SOC:4990	Directed Individual Study	arr.
SOC:4997	Honors Seminar	1-2

Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students may take it as early as spring of their junior year, as long as they have completed SOC:2130 Sociological Theory, SOC:2170 Research Methods, and one of the approved statistics courses.

Code	Title	Hours
SOC:4800	Research Practicum in Sociology (may count toward the capstone requirement or the theory and methods requirement, but not both)	3
SOC:4910	Capstone Course in Sociology	3
SOC:4920	Social Services Organization Internship	3

Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

Tracks

Family, Health, and Well-Being Track

The family, health, and well-being track requires a minimum of 15 s.h. of credit, including 12 s.h. of course work taken at the University of Iowa. It is open to sociology majors who are interested in understanding family structures and practices, differences between and within families, and those social institutions and forces that shape families or are shaped by them. Additionally, the track cultivates students' understanding of the social context of health, illness, and health care. It is especially well suited for students who are interested in pursuing careers in the fields of social service and health.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The family, health, and well-being track requires the following course work.

Code	Title	Hours
Required Courses		
6 s.h. from these:		
SOC:1310	Gender and Society	3-4
SOC:2710	The American Family	3
SOC:3510	Medical Sociology	3
Electives		
9 s.h. from these:		
SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
SOC:2810	Social Inequality	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4820	Sociology of Sexuality	3
SOC:4902	Selected Topics in Family, Health, and Well-Being	3
CRIM:3420	Juvenile Delinquency	3
CRIM:4430	Interpersonal Violence in Society	3

Or select electives from the following graduate courses, with approval of instructor:

SOC:6220	Seminar: Selected Topics in Social Psychology (when topic is life course)	3
SOC:6310	Gender Stratification Seminar	3

Students also may choose the remaining required course as an elective

Organizations, Networks, and Careers Track

The organizations, networks, and careers track requires a minimum of 15 s.h. of credit, including 12 s.h. of course work taken at the University of Iowa. It is open to sociology majors who are interested in understanding the macro- and micro-level processes that affect the ability to understand and manage organizations, as well as the groups and individuals that compose them. The track provides intensive training in both theoretical and empirical approaches to organizations, and combines micro-level insights into work groups with macro-level perspectives on the influence of organizations' environments. It is especially well suited for students who are interested in pursuing careers in various services-providing sectors such as business services, educational services, social assistance, or government.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The organizations, networks, and careers track requires the following course work.

Code	Title	Hours
Required Courses		
6 s.h. from these:		
SOC:3610	Organizations and Modern Society	3
SOC:3880	The Sociology of Networks	3
SOC:4225	The Social Psychology of Leadership	3
Electives		
9 s.h. from these:		
SOC:1420	Law and Society	3
SOC:2810	Social Inequality	3
SOC:3200	International Perspectives: Xicotepec	1-3
SOC:3650	Education, Schools, and Society	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4903	Selected Topics in Organizations, Networks, and Careers	3
CRIM:4440	Sociology of White-Collar Crime	3
Or select electives from these graduate courses, with approval of instructor:		
SOC:6610	Complex Organizations	3
SOC:7620	Social Network Analysis	3
SOC:7820	Seminar: Selected Topics in Social Stratification (when topic is social capital)	3

Emphasis Areas

The following elective courses are grouped by emphasis for students who may want to cluster their electives according to one of the following areas of interest. The emphasis area courses are not tracks. See Courses [p. 937] in this section of the Catalog for a complete listing of sociology courses.

Social Psychology

Code	Title	Hours
SOC:1220	Principles of Social Psychology	3-4
SOC:3220	Sociology of Mental Illness	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3

Social and Political Organization

Code	Title	Hours
SOC:2810	Social Inequality	3
SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3830	Race and Ethnicity	3
SOC:3850	Economy and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4820	Sociology of Sexuality	3

Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology courses. In order to graduate with honors in sociology, the following course work must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar	1
SOC:4998	Honors Research (honors thesis)	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct sociological research in close consultation with a faculty member of the student's choice.

Honors students also must take at least one sociology course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

National Honor Society

The department sponsors a chapter of Alpha Kappa Delta International Sociology Honor Society. Students who have a cumulative g.p.a. of 3.30, a sociology g.p.a. of at least 3.00 (with four sociology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Kappa Delta faculty advisor for details.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sociology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of course work is important in meeting the four-year plan.

Before the fifth semester begins: SOC:1010 Introduction to Sociology or equivalent, SOC:2130 Sociological Theory, and one sociology elective

Before the seventh semester begins: two required statistics courses, SOC:2170 Research Methods, one more sociology elective, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: the remaining statistics course and one more sociology elective

During the eighth semester: enrollment in all remaining course work in the major, including a capstone course, SOC:4909 Graduation Portfolio, and the last two sociology electives; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Sociology, B.S.

Course	Title	Hours
First Year		
Fall		
SOC:1010	Introduction to Sociology ^a	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^b		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		15-17
Spring		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: sociology elective/track course ^d		3
GE CLAS Core: Values and Culture ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^e		3
Hours		16-18

Second Year

Fall

SOC:2130	Sociological Theory	3
Major: sociology elective/track course ^d		3
GE CLAS Core: Quantitative or Formal Reasoning ^b		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^e		3
Hours		16-17

Spring

SOC:2160	Applied Statistics for Social Scientists	3
Major: sociology elective/track course ^d		3
GE CLAS Core: Natural Sciences with Lab ^b		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Elective course ^e		2 - 3
Hours		16-18

Third Year

Fall

SOC:2170	Research Methods	3
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^b		3
GE CLAS Core: Natural Sciences without Lab ^b		3
Elective course ^e		3
Hours		15

Spring

Major: capstone course		3
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: International and Global Issues ^b		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Fourth Year

Fall

SOC:6170	Introduction to Sociological Data Analysis	3
Major: upper-level sociology elective/track course ^f		3
GE CLAS Core: Historical Perspectives ^b		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

PHIL:3604 or PHIL:2603 or SOC:4800	Introduction to Philosophy of Science or Introduction to Symbolic Logic or Research Practicum in Sociology	3
SOC:4909	Graduation Portfolio	0
SOC:6180	Linear Models in Sociological Research	3
Major: upper-level sociology elective/track course ^f		3
Elective course ^e		3
Elective course ^e		3
Hours		15
Total Hours		123-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students have the option to choose one of two tracks in the major: organizations, networks, and careers; or family, health and well-being.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Upper-level sociology courses (prefix SOC) are numbered 3000 or above. Two of the upper-level electives must be taken after (and not concurrent with) the completion of SOC:2130 and SOC:2170.

Career Advancement

In addition to preparing students for careers in social service, criminal justice, and other areas, this major offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials. The major provides background for employment in fields such as human services, criminal justice, corrections, sales, public relations, advertising, personnel, applied social research, community organization, and teaching social science in secondary schools.

The major also provides a foundation for graduate or professional study in social work, urban planning, law, criminal justice, social policy, and similar areas. Finally, it prepares students to work toward advanced degrees in sociology, which qualify them for college or university teaching and work in academic, private, and governmental research.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Criminology, Law and Justice, B.S.

Learning Outcomes

Students will be able to:

- recognize the causes and consequences of crime at the micro and macro levels and match these with prominent criminological perspectives;
- describe the interrelated institutions and processes of the criminal justice system and legal systems;
- apply theories of crime, legal systems, and criminal justice systems to explain actual and hypothetical scenarios, behaviors, and trends;
- understand the role of formal law in advanced democracies;
- explain the various social science methods of inquiry and use these to test specific criminological research questions;
- recognize and explain social inequities in crime and criminal justice processes by race, social class, gender, region, and age; and
- evaluate the effectiveness of policy interventions for altering social behavior, including those deemed illegal or harmful.

Overview

The criminology, law and justice major examines issues related to race and ethnic diversity, and gender and poverty, heightening awareness of these important topics. Students learn about sociological explanations for crime and criminal justice; the operation of law and the criminal justice system, including their complex interplay with other institutions, such as the economy and politics; and important data sources on crime in the United States and internationally.

The criminology, law and justice course work required for the major is the same for B.S. and B.A. students, but the major for the B.S. includes additional semester hours in theory, statistics, and methods courses.

Requirements

The Bachelor of Science with a major in criminology, law and justice requires a minimum of 120 s.h., including at least 48 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Transfer students must earn at least 24 s.h. in criminology, law and justice course work at the University of Iowa; transfer courses must be approved by a sociology advisor.

Requirements for the major are similar for the Bachelor of Science and the Bachelor of Arts. B.A. students take a minimum of 39 s.h. of course work for the major, while B.S. students take a minimum of 48 s.h. which includes additional theory, statistics, and methods courses.

Students who earn the major in criminology, law and justice can earn the major in sociology. No more than 9 s.h. of major course work can double count for each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

The B.S. with a major in criminology, law and justice requires the following course work.

Code	Title	Hours
Introductory Courses		6-7
Theory, Statistics, and Methods Courses		18
Upper-Level Sociology Requirement		3
Electives		18
Capstone Course		3
Graduation Portfolio Course		0
Total Hours		48-49

Introductory Courses

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
SOC:1010 or SOC:1020	Introduction to Sociology Social Problems	3-4
SOC:1420	Law and Society	3

Theory, Statistics, and Methods

Code	Title	Hours
This course:		
SOC:2130	Sociological Theory	3
One of these:		
CRIM:2470	Research Methods in Criminology and Criminal Justice	3
SOC:2170	Research Methods	3
All of these:		
SOC:2160	Applied Statistics for Social Scientists	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3
One of these:		
SOC:4800	Research Practicum in Sociology (may count toward the theory, statistics, and methods requirement or the capstone requirement, but not both)	3
PHIL:2603	Introduction to Symbolic Logic	3
PHIL:3604	Introduction to Philosophy of Science	3

Upper-Level Sociology Requirement

Code	Title	Hours
3 s.h. from these:		
SOC:2022	Energy and Society	3
SOC:2064	Racial Inequity and the Experiences of African American Families in the U.S.	3
SOC:2710	The American Family	3
SOC:2810	Social Inequality	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3510	Medical Sociology	3
SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:3830	Race and Ethnicity	3
SOC:3850	Economy and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4200	Sociology of Religion	3
SOC:4210	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4820	Sociology of Sexuality	3

Electives

Code	Title	Hours
18 s.h. from these:		
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3350	Criminals in the Making: A Life Course Approach	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3

CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4470	Communities and Crime	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3

Students may apply one of the following 3 s.h. courses toward the elective requirement:

CRIM:3500	Policies and Procedures of Policing	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3

Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students generally take the course during their last two semesters of course work for the major, as long as they have completed the three statistics courses; SOC:2170 Research Methods; one of the introductory courses in criminology, law and justice; and at least 6 s.h. of electives.

Code	Title	Hours
CRIM:4400	Internship in Criminal Justice and Corrections	3
SOC:4800	Research Practicum in Sociology (may count toward the capstone requirement or the theory, statistics, and methods requirement, but not both)	3
SOC:4910	Capstone Course in Sociology	3

Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology and criminology, law, and justice courses. In order to graduate with honors, the following course work must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar	1
SOC:4998	Honors Research	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct research in close consultation with a faculty member of the student's choice.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University honors program.

Membership in the UI Honors Program is not required to earn honors in the criminology, law and justice major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of course work is important in meeting the four-year plan.

Before the fifth semester begins: two introductory courses and a statistics course

Before the seventh semester begins: theory and methods courses, three additional introductory courses, two electives, statistics, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: a capstone course and two more electives

During the eighth semester: enrollment in all remaining course work in the major, including SOC:4909 Graduation Portfolio; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Criminology, Law and Justice, B.S.

Course	Title	Hours
First Year		
Fall		
Major: introductory Criminology course ^a		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency or elective course ^b		4 - 5
CSI:1600	Success at Iowa	2
Elective course ^c		1 - 4
Hours		13-18
Spring		
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
Major: introductory Criminology course		3
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5

Elective course ^c	0 - 3
Hours	13-18

Second Year

Fall

SOC:2130	Sociological Theory	3
Major: Elective course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
Elective course ^c		1 - 3
Hours		14-17

Spring

SOC:2160	Applied Statistics for Social Scientists	3
Major: Elective course		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^b		4 - 5
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^c		0 - 2
Hours		14-17

Third Year

Fall

GE CLAS Core: Natural Sciences without Lab ^d		3
SOC:2170	Research Methods	3
Major: Elective course		3
Elective course ^c		3
Hours		12

Spring

GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Major: capstone course		3
Major: Elective course		3
GE CLAS Core: Values and Culture ^d		3
GE CLAS Core: International and Global Issues ^d		3
Elective course ^c		3
Hours		18

Fourth Year

Fall

GE CLAS Core: Historical Perspectives ^d		3
SOC:6170	Introduction to Sociological Data Analysis	3
Major: Elective course		3
Major: upper-level sociology elective		3
Elective course ^c		3
Hours		15

Spring

SOC:4909	Graduation Portfolio	0
Major: Elective course		3
SOC:4800	Research Practicum in Sociology	3
or PHIL:3604	or Introduction to Philosophy of Science	
or PHIL:2603	or Introduction to Symbolic Logic	
SOC:6180	Linear Models in Sociological Research	3
Elective course ^c		3

Elective course ^c	3
Hours	15
Total Hours	114-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Career Advancement

The major in criminology, law and justice provides a foundation for graduate or professional study in criminology, criminal justice, sociology, psychology, law, social work, urban planning, education, social policy, and similar areas. The major pairs well with majors in other disciplines, such as psychology and social work, and affords students a competitive edge when applying to graduate school in forensic psychology or social work with a corrections emphasis.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Sociology, Minor

The undergraduate minor in sociology requires a minimum of 15 s.h. in sociology courses, including 12 s.h. in courses taken at the University of Iowa. The minor must include SOC:2130 Sociological Theory and a minimum of 9 s.h. in courses numbered 3000 or above. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

A minor in sociology is a good complement to a number of majors, particularly other social sciences, business, elementary education, or health professions.

Criminology, Law and Justice, Minor

CRIM:4410

Treatment Interventions in Corrections

3

The undergraduate minor in criminology, law and justice requires a minimum of 15 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

The minor in criminology, law and justice requires the following course work.

Code	Title	Hours
One of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
SOC:1420	Law and Society	3
12 s.h. from these:		
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3350	Criminals in the Making: A Life Course Approach	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4470	Communities and Crime	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
Students may apply one of the following 3 s.h. courses toward the minor:		
CRIM:3500	Policies and Procedures of Policing	3
CRIM:4400	Internship in Criminal Justice and Corrections	3

Sociology, M.A.

Graduate study in sociology focuses on the Doctor of Philosophy. Students are awarded the M.A. as they fulfill requirements for the Ph.D.

Requirements

The Master of Arts program in sociology requires 30 s.h. of graduate credit with thesis or research paper and 38 s.h. of graduate credit without. The program without thesis is intended for students seeking a terminal degree and for whom a wider range of course content in sociology is appropriate.

All M.A. students must complete the following courses with grades of B-minus or higher.

Code	Title	Hours
SOC:5110	History of Sociological Theory	3
SOC:5160	Research Design and Methods	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3

Teaching Assistantship Training

All new graduate teaching assistants (TAs) are expected to attend a three-day orientation before classes begin. In addition, SOC:7010 Teaching Sociology is required for students who wish to teach their own courses.

Admission

Admission to graduate study in sociology usually requires an undergraduate g.p.a. of at least 3.25 and a score of 300 or higher (total for quantitative and verbal) on the Graduate Record Examination (GRE) General Test. Students whose first language is not English should submit scores on the Test of English as a Foreign Language (TOEFL).

Applicants also must complete the Graduate College application form, the supplemental sociology department application, and use the department's personal reference forms to obtain three letters of recommendation.

All application materials for fall admission must be received by January 1. The deadline for applying for departmental financial support is January 1. Evaluation of applications begins in early January.

Admission decisions are based on consideration of prior academic performance, personal reference letters, scores on the GRE General Test, and the applicant's statement of reasons for pursuing advanced work in sociology at the University of Iowa. The department has no specific undergraduate course requirements for admission, but a background in the social sciences with some mathematical training is useful. A foreign language is not required for admission, and there is no foreign language requirement for a graduate degree in sociology. To inquire about admission, consult the chair of the admissions committee, Department of Sociology.

Financial Support

The Department of Sociology offers teaching assistantships and research assistantships for graduate students. Students who receive one-half-time teaching or research assistantships work 20 hours each week for faculty members on either teaching or research assignments. Out-of-state students who hold assistantships are assessed tuition at the resident rate. Graduate students also may be eligible for fellowships offered by the Graduate College.

Career Advancement

In addition to preparing students for careers in social service, criminal justice, and other areas, the sociology major offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials. The degree also prepares students for further graduate or professional study in areas such as social work, urban and regional planning, law, criminal justice, and social policy. Teaching positions in colleges or universities and research positions in academic, private, and governmental organizations often require advanced degrees in sociology.

The Pomerantz Career Center and Graduate & Postdoctoral Career Services offer multiple resources to help students find internships and jobs.

Sociology, Ph.D.

Graduate study in sociology focuses on the Doctor of Philosophy. Students are awarded the M.A. as they fulfill requirements for the Ph.D.

The Doctor of Philosophy emphasizes research. Opportunities for research using survey, experimental, and observational methods are readily available in the department.

Requirements

The Doctor of Philosophy program in sociology requires a minimum of 72 s.h. of graduate credit. Most courses for the Ph.D. are taken in a student's two areas of interest, but all doctoral students must complete the following courses.

Code	Title	Hours
SOC:6170	Introduction to Sociological Data Analysis (required for the M.A.)	3
SOC:6180	Linear Models in Sociological Research (required for the M.A.)	3

Two elective courses in methods/statistics numbered 5000 or above

One advanced theory course such as SOC:6110

Students also must pass two area examinations, write and defend a dissertation prospectus, and write and successfully defend a dissertation.

Doctoral students take two area exams—one from list A, the other from list B. List A has seven standing committees: social psychology, crime, law, stratification, organizations, gender, and political sociology. For the list B exam, a student may propose any area that is not covered under list A and for which there is adequate faculty support.

For a detailed statement of graduate study regulations, contact the Department of Sociology. Prospective doctoral students should examine this document carefully.

Teaching Assistantship Training

All new graduate teaching assistants (TAs) are expected to attend a three-day orientation before classes begin. In addition, SOC:7010 Teaching Sociology is required for students who wish to teach their own courses.

Combined Programs

Ph.D./J.D.

The Department of Sociology and the College of Law offer the combined Juris Doctor/Doctor of Philosophy. The program is highly individualized, allowing students to explore varied aspects of the relationship between law and society. Combined degree program Ph.D./J.D. students may count up to 12 s.h. of graduate credit toward both degrees, with approval from the Department of Sociology and the College of Law.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Admission to graduate study in sociology usually requires an undergraduate g.p.a. of at least 3.25 and a score of 300 or higher (total for quantitative and verbal) on the Graduate Record Examination (GRE) General Test. Students whose first language is not English should submit scores on the Test of English as a Foreign Language (TOEFL).

Applicants also must complete the Graduate College application form, the supplemental sociology department application, and use the department's personal reference forms to obtain three letters of recommendation.

All application materials for fall admission must be received by January 1. Evaluation of applications begins in early January.

Admission decisions are based on consideration of prior academic performance, personal reference letters, scores on the GRE General Test, and the applicant's statement of reasons for pursuing advanced work in sociology at the University of Iowa. The department has no specific undergraduate course requirements for admission, but a background in the social sciences with some mathematical training is useful. A foreign language is not required for admission, and there is no foreign language requirement for a graduate degree in sociology. To inquire about admission, consult the chair of the admissions committee, Department of Sociology.

Financial Support

The Department of Sociology offers teaching assistantships and research assistantships for graduate students. Students who receive one-half-time teaching or research assistantships work 20 hours each week for faculty members on either teaching or research assignments. Out-of-state students who hold assistantships are assessed tuition at the resident rate. Graduate students also may be eligible for fellowships offered by the Graduate College.

The deadline for applying for departmental financial support is January 1.

Career Advancement

The program of study for the Ph.D. primarily aims to prepare sociologists for academic positions in colleges and universities or for research positions in academic, private, and government institutions.

In addition to preparing students for careers in social service, criminal justice, and other areas, this major offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials. The degree also prepares students for further graduate or professional study in areas such as social work, urban and regional planning, law, criminal justice, and social policy.

The Pomerantz Career Center and Graduate & Postdoctoral Career Services offer multiple resources to help students find internships and jobs.

Spanish and Portuguese

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Chair, Department of Spanish and Portuguese

- Denise K. Filios

Undergraduate majors: Spanish (B.A.); Portuguese (B.A.)

Undergraduate minors: Spanish; Portuguese

Graduate degrees: M.A. in Spanish; M.F.A. in Spanish creative writing; Ph.D. in Spanish

Faculty: <https://clas.uiowa.edu/dwllc/spanish-portuguese/people>

Website: <https://clas.uiowa.edu/dwllc/spanish-portuguese>

The Department of Spanish and Portuguese offers undergraduate majors and minors, graduate degree programs, and course work for students in other disciplines. The department provides a wide selection of courses in Spanish and Portuguese, languages that are spoken in many cultures around the world and are important in the study of literature, art, film, and many other areas. Spanish and Portuguese language courses are open to any student who has satisfied the course prerequisites.

In addition to language courses, the department offers general interest courses on literature, film, and culture that are taught in English. It also participates in several study abroad programs.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core [p. 459] with courses in Spanish or Portuguese; see "Language for GE CLAS Core" below. The department also offers other courses that are approved for GE CLAS Core and are taught in English and a First-Year Seminar designed for entering undergraduates.

Elementary and intermediate courses in Spanish language interrelate five performance goals—listening, reading, speaking, writing, and cultural knowledge—in a staged progression whose overall goal is to develop proficiency. The curriculum emphasizes acquisition of Spanish language skills in communicative contexts, enrichment of vocabulary through an introduction to Hispanic culture, and development of grammatical accuracy in speaking and writing.

The beginning course in Portuguese is for students without previous study or experience with the language. There also is a special Portuguese course for students who already know Spanish. Portuguese classes provide a great deal of individual attention in an informal language-learning environment. Courses emphasize speaking, comprehending, reading, and writing Brazilian Portuguese. They incorporate cultural material in the form of videos and music.

The Department of Spanish and Portuguese is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 336].

Language for GE CLAS Core

The Department of Spanish and Portuguese offers course sequences that students in all majors may use to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students who have previous course work or other experience with Spanish should take the online Placement Test, which helps determine the level at which a student should begin Spanish language study at the University of Iowa. Students should take the test before they register for their first University of Iowa Spanish course. Students with experience in Portuguese should contact the general education coordinator to determine the level at which they should begin language study at the University of Iowa.

Spanish

The following course sequences in Spanish satisfy the GE CLAS Core World Languages requirement. For students without previous knowledge of Spanish, the department recommends the following sequence.

Code	Title	Hours
SPAN:1001	Elementary Spanish I	5
SPAN:1002	Elementary Spanish II	5
SPAN:1501	Intermediate Spanish I	5
SPAN:1502	Intermediate Spanish II	5

Those with previous knowledge of Spanish may be able to fulfill the World Languages requirement with the following sequence.

Code	Title	Hours
SPAN:1003	Elementary Spanish Review	5
SPAN:1501	Intermediate Spanish I	5
SPAN:1502	Intermediate Spanish II	5

Students should consult a departmental advisor to determine which sequence is best for them.

Portuguese

The following course sequences in Portuguese fulfill the GE CLAS Core World Languages requirement. The first option consists of two intensive courses that combine two semesters into one, so that the sequence is completed in a total of two semesters rather than four. Both courses are open to entering first-year students.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2500	Accelerated Intermediate Portuguese	5

The second option requires three courses taken in the following sequence to complete the World Languages requirement.

Code	Title	Hours
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3
PORT:2500	Accelerated Intermediate Portuguese	5

Students should consult the general education coordinator to determine which sequence is best for them.

Related Certificates and Minors

Minor and Certificate: Latin American Studies

The department plays an important role in the Latin American Studies Program, which focuses on the history, politics, social

organization, economy, art, music, religion, and literature of Latin America. See Latin American Studies [p. 689] in the Catalog for information about the program's undergraduate certificate and minor.

Minor: Translation for Global Literacy

The minor in translation for global literacy encourages undergraduate students to explore translation as a crucial dimension of global literacy and communication. The Department of Spanish and Portuguese offers several courses that count toward the minor. See the minor in translation for global literacy [p. 1030] in the Catalog for more information.

Certificate: International Business

The College of Liberal Arts and Sciences and the Tippie College of Business offer the Certificate in International Business. The program entails study of international business and economics; international relations and institutions; a language; and the art, literature, culture, and/or politics of a geographic area. For more information, see the Certificate in International Business [p. 1093] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Spanish (Bachelor of Arts) [p. 976]
- Major in Portuguese (Bachelor of Arts) [p. 981]

Minors

- Minor in Spanish [p. 984]
- Minor in Portuguese [p. 985]

Graduate Programs of Study

Majors

- Master of Arts in Spanish [p. 986]
- Master of Fine Arts in Spanish Creative Writing [p. 987]
- Doctor of Philosophy in Spanish [p. 988]

Facilities

Language Media Center

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small-group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of

Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Spanish Writing and Speaking Center

The Spanish Writing and Speaking Center helps students understand their assignments and assists them in recognizing what constitutes good Spanish writing. Tutors and students brainstorm ideas for a paper, generate outlines, organize information, and explore dictionaries and other resources to avoid direct translations from English to Spanish. Tutors also provide students with tools for future writing assignments.

The center assists students with reading comprehension, preparing oral presentations, and gaining the confidence to speak in class. Any student enrolled in SPAN:1502 Intermediate Spanish II or above can use the services of the center free of charge by making an appointment online.

Courses

- Spanish Courses [p. 968]
- Portuguese Courses [p. 974]

Spanish and Portuguese language courses are open to all students who have satisfied the specified course prerequisites.

Basic Spanish courses are included in the number range SPAN:1000-SPAN:1900. Students must have permission from the chair of the Department of Spanish and Portuguese to take an elementary course for credit after having completed a higher-level course for which the elementary course or its equivalent is a prerequisite.

Spanish Level 1 courses are included in the number range SPAN:2000-SPAN:2999. Students should take these courses at the start of the Spanish major.

Spanish Level 2 courses are included in the number range SPAN:3000-SPAN:3999. Students should have at least one Spanish Level 1 course before starting these courses. Some courses have additional prerequisites.

Language skills courses are numbered SPAN:3000-SPAN:3099.

Hispanic linguistics courses are numbered SPAN:3100-SPAN:3199.

Spanish American literature and culture courses are numbered SPAN:3200-SPAN:3599.

Spanish literature and culture courses are numbered SPAN:3600-SPAN:3899.

Spanish Level 3 courses are included in the number range SPAN:4000-SPAN:4999. Undergraduates should take these courses during their last semesters of enrollment. These courses also are open to M.A. students. All of these courses require a research paper. Prerequisites vary.

Spanish Graduate courses are included in the number range SPAN:5000-SPAN:7600.

Spanish Courses

SPAN:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

SPAN:1001 Elementary Spanish I 5 s.h.

Emphasis on oral and written skills. Taught in Spanish. Recommendations: no previous study of Spanish. GE: World Languages First Level Proficiency.

SPAN:1002 Elementary Spanish II 5 s.h.

Continuation of SPAN:1001; emphasis on oral and written skills. Taught in Spanish. Requirements: SPAN:1001. GE: World Languages Second Level Proficiency.

SPAN:1003 Elementary Spanish Review 5 s.h.

Intensive treatment of material presented in SPAN:1001 and SPAN:1002. Taught in Spanish. Requirements: two years of secondary school Spanish. GE: World Languages Second Level Proficiency.

SPAN:1501 Intermediate Spanish I 5 s.h.

Communication in speaking and writing; cultural topics. Taught in Spanish. Requirements: SPAN:1002 or SPAN:1003. GE: World Languages Second Level Proficiency.

SPAN:1502 Intermediate Spanish II 5 s.h.

Continuation of SPAN:1501. Requirements: SPAN:1501. GE: World Languages Fourth Level Proficiency.

SPAN:1503 Accelerated Intermediate Spanish 6 s.h.

Course sequence SPAN:1501 and SPAN:1502 in one semester. Requirements: SPAN:1002 or SPAN:1003. GE: World Languages Fourth Level Proficiency.

SPAN:1610 Hispanic Cultural Activities Attendance 1 s.h.

Attendance at Spanish literary readings, scholarly presentations, and Hispanic cultural events on the University of Iowa campus and in Iowa City; features visiting, local, and University of Iowa writers, filmmakers, artists, and scholars.

SPAN:1700 Latino/a Literature in the U.S. 3 s.h.

Introduction to growing cultural production of varied Latino communities (e.g., Chicano, Puerto Rican American/Nuyorican, Cuban American) that have a strong presence in the United States; recent cultural production from borderland transcultural spaces with physical, cultural, economic, political, and mythical elements; visions of the United States from contemporary Latin American writers who recently have become U.S. residents. Taught in English. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as LATS:1700.

SPAN:1800 Contemporary Spanish American Narrative 3 s.h.

Themes and narrative techniques in major texts, 1960-present; overview of cultural, sociopolitical aspects. Taught in English, readings in English. GE: Literary, Visual, and Performing Arts.

SPAN:1900 Diversity and Cultures in Spain 3 s.h.

Introduction to diversity of cultures within Spain; political, social, and economic background, cultural movements. Taught in English. GE: Values and Culture.

SPAN:2000 Spanish Language Skills: Writing 4 s.h.

Bridge from second-year Spanish to more advanced courses in Spanish language, linguistics, and literature; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2005 Writing Global Spanish 3 s.h.

Spanish in the digital age; linguistic varieties of Spanish spoken globally; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as LATS:2005.

SPAN:2010 Spanish Language Skills: Speaking 3 s.h.

Development of conversational proficiency and cultural competence through action learning; strategic role playing and creative language use based on everyday situations in Hispanic cultures; composition skills and grammar review. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2020 Hispanic Institute: Language 3 s.h.

Grammar essentials, written exercises, short compositions, conversational activities. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2030 Study of Language: Myths and Concepts 3 s.h.

How linguists look at language; basic concepts of linguistics and grammar. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2040 Spanish for Heritage Speakers 3 s.h.

Development of reading and writing skills for bilingual students who have acquired listening and speaking skills in Spanish; review of grammar and registers of use. Same as LATS:2040.

SPAN:2050 Spanish in the U.S. 3 s.h.

Issues related to Spanish in the United States; aspects of linguistics and sociolinguistics inherent to the existence and proliferation of Spanish in the United States. Taught in English. Same as LATS:2050.

SPAN:2060 Spanish Pronunciation 4 s.h.

Pronunciation as a key element of communication in a second language; self evaluation of pronunciation in Spanish; how sounds differ between English and Spanish; analysis of pronunciation; production exercises. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2090 Medical Spanish in Contemporary Society 4 s.h.

Vocabulary related to medical field; grammatical concepts; health-related cultural competence; discussion of health issues concerning Hispanic communities in the U.S. and abroad. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as GHS:2090.

SPAN:2095 Activities Attendance for Spanish Majors 1 s.h.

Attendance at Spanish literary readings, scholarly presentations, and Hispanic cultural events on the University of Iowa campus and in Iowa City, featuring visiting, local, and University of Iowa writers, filmmakers, artists, scholars, and community members. Taught in Spanish. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060.

SPAN:2200 Introduction to Spanish American Cultures 3 s.h.

Introduction to study of cultural history of Spanish America; topics range from precolombian times to present; for students who are just starting work on the Spanish major or minor. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2280 Introduction to Latina/o Studies 3 s.h.

Introduction to field of Latina/o studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o populations (Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). GE: Diversity and Inclusion. Same as HIST:2280, LATS:2280.

SPAN:2300 Introduction to Reading Literature 4 s.h.

Close readings of literary texts from Spain and Spanish America; basic concepts of genre (narrative, poetry, theater, essay); writing about literature. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2400 Readings in Spanish Literature 3 s.h.

Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on literature of Spain. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2500 Readings in Spanish American Literature 3 s.h.

Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on Spanish American literature. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2700 Introduction to Latin American Studies 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as COMM:2800, IS:2700, LAS:2700, PORT:2700.

SPAN:2800 Screening Latin America 3 s.h.

Latin American film; histories of the four major national film industries; aesthetic and political debates surrounding the New Latin American Cinema movement of the 1960s and 1970s. Requirements: SPAN:1502 or SPAN:1503. Same as LAS:2800.

SPAN:2810 Screening Spain 3 s.h.

Introduction to contemporary Spanish society and culture through fiction feature films (comedies and dramas) and documentaries by major filmmakers; previous knowledge of Spanish film or audiovisual analysis not required. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2850 Brazilian Narrative in Translation 3 s.h.

Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as PORT:2850.

SPAN:2900 Music of the Hispanic World 3 s.h.

Introduction to music of Spain and Latin America, including the United States; listening skills, music appreciation, continuing development of Spanish language skills. Requirements: SPAN:1502 or SPAN:1503.

SPAN:2910 Hispanic Institute: Study/Life in Spain 1 s.h.**SPAN:3000 Writing Skills for Heritage Speakers 3 s.h.**

Development of writing skills in Spanish, focus on expository writing for academic purposes. Requirements: at least two courses taught in Spanish at the 2000 level or above. Same as LATS:3000.

SPAN:3005 Study Abroad in the Hispanic World: Return and Reflect 3 s.h.

Students integrate culture and language learning achieved in a foreign country into their Spanish studies at the University of Iowa through extensive writing exercises and oral presentations; for students returning from study abroad. Requirements: completion of study abroad program.

SPAN:3010 Advanced Spanish Speaking and Writing 3 s.h.

Development of oral proficiency; secondary emphasis on continuing development of writing skills; cultural knowledge of several Spanish-speaking countries. Requirements: two courses taught in Spanish at the 2000 level or above.

SPAN:3015 Fast Fixes: Improved Spanish in Six Weeks 1 s.h.

Varied topics focused on improving common problems with Spanish grammar; emphasis on written and oral expression. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060 or SPAN:3070.

SPAN:3020 Journalistic Writing in Spanish 3 s.h.

Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as LATS:3020.

SPAN:3030 Translation Workshop: English to Spanish 3 s.h.

Introduction to translation theory and effective translation processes; examination of potential translation problems in specific areas of English to Spanish translation; primary focus on nonfiction. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3035 Translation Practicum: English to Spanish 1 s.h.

Students develop a plan of work in consultation with instructor and submit a community outreach translation project (English to Spanish) for a local nonprofit organization of their choice, periodical translation reports, and a final portfolio of their work. Taught in Spanish. Prerequisites: SPAN:3030 with a minimum grade of B.

SPAN:3040 Business Spanish 3 s.h.

Clear, concise business writing; emphasis on linguistic and cultural proficiency. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3050 Translation Workshop: Spanish to English 3 s.h.

Spanish to English literary translation; meaning, form and equivalence, authenticity; questions of untranslatability. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3060 Introductory Workshop on Creative Writing in Spanish 3 s.h.

Development of writing skills in Spanish through creative writing. Taught in Spanish. Requirements: one course numbered SPAN:2000 or above.

SPAN:3070 Introductory Workshop Writing Scripts 3 s.h.

Development of writing skills in Spanish through writing scripts. Taught in Spanish. Requirements: at least one course numbered SPAN:2000 or above.

SPAN:3080 Spanish for International Business 3 s.h.

Tools for effective business communication; linguistic, sociolinguistic, and practical skills for effective oral and written communication developed through discussion of business case studies, presentations, and meetings; selected Spanish and Latin American companies examined through varied media including news and internet; role of transaction intermediaries in international trade. Requirements: at least one course numbered SPAN:3000 or above.

SPAN:3090 Spanish at Work 1 s.h.

Uses for a Spanish degree; knowledge and skills gained as a Spanish major that are in high demand among a wide variety of employers; important steps taken as a student that translate unique career dreams into reality; includes work with Pomerantz Career Center staff. Requirements: at least two courses numbered SPAN:2000 or above.

SPAN:3091 Spanish Creative Literacy Outreach 1 s.h.

Hands-on outreach experience for Spanish majors and minors who develop and participate in activities for the Spanish Creative Literacy Project. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060.

SPAN:3092 Spanish in the Community 3 s.h.

Students work directly with Spanish speakers through community-based service learning; focus on issues of interest to the local Latina/o community, develop oral proficiency, and enhance their civil engagement. Requirements: two courses numbered SPAN:2000 or above.

SPAN:3095 Spanish Composition and Grammar 3 s.h.

Development of three types of compositions; selected readings and comprehension activities; vocabulary expansion; grammar review with exercises. Requirements: proficiency in written and oral Spanish, based on several university Spanish classes (about half the course work towards a Spanish major), plus study-abroad experience in a Hispanic country.

SPAN:3096 Advanced Spanish Grammar 3 s.h.

Comprehensive grammar review of standard written Spanish; explanations and examples, exercises on vocabulary and grammar, discussion of video interviews. Requirements: high communicative proficiency in using the Spanish language, both written and oral, based on extensive experience in the classroom and in the real world (e.g., finishing up a university Spanish major, prior study or residence abroad in Hispanic countries).

SPAN:3100 Structures of Spanish: Words and Sentences 3 s.h.

Basic concepts and methods for analysis of linguistics as applied to Spanish word formation (morphology), sentence patterns (syntax), and semantic interpretation. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3110 Spanish Sound Structure 3 s.h.

Articulation of Spanish sounds—description and practice; how Spanish sounds are organized into classes, relations among the different classes, how they are implemented in context, patterns they exhibit. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3120 Foundations in Sociolinguistics 3 s.h.

Dialects, speech communities, variation, choosing a code, solidarity and politeness, language and gender, language planning. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3130 Introduction to Bilingualism 3 s.h.

Psycholinguistic and sociolinguistic aspects of bilingualism; language usage, maintenance, attitudes, shift, transfer, loss; code-switching. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3150 Spanish Applied Linguistics 3 s.h.

Concepts of linguistic analysis applied to Spanish; focus on problematic areas of Spanish grammar, lexicon, semantics; introduction to cross-cultural pragmatics; connections between language learning and technology and assessment; ideal for future teachers of Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3170 Introduction to Spanish Language Acquisition 3 s.h.

Basic principles of language acquisition theory applied to learning Spanish as a first or second language. Requirements: at least one course taught in Spanish at the 2000 level or above. Recommendations: completion of SPAN:3100.

SPAN:3190 Psycholinguistic Aspects of Bilingualism 3-4 s.h.

Interaction of two languages in a bilingual in terms of sound system, words, and grammar; different meanings of bilingualism, how bilingualism and multilingualism can change across lifespan. Taught in English. Requirements: linguistics or language acquisition course. Same as FREN:3190, LING:3190.

SPAN:3195 Spanish Linguistics Lab I 1 s.h.

Hands-on research experience collecting and analyzing linguistic data.

SPAN:3200 Latin American Cultural Studies 3 s.h.

Interdisciplinary, multiregional approach to Latin American history, society, politics, economics, and culture. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3210 Cultural Storytelling 3 s.h.

Examination of memoir, short story, and journalism from Latin America to distinguish truth from accuracy and individual choices within cultural norms; course will enrich students' Spanish language fluency and writing as well as their knowledge of Latin American cultures. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3215 Medellín 3 s.h.

Medellín, Colombia has been transformed from one of the most violent places on Earth to an award-winning city of innovation in only 20 years; introduction to the city and its people through literature, music, and a digital map project. Requirements: at least one course numbered SPAN:2000 or above.

SPAN:3230 Modern Mexico 3 s.h.

Twentieth-century Mexican cultural history, including nationalism, gender relations, indigenous cultures, border issues, and popular culture; materials range from journalistic and literary writing to film, music, images, and television. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3240 Mexico City 3 s.h.

Broad historical survey of Mexico City as center of cultural life in Mexico and Latin America and city of global importance; conquest and contemporary narratives, visual culture, music, and film. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3290 Topics in Cinema and Society 3 s.h.

Concept of national cultures examined through film history in one Latin American nation. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3295 Topics in Film and Culture 3 s.h.

Role of film in cultural transformations; art and politics of film; audiovisual media and culture. Taught in English. Requirements: at least one course in literature and/or culture taught in English or Spanish at the 2000 level.

SPAN:3310 Spanish American Short Story 3 s.h.

Works by 19th- and 20th-century Spanish American writers; emphasis on reading strategies and historical, cultural, literary backgrounds. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3320 Spanish American Poetry 3 s.h.

Poetry as a literary genre, short history of its development, early forms in Spanish America, poets from Modernism to present; readings from writers including Rubén Darío, Pablo Neruda, César Vallejo, Octavio Paz, J.L. Borges. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3350 Contemporary Spanish American Literature 3 s.h.

Comprehensive view of 20th-century literature from Spanish-speaking countries in the Americas, including narrative and poetry; examination of issues related to texts and contexts through written and oral analysis. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3370 Topics in Literatures and Cultures 3 s.h.

Literature and culture of specific regions, countries, or cities of Latin America. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3400 Chicano Literature and Culture 3 s.h.

Recent fiction and poetry by Chicano and Chicana writers; readings in Spanish and English. Taught in English. Requirements: satisfaction of GE CLAS Core Interpretation of Literature, or LATS:2280 or SPAN:2280 or HIST:2280. Same as LATS:3400.

SPAN:3440 Topics in Latino/a Literature and Culture 3 s.h.

Examination of special topics in interdisciplinary field of Latina/o studies. Taught in Spanish or English. Requirements: one course taught in Spanish at the 2000 level or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as LATS:3440.

SPAN:3500 Topics in Culture of the Hispanic World 3 s.h.

Specific topics; culture of different parts of Spanish-speaking world, or cross-regional or cross-national cultural phenomenon. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3520 Introduction to Film Studies 3 s.h.

Introduction to film analysis and theory; focus on Latin American and Spanish cinemas in context of international film history. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3550 Doing Business in Latin America 3 s.h.

Introduction to cultural, social, economic, political, and historical contexts of Latin American countries and Spain and their interdependence with the United States; fundamental economic and political concepts necessary to understand the current socioeconomic and political reality of Spanish-speaking countries; students develop the ability to conduct business in Spanish, gaining a working knowledge of business vocabulary, and applying this knowledge in interactive ways. Requirements: at least one course numbered SPAN:2000 or above.

SPAN:3600 Cultures of Spain 3 s.h.

Political, religious, social, economic background; important cultural, literary movements. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3610 Hispanic Institute: Culture 3 s.h.

Overview of geography, history (political, economic, social), architecture, painting, music of Spain; readings, slides, video and audio cassettes, visits to local sites of cultural significance. Requirements: SPAN:1502 or SPAN:1503.

SPAN:3620 Madrid 3 s.h.

Contemporary Madrid as one of the premier capital cities of the European Union; history and present day reality of the city; examination of paintings, descriptions, movies, fashion, and customs from several historical periods. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3630 Spanish Youth Culture 3 s.h.

Literary texts, films, and music produced by young people in Spain from 1939 to present; gender issues and relationships between market, popular culture, and high culture. Requirements: one course taught in Spanish at the 2000 level or above.

SPAN:3690 Iowa Global Internship in Madrid 3 s.h.

Intensive language and eight-week internship in Madrid through the Tippie College of Business Madrid Internship Program; writing an extensive report in Spanish. Requirements: at least two courses taught in Spanish at the 2000 level or above.

SPAN:3750 Literature in the Time of Cervantes 3 s.h.

Introduction to literary questions of 15th to 17th centuries in Spain; understanding of literary Spanish and cultural issues of the period—end of the feudal mind, beginning of individualism, poetry, emergence of theater, crisis of empire. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3790 Hispanic Institute: Literature 3 s.h.

Introduction to poetry, narrative, and theater in Spanish literature; textual commentary and critical interpretations of major representative works of selected historical periods. Requirements: SPAN:1502 or SPAN:1503.

SPAN:3820 Modern and Contemporary Spanish Literature 3 s.h.

Works of the last 30 years of the 19th century, up to the outbreak of the Spanish Civil War; Realism, Naturalism, generation of 1898, generation of 1913, generation of 1927. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3840 Contemporary Spanish Short Story 3 s.h.

Contemporary short stories from 20th- and 21st-century Spain; emphasis on reading strategies and interpretation skills; focus on historical and social contexts. Requirements: at least one course taught in Spanish at the 2000 level or above.

SPAN:3850 Topics in Cultural Studies 3 s.h.

Specific topics; interdisciplinary approaches; cultural relations of different parts of Portuguese-speaking world, cross-regional or cross-national discourses. Taught in English. Same as PORT:3850.

SPAN:4100 Introduction to Spanish Phonology 3 s.h.

Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Same as SLA:4301.

SPAN:4140 History of the Spanish Language 3 s.h.

Development of phonetic, morphological, syntactical properties of the Spanish language from its Latin roots; emphasis on internal history and process of expansion from a minor dialect (Castilian) to a significant world language. Prerequisites: SPAN:3110 or SPAN:3100.

SPAN:4150 Introduction to Spanish Syntax 3 s.h.

Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis. Prerequisites: SPAN:3100. Same as SLA:4300.

SPAN:4160 Language, Justice, and the Law 3 s.h.

Focus on language policy, immigrants' linguistic rights, and cultural communication in the context of U.S. law; development of Spanish language skills in legal and cultural contexts. Requirements: two courses in Spanish numbered 3000 or above.

SPAN:4170 Linguistic Aspects of Second Language Acquisition 3 s.h.

Theoretical linguistic approaches to acquisition of Spanish as a second language. Prerequisites: SPAN:3100 or SPAN:3170 or SPAN:3110.

SPAN:4190 Topics in Hispanic Linguistics 3 s.h.

Prerequisites: SPAN:3100 or SPAN:3110 or SPAN:3120 or SPAN:3130. Requirements: completion of at least one Hispanic linguistics course.

SPAN:4195 Spanish Linguistics Lab II 3 s.h.

Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.

SPAN:4330 Colonial Spanish American Literature 3 s.h.

Readings from the formative period of Spanish American culture; may include discovery and conquest, ethnicity and gender, dissent and popular resistance. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4350 Twentieth-Century Spanish American Theater and Performance 3 s.h.

Introduction to 20th-century Spanish American theater; study of five major playwrights; readings of plays with analysis of performances. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4360 The Orient in Contemporary Latin American Literature and Culture 3 s.h.

Orientalism, cultural hybridity, racial and gender construction in contemporary Latin American literature and culture; Latin American identity in era of globalization. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4390 Topics in Spanish American Literature 3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4620 Spanish Golden Age Fiction 3 s.h.

Literature and society in first centuries of Spanish Modernity, Renaissance and Baroque periods, love and the self, alienation, utopias, the body and morals, cultural dimensions of genres. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4630 Society and Poetry: Spanish Lyric 3 s.h.

Twentieth-century Spanish lyric poetry in its sociocultural context. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4650 Don Quijote 3 s.h.

Exploration of Cervantes' *Don Quijote*; sociohistorical context, questions of human existence, literary tradition, metafiction, influence of *Don Quijote* on novelists and filmmakers, critical reception of the text. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4690 Topics in Spanish Literature 3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4810 Topics in Latin American Cinema 3 s.h.

Taught in English. Prerequisites: CINE:1601. Requirements: one Spanish literature or culture course numbered above SPAN:3200 or one film studies course. Same as CINE:4678, LAS:4678.

SPAN:4815 Lost Childhoods: Marginal Children of Latin America 3 s.h.

Focus on lost childhoods from a cultural studies perspective; analysis of marginal perspectives that emerge from a globalized urban landscape; evolution of literary, artistic (art, photography, comics), and film productions about dispossessed children, the construction of childhood by nongovernmental and nonprofit organizations, and how these cultural productions denounce social violence. Requirements: two courses numbered SPAN:3000 or above.

SPAN:4820 Latino/a Popular Culture 3 s.h.

Role of Latino/a popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Taught in English. Requirements: either one literature or culture course taught in Spanish numbered SPAN:3200 or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as LATS:4800.

SPAN:4830 The Hispanic World in the Digital Era 3 s.h.

Global digital space and construction of culture in Hispanic world; how digital data creates knowledge and ways it represents and impacts societies; power of computer technology to disseminate critical thinking, social outreach, and creative expressions; how digital realities and tools of constant communication promote change. Requirements: two literature or culture courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4840 Visual Culture in Modern and Contemporary Spain 3 s.h.

How to analyze different types of images in connection to the social and political developments of modern and postmodern Spain; special attention given to the role that images played in the periods of political turmoil that defined modern Spanish history. Requirements: two courses taught in Spanish and at least one numbered SPAN:3000 or above.

SPAN:4850 Topics in Cultural Studies 3 s.h.

Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above.

SPAN:4870 Islamic Cultural Presence in Spain 3 s.h.

Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above. Same as RELS:4870.

SPAN:4880 Comic Books and Graphic Novels in the Hispanic World 3 s.h.

Analysis of comics and graphic novels from Hispanic world; diverse Hispanic representational perspectives on creativity, humor, storytelling, culture, politics, nationality, and ethnicity; opportunity for students to express their own creativity with comics. Recommendations: two literature or culture courses taught in Spanish, at least one of which must be numbered SPAN:3200 or above.

SPAN:4900 Latin American Studies Seminar 3 s.h.

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, CL:4700, HIST:4504, LAS:4700, PORT:4700.

SPAN:4910 Topics in Literary Studies 3 s.h.

Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.

SPAN:4920 Topics in Film Studies 3 s.h.

Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above.

SPAN:4925 Topics in Film Narrative 3 s.h.

Exploration of relationship between film narratives and social systems. Taught in English. Requirements: at least one course in literature and/or culture taught in English or Spanish at the 3000 level.

SPAN:4950 Advanced Workshop on Creative Writing in Spanish 3 s.h.

In-depth consideration of characters, dialog, conflict, setting, point of view, other fundamentals of fiction; experience writing short stories and other pieces, with class discussion; fictional texts by renowned writers, authors' essays on their own creative process; narrative strategies of short stories, songs, painting, films. Requirements: one creative writing course in Spanish and one literature course in Spanish numbered SPAN:3300 or above, or two literature courses in Spanish numbered SPAN:3300 or above.

SPAN:4980 Advanced Translation: Spanish to English 3 s.h.

Examination of translation through practical exercises and readings related to the problem of working with literature between languages; questions related to style and form as well as historical and cultural distance will be examined. Requirements: SPAN:3030 or SPAN:3050 and one literature course taught in Spanish.

SPAN:4998 Honors: Research and Thesis 2-3 s.h.

Requirements: honors standing.

SPAN:4999 Special Work 1-3 s.h.**SPAN:5000 Teaching and Learning Languages** 3 s.h.

Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Same as FREN:5000, GRMN:5001, SLA:5000, WLLC:5000.

SPAN:5001 Introduction to Graduate Study 2 s.h.

Expectations, resources, and opportunities of graduate study; introduction to course work, development of preprofessional competencies. Same as FREN:5001.

SPAN:6110 Spanish Phonology 3 s.h.

Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Requirements: phonology or linguistics course. Same as SLA:6303.

SPAN:6120 Spanish Syntax 3 s.h.

Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Requirements: one course in syntax. Same as SLA:6304.

SPAN:6150 Topics in Spanish Language Acquisition 3 s.h.

Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Requirements: at least one course in linguistics (e.g., general introduction to linguistics). Same as SLA:6301.

SPAN:6180 Topics in Hispanic Linguistics 3 s.h.

Taught in Spanish or English.

SPAN:6190 Topics in Comparative Romance Linguistics 3 s.h.

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Recommendations: additional graduate course work in linguistics. Same as LING:6190, SLA:6302.

SPAN:6195 Undergraduate Lab Research Supervision 1 s.h.

Hands-on experience supervising undergraduate students in a research context. Requirements: enrollment in Ph.D. or M.A. program in Spanish linguistics or Ph.D. program in linguistics.

SPAN:6210 Fiction Workshop 3 s.h.

Craft of writing short stories; underlying principles examined through lectures, readings, craft analysis, discussions, exercises, and workshops; activities linked with International Writing Program. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6220 Poetry Workshop 3 s.h.

Construction and recognition of poetic voice through readings, analysis, and exercises from different poets and by students; poetic voice in three spaces (diary of poetic prose, collection of poems, object poem). Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6231 Graphic Novel/Comic Script Workshop 1,3 s.h.

Basic steps to develop a comic book or a graphic novel; different styles and ways to develop scripts and characters; main authors and their graphic works; students work on possible script or group of characters. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6235 Film Script/Theater Workshop 3 s.h.

Basic steps to developing plays; different styles and ways to develop plays and characters; reading main authors and their plays; student work on a possible play. Requirements: admission to M.F.A. in Spanish Creative Writing program.

SPAN:6241 Creative Project Development 3 s.h.

Development of creative project. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6251 Workshop on Editing a Literary e-Journal 3 s.h.

Plan, produce, write, and edit a literary digital magazine; manage and write for *Iowa Literaria*. Requirements: admission to M.F.A. in Spanish Creative Writing program.

SPAN:6260 Detective Narrative Workshop 3 s.h.

Basic elements of narrative used by authors of detective novels; acclaimed short stories, novels, and theoretical essays related to the genre; write three short stories of detective fiction; written critique of classmates' work. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6271 Children, Youth Literature 1,3 s.h.

Practice of writing literature for children and youth; reading literary texts in different cultural traditions; how narratives and poems for children or youth are created; using readings as springboards for thinking about ways to write for children and youth; texts for this group of readers. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6280 Nonfiction Workshop 3 s.h.

Practice of self narrative and construction of the self in literature; readings of self-narrated texts in different literary forms and cultural traditions (from autobiography to testimonial narratives); various ways in which the narrating self is formed and deformed by literary conventions that define him/her; readings as springboards for thinking on ways to write the self; series of autobiographical sketches. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6295 Practicum Editing a Literary e-Journal arr.

Practice in planning, producing, and editing *Iowa Literaria*. Recommendations: SPAN:6251.

SPAN:6299 Thesis: Creative Writing 3 s.h.

Continuation of work on student manuscript. Requirements: admission to M.F.A. Spanish Creative Writing program.

SPAN:6300 Colonial Spanish American Literature 3 s.h.

Chronicles of the conquest: close reading with focus on role of writing and operations of "othering"; balance between critical secondary sources and primary sources.

SPAN:6320 Contemporary Spanish American Narrative 3 s.h.

Narrative from mid-20th century to present; emphasis on the Boom, post-Boom.

SPAN:6330 Spanish American Narrative: Modern and Regional 3 s.h.**SPAN:6390 Topics in Spanish American Literature 3 s.h.****SPAN:6600 Medieval Spanish Literature 3 s.h.**

Critical reading of canonical medieval texts in their cultural context; application of modern theory to medieval texts; works such as *El Poema del Cid*, *El Romancero Viejo*, *Milagros de Nuestra Señora*, *El Conde Lucanor*, *El Libro de Buen Amor*.

SPAN:6620 Spanish Renaissance and Baroque Literature 3 s.h.

Critical analysis of social, moral, political function of literature in early modern Spain; Renaissance and Baroque poetry; *La Celestina*; pastoral literature; *Don Quijote*; narratives of the court; modern subjectivity; the question of genre.

SPAN:6660 Contemporary Spanish Fiction 3 s.h.

The post-Franco novel in Spain; literary "postmodernism" and relationships between Spanish literature, politics, and society since 1975; representative significant works.

SPAN:6670 Contemporary Spanish Poetry 3 s.h.

Poetry on the Spanish literary scene circa 1968; authors' reactions to predecessors, their connections with foreign traditions, metapoetry, the aesthetics of culturalism.

SPAN:6680 Contemporary Non-Castilian Narrative Spain 3 s.h.

Readings in Spanish of novels and short stories written in another language of the Spanish state or by a member of one of Spain's non-Castilian historic nationalities.

SPAN:6690 Topics in Spanish Literature 3 s.h.**SPAN:6850 Topics in Literary Studies 3 s.h.****SPAN:6860 Topics in Cultural Studies 3 s.h.****SPAN:6901 Second Language Acquisition Research and Theory 3 s.h.**

Theories regarding success and failure in acquisition of second or subsequent languages; research, issues. Same as ASIA:6901, FREN:6901, JPNS:6901, SLA:6901.

SPAN:6902 Second Language Acquisition Research and Theory II 3 s.h.

Continuation of SLA:6901. Prerequisites: SLA:6901. Same as ASIA:6903, SLA:6902.

SPAN:6904 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635.

SPAN:6905 Introduction to Contemporary Literary Theory 3 s.h.

How major theories construct literary text; structuralist, semiotic, psychoanalytic, Marxist, reader response, Derridian criticism. Taught in English. Same as CL:6105.

SPAN:6920 Multimedia and Second Language Acquisition 3 s.h.

Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Same as FREN:6920, GRMN:6920, SLA:6920.

SPAN:6950 Topics in Second Language Acquisition: Speaking 3 s.h.

Theory, pedagogy, research, and assessment in second language speaking. Same as FREN:6950, SLA:6950.

SPAN:6965 Topics in Second Language Acquisition: Writing 3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as RHET:6965, SLA:6965.

SPAN:6998 Special Work arr.**SPAN:6999 Thesis arr.****SPAN:7000 Seminar: Spanish Linguistics 3 s.h.**

Same as LING:7000.

SPAN:7200 Seminar: Literary Studies 3 s.h.

Specific topics on aspects of Spanish and/or Spanish American literature.

SPAN:7300 Seminar: Cultural Studies 3 s.h.

Specific topics in Spanish and/or Spanish American cultural studies.

SPAN:7505 Readings: Latin American History arr.

Same as HIST:7505.

Portuguese Courses

PORT:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

PORT:2000 Accelerated Elementary Portuguese 5 s.h.

First-year course in one semester; comprehending, speaking, reading, writing modern Portuguese; emphasis on speaking. GE: World Languages Second Level Proficiency.

PORT:2010 Elementary Portuguese I 3 s.h.

Emphasis on oral and written skills; first in a series; no previous knowledge of Portuguese necessary. Recommendations: no previous study of Portuguese. GE: World Languages First Level Proficiency.

PORT:2015 Elementary Portuguese II 3 s.h.

Emphasis on oral and written skills; second in a series.
Requirements: PORT:2010. GE: World Languages Second Level Proficiency.

PORT:2500 Accelerated Intermediate Portuguese 5 s.h.

Second-year course in one semester; reading comprehension, oral and writing skills; grammar review. Requirements: PORT:2000. GE: World Languages Fourth Level Proficiency.

PORT:2700 Introduction to Latin American Studies 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Same as COMM:2800, IS:2700, LAS:2700, SPAN:2700.

PORT:2850 Brazilian Narrative in Translation 3 s.h.

Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as SPAN:2850.

PORT:3050 Intensive Portuguese for Spanish Speakers 4 s.h.

Systematic differences and similarities between Spanish and Portuguese; emphasis on reading, writing. Requirements: graduate standing or undergraduate Spanish heritage speaker.

PORT:3100 Writing and Speaking 3 s.h.

Speaking and writing skills through discussion, oral presentations, grammar and vocabulary review, composition. Requirements: PORT:2500.

PORT:3150 Topics in Portuguese Language 3 s.h.

Various aspects of Portuguese language use. Requirements: one course numbered PORT:2500 or above.

PORT:3400 Brazilian Literature After 1900 3 s.h.

Modern and contemporary representative readings from all periods and genres; focus on works of major Brazilian authors. Taught in Portuguese. Requirements: PORT:2500.

PORT:3850 Topics in Cultural Studies 3 s.h.

Specific topics; interdisciplinary approaches; cultural relations of different parts of Portuguese-speaking world, cross-regional or cross-national discourses. Taught in English. Same as SPAN:3850.

PORT:4000 Topics in Luso-Brazilian Literature 3 s.h.

Study of genres, themes, and movements. Taught in Portuguese. Requirements: PORT:2500.

PORT:4100 Topics in Luso-Brazilian Culture 3 s.h.

Study of past, present, and future of Portuguese-speaking countries; interdisciplinary. Taught in Portuguese. Requirements: PORT:2500.

PORT:4700 Latin American Studies Seminar 3 s.h.

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, CL:4700, HIST:4504, LAS:4700, SPAN:4900.

PORT:4995 Portuguese Senior Project 3 s.h.

Voluntary student-initiated projects outside the classroom; designed or executed during senior year; similar to independent study, but based on research and completed in close consultation with a faculty mentor. Requirements: at least one course taught in Portuguese numbered PORT:4000 or above.

PORT:4998 Special Work 1-3 s.h.

Independent study arranged between student and a faculty member to complete requirements for the major in Portuguese.

PORT:4999 Honors Research and Thesis 2-3 s.h.

Requirements: honors standing.

Spanish, B.A.

Learning Outcomes

By graduation, Spanish majors will have:

- Proficiency—increased Spanish language proficiency in speaking, writing, listening, and reading.
- Analytical skills—acquired the skills to engage critically with one or more of the following areas.
 - Spanish, Spanish American, and U.S. Latino literatures and cultures
 - Hispanic linguistics
 - Creative and/or journalistic writing
 - Second language acquisition and/or pedagogy
 - Literatures and cultures of the Portuguese-speaking world
- Knowledge—gained knowledge of the diversity of the Hispanic world (Spain/Portugal, Latin America, and the United States) and its cultural, artistic, and linguistic history.

Overview

The Spanish major is built on course work in Spanish Peninsular and Spanish American literature, Hispanic cultures, Hispanic linguistics, and advanced language skills. The goal of the major is twofold: to study content areas related to the Spanish language, such as literature, culture, and linguistics; and to develop proficiency in the Spanish language in all four skills—speaking, listening, reading, and writing.

Advising

First-year students are initially advised by the Academic Advising Center. Second-year students are advised by the Division of World Languages, Literatures and Cultures (DWLLC) academic advisor. Third-year and fourth-year students are additionally advised by a faculty advisor. The DWLLC academic advisor assists with a student's overall academic plan, while the faculty advisor guides a student regarding academic or career-focus experiences and opportunities.

Requirements

The Bachelor of Arts with a major in Spanish requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A maximum of 15 s.h. of approved transfer credit may be counted toward the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Course work for the major includes a core, which consists of one course from each of the five principal academic areas of the department (see "Required Core" below), and seven electives, which may focus on one or more of the five principal areas or may include a broad range of courses (see "Electives" below).

All courses taken for the Spanish major must be numbered SPAN:2000 or above. Advanced Placement Program (AP) credit is considered to be equivalent to a Spanish course at the 2000 level. Students may count 3 s.h. in AP Spanish Language and Culture or Literature and Culture exams (with a

score of a 4 or higher) as elective credit toward the major. See "Electives" below.

A minimum of one and a maximum of four courses for the major must be numbered 2000-2999, including AP credit. At least three courses for the major must be numbered 4000-4999, and students can either count these as core courses or as elective courses.

Advanced undergraduate students preparing to earn honors may enroll in graduate courses with the permission of their advisor and the department chair. Ordinarily, permission is granted only to students who have completed a minimum of 30 s.h. of work for the major and whose g.p.a. in the major is 3.75 or higher.

Students may apply up to 6 s.h. of approved course work taught in English or Portuguese toward the major. This includes course work taught in the Department of Spanish and Portuguese or in another department, as approved by their advisor. All other courses for the major must be taught in Spanish, including study abroad courses.

The B.A. with a major in Spanish requires the following course work.

Code	Title	Hours
	Hispanic Linguistics Course	3
	Spanish Peninsular Literature Course	3
	Spanish American Literature Course	3
	Culture (Peninsular or Spanish American) Course	3
	Writing Course	3-4
	Electives	21
Total Hours		36-37

Required Core

Hispanic Linguistics

Code	Title	Hours
One of these:		
SPAN:3100	Structures of Spanish: Words and Sentences	3
SPAN:3110	Spanish Sound Structure	3
SPAN:3120	Foundations in Sociolinguistics	3
SPAN:3130	Introduction to Bilingualism	3
SPAN:3150	Spanish Applied Linguistics	3
SPAN:3170	Introduction to Spanish Language Acquisition	3
SPAN:4100	Introduction to Spanish Phonology	3
SPAN:4140	History of the Spanish Language	3
SPAN:4150	Introduction to Spanish Syntax	3
SPAN:4160	Language, Justice, and the Law	3
SPAN:4170	Linguistic Aspects of Second Language Acquisition	3
SPAN:4190	Topics in Hispanic Linguistics	3
SPAN:4195	Spanish Linguistics Lab II	3

Spanish Peninsular Literature

Code	Title	Hours
One of these:		
SPAN:2400	Readings in Spanish Literature	3
SPAN:3750	Literature in the Time of Cervantes	3
SPAN:3790	Hispanic Institute: Literature	3
SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:3840	Contemporary Spanish Short Story	3
SPAN:4620	Spanish Golden Age Fiction	3
SPAN:4630	Society and Poetry: Spanish Lyric	3
SPAN:4650	Don Quijote	3
SPAN:4690	Topics in Spanish Literature	3

Spanish American Literature

Code	Title	Hours
One of these:		
SPAN:2500	Readings in Spanish American Literature	3
SPAN:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3370	Topics in Literatures and Cultures	3
SPAN:3400	Chicano Literature and Culture	3
SPAN:4330	Colonial Spanish American Literature	3
SPAN:4350	Twentieth-Century Spanish American Theater and Performance	3
SPAN:4360	The Orient in Contemporary Latin American Literature and Culture	3
SPAN:4390	Topics in Spanish American Literature	3

Culture (Peninsular or Spanish American)

Code	Title	Hours
One of these:		
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:2280	Introduction to Latina/o Studies (taught in English)	3
SPAN:2800	Screening Latin America	3
SPAN:2810	Screening Spain	3
SPAN:2900	Music of the Hispanic World	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215	Medellin	3
SPAN:3230	Modern Mexico	3

SPAN:3240	Mexico City	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3400	Chicano Literature and Culture	3
SPAN:3440	Topics in Latino/a Literature and Culture (taught in English)	3
SPAN:3500	Topics in Culture of the Hispanic World	3
SPAN:3520	Introduction to Film Studies	3
SPAN:3550	Doing Business in Latin America	3
SPAN:3600	Cultures of Spain	3
SPAN:3610	Hispanic Institute: Culture	3
SPAN:3620	Madrid	3
SPAN:3630	Spanish Youth Culture	3
SPAN:4810	Topics in Latin American Cinema	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3
SPAN:4820	Latino/a Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3
SPAN:4840	Visual Culture in Modern and Contemporary Spain	3
SPAN:4850	Topics in Cultural Studies	3
SPAN:4870	Islamic Cultural Presence in Spain	3
SPAN:4880	Comic Books and Graphic Novels in the Hispanic World	3
SPAN:4900	Latin American Studies Seminar (taught in English)	3
SPAN:4920	Topics in Film Studies	3

Writing

Code	Title	Hours
One of these:		
SPAN:2000	Spanish Language Skills: Writing	4
SPAN:2005	Writing Global Spanish	3
SPAN:3000	Writing Skills for Heritage Speakers	3
SPAN:3005	Study Abroad in the Hispanic World: Return and Reflect	3
SPAN:3020	Journalistic Writing in Spanish	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:3070	Introductory Workshop Writing Scripts	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3

Electives

Code	Title	Hours
Seven elective courses in Spanish numbered SPAN:2000 or above		21

Students choose elective course work according to the following guidelines.

Electives may include course work in Spanish language skills as well as more advanced language courses that focus on specialized language functions and purposes. They also may include a maximum of 6 s.h. earned in Portuguese courses numbered PORT:2500 or above or in related courses at the appropriate level offered by other University of Iowa departments and programs, such as history, anthropology, comparative literature, international studies, or linguistics. Related courses must be approved by the director of undergraduate studies; for a list of approved related courses, contact the Department of Spanish and Portuguese.

The following courses are only applicable toward the Spanish major as electives.

Code	Title	Hours
SPAN:2010	Spanish Language Skills: Speaking	3
SPAN:2020	Hispanic Institute: Language	3
SPAN:2030	Study of Language: Myths and Concepts	3
SPAN:2040	Spanish for Heritage Speakers	3
SPAN:2050	Spanish in the U.S. (taught in English)	3
SPAN:2060	Spanish Pronunciation	4
SPAN:2090	Medical Spanish in Contemporary Society	4
SPAN:2095	Activities Attendance for Spanish Majors	1
SPAN:2300	Introduction to Reading Literature	4
SPAN:2700	Introduction to Latin American Studies (taught in English)	3
SPAN:2850	Brazilian Narrative in Translation (taught in English)	3
SPAN:2910	Hispanic Institute: Study/Life in Spain	1
SPAN:3010	Advanced Spanish Speaking and Writing	3
SPAN:3015	Fast Fixes: Improved Spanish in Six Weeks	1
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3040	Business Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:3080	Spanish for International Business	3
SPAN:3090	Spanish at Work	1
SPAN:3095	Spanish Composition and Grammar	3
SPAN:3096	Advanced Spanish Grammar	3
SPAN:3190	Psycholinguistic Aspects of Bilingualism (taught in English)	3-4
SPAN:3195	Spanish Linguistics Lab I	1
SPAN:3295	Topics in Film and Culture (taught in English)	3

SPAN:3690	Iowa Global Internship in Madrid	3
SPAN:3850	Topics in Cultural Studies (taught in English)	3
SPAN:4910	Topics in Literary Studies	3
SPAN:4925	Topics in Film Narrative (taught in English)	3
SPAN:4980	Advanced Translation: Spanish to English	3

A maximum of 3 s.h. earned in PORT:2500 Accelerated Intermediate Portuguese may be counted toward the major. The following Spanish and Portuguese courses do not count toward the major and may not be used as elective credit.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3

Study Abroad

The department participates in study abroad programs in Spain and Latin America; most of these programs offer both summer and semester or yearlong programs. The programs in Spain include the Board of Regents Hispanic Institute program in Valladolid (summer only); USAC (University Studies Abroad Consortium) programs in Alicante, Bilbao, Madrid, and San Sebastián; and CIEE programs in Alcalá de Henares, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville.

The programs in Latin America include USAC programs in Chile (Santiago) and Costa Rica (Heredia, Puntarenas, and San Ramón); CIEE programs in Argentina (Buenos Aires), Chile (Santiago and Valparaíso), Dominican Republic (Santiago), Mexico (Guanajuato), and Peru (Lima). They also include the CIC Latin America Health, Nutrition, and Environmental Issues Program in Santiago, Dominican Republic. For information about other international study programs in Spanish, contact International Programs Study Abroad.

Participation in a number of different programs allows the department to offer study abroad opportunities that take into account a variety of student interests and needs. Credit earned in these or other study abroad programs may be applied toward the requirements for the Spanish major. The amount of credit that may be accepted varies according to the program.

Interested students should contact the department's study abroad advisor. Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 15 s.h. maximum allowed for the major.

Teacher Licensure

Students interested in earning licensure to teach at the elementary and/or secondary level must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Students must have a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major in order to enter the departmental honors program.

Students must request honors designation for one course they take for the major (3 s.h.), in consultation with the department honors advisor. They also must register for 3 s.h. in SPAN:4998 Honors: Research and Thesis. To complete SPAN:4998 successfully, students must submit an honors thesis they have written in Spanish and must present it orally to a faculty committee in a meeting conducted in Spanish.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Spanish major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: Intermediate Spanish I (or equivalent second-year, first-semester competence in Spanish)

Before the fifth semester begins: two courses in Spanish beyond Intermediate Spanish II (or equivalent second-year, second-semester competence)

Before the seventh semester begins: four more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: nine courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Spanish, B.A.

Course	Title	Hours
First Year		
Fall		
SPAN:1001	Elementary Spanish I ^{a, b, c}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE CLAS Core: Diversity and Inclusion ^d		3
Elective course ^e		1
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

SPAN:1002	Elementary Spanish II ^{a, b, c}	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives ^d		3
GE CLAS Core: Values and Culture ^d		3
Elective course ^e		1
Hours		15-16

Second Year

Fall

SPAN:1501	Intermediate Spanish I ^{a, b, c}	5
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: Literary, Visual, and Performing Arts ^d		3
Elective course ^e		3
Elective course ^e		1
Hours		15

Spring

SPAN:1502	Intermediate Spanish II ^{a, b, c}	5
GE CLAS Core: International and Global Issues ^d		3
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^e		3
Hours		15

Third Year

Fall

Major: Spanish writing core course ^f		3
Major: Culture (Peninsular or Spanish American) core course ^f		3
Major: Spanish elective course ^{f, g}		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^e		3
Hours		15

Spring

Major: Hispanic linguistics core course ^f		3
Major: Spanish American literature core course ^f		3
Major: Spanish elective course ^{f, g}		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Fourth Year

Fall

Major: Spanish Peninsular Literature core course ^f		3
Major: Spanish elective course ^{f, g}		3
Major: Spanish elective course ^{f, g}		3
Elective course ^e		3
Elective course ^e		3
Hours		15

Spring

Major: Spanish elective course ^{f, g}		3
Major: Spanish elective course ^{f, g}		3
Major: Spanish elective course ^{f, g}		3
GE CLAS Core: Social Sciences ^d		3

Elective course ^e	3
Hours	15
Total Hours	119-121

- a SPAN:1001, SPAN:1002, SPAN:1501, and SPAN:1502 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f A minimum of one and a maximum of four courses for the major must be numbered 2000-2999. At least three courses for the major must be numbered 4000-4999. Students may apply up to 6 s.h. of approved course work taught in English or Portuguese toward the major. All other courses for the major must be taught in Spanish, including study abroad courses.
- g Students must complete 21 s.h. in Spanish major electives. Electives may include a maximum of 6 s.h. earned in Portuguese courses numbered PORT:2500 or above or in related courses at the appropriate level offered by other UI departments and programs, such as history, anthropology, comparative literature, international studies, or linguistics. Related courses must be approved.

Career Advancement

Spanish majors may go on to graduate study in areas such as Spanish and Spanish American literature, Hispanic linguistics, or comparative literature. They also may combine their Spanish studies with other areas to prepare for career opportunities in international business, government, travel, journalism, or communication, where knowledge of another language and other cultures is essential.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Portuguese, B.A.

Learning Outcomes

By graduation, Portuguese majors will have:

- enhanced language proficiency and cultural awareness of the Portuguese-speaking world; and
- attained skills to engage critically with histories, cultures, literatures, and other arts, and gained knowledge of the diversified Lusophone world (Angola, Brazil, Cape Verde, East Timor, Guinea Bissau, Mozambique, Portugal, São Tome and Principe).

Overview

Portuguese is widely spoken in four continents and is the official language of eight countries: Angola, Brazil, Cape Verde, East Timor, Guinea-Bissau, Mozambique, Portugal, and São Tome and Principe. Portuguese is the third most spoken European language (after English and Spanish) and the sixth most spoken language in the world. Brazil is the largest country in South America, comparable in size with the United States. Knowledge of Portuguese and of Luso-Brazilian culture is a marketable skill.

Requirements

The Bachelor of Arts with a major in Portuguese requires a minimum of 120 s.h., including at least 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

Students must take at least one course in Portuguese (prefix PORT) numbered 4000 or above. No more than 9 s.h., with approval of advisor, may be taken in courses that are not Portuguese courses (prefix PORT). Students must complete PORT:2500 Accelerated Intermediate Portuguese or the equivalent before they complete any other requirements for the major. They may only apply 3 s.h. earned in PORT:2500 toward the major. Two courses (6 s.h.) taught in English and two courses (6 s.h.) taught in Spanish numbered SPAN:2000 or above may count toward the major.

These courses do not count toward the 33 s.h. of work for the major.

Code	Title	Hours
PORT:1000	First-Year Seminar	1
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3
PORT:3050	Intensive Portuguese for Spanish Speakers	4

The B.A. with a major in Portuguese requires the following courses or their equivalents.

Code	Title	Hours
	Language Skills Course	3
	Literature Courses	6
	Culture Courses	6

Electives	18
Total Hours	33

Language Skills Course

Code	Title	Hours
One of these:		
PORT:3100	Writing and Speaking	3
PORT:3150	Topics in Portuguese Language (repeatable)	3

Literature Courses

Code	Title	Hours
Two of these:		
PORT:2850	Brazilian Narrative in Translation (taught in English)	3
PORT:3400	Brazilian Literature After 1900	3
PORT:4000	Topics in Luso-Brazilian Literature (repeatable)	3

Culture Courses

Code	Title	Hours
Two of these; however, PORT:4100 must be taken at least once:		
PORT:3850	Topics in Cultural Studies (taught in English)	3
PORT:4100	Topics in Luso-Brazilian Culture (repeatable; taught in Portuguese)	3
PORT:4700	Latin American Studies Seminar (taught in English)	3

Electives

Students may not use a course as an elective that has been applied toward another requirement.

Code	Title	Hours
At least 18 s.h. from these:		
PORT:2500	Accelerated Intermediate Portuguese	5
PORT:2700	Introduction to Latin American Studies (taught in English)	3
PORT:2850	Brazilian Narrative in Translation (taught in English)	3
PORT:3100	Writing and Speaking	3
PORT:3150	Topics in Portuguese Language (repeatable)	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850	Topics in Cultural Studies (taught in English)	3
PORT:4000	Topics in Luso-Brazilian Literature (repeatable)	3
PORT:4100	Topics in Luso-Brazilian Culture (repeatable)	3
PORT:4700	Latin American Studies Seminar (taught in English)	3

PORT:4995	Portuguese Senior Project	3
PORT:4998	Special Work	1-3
PORT:4999	Honors Research and Thesis	2-3

Study Abroad

Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 15 s.h. maximum allowed for the major. Contact International Programs Study Abroad for details.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in their major. Students must have a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major in order to enter the departmental honors program.

Students must earn 3 s.h. in PORT:4999 Honors Research and Thesis plus 3 s.h. in a course chosen in consultation with the department honors advisor. Both courses (6 s.h.) count toward the total 33 s.h. required for the major in Portuguese. Students also must write an honors thesis and present it orally to a committee of three faculty members.

University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Portuguese major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: competence in first-year Portuguese

Before the fifth semester begins: competence in intermediate Portuguese

Before the seventh semester begins: three or four additional courses for the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: seven courses in the major

During the eighth semester: enrollment in remaining major course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

Portuguese, B.A.

Course	Title	Hours
First Year		
Fall		
PORT:2000	Accelerated Elementary Portuguese ^{a, b, c}	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^d		3
GE CLAS Core: Values and Culture ^d		3
CSI:1600	Success at Iowa	2
Hours		16-17
Spring		
PORT:2500	Accelerated Intermediate Portuguese ^{a, b, c, e}	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab ^d		4
Elective course ^f		3
Hours		15-16
Second Year		
Fall		
PORT:3150 or PORT:3100	Topics in Portuguese Language or Writing and Speaking	3
GE CLAS Core: Quantitative or Formal Reasoning ^d		3
GE CLAS Core: Historical Perspectives ^d		3
Elective course ^f		3
Elective course ^f		3
Hours		15
Spring		
PORT:4000 or PORT:2850 or PORT:3400	Topics in Luso-Brazilian Literature or Brazilian Narrative in Translation or Brazilian Literature After 1900	3
GE CLAS Core: International and Global Issues ^d		3
Elective course ^f		3
Major: PORT elective course ^g		3
Elective course ^f		3
Hours		15
Third Year		
Fall		
PORT:3400 or PORT:2850 or PORT:4000	Brazilian Literature After 1900 or Brazilian Narrative in Translation or Topics in Luso-Brazilian Literature	3
Major: PORT elective course ^g		3
GE CLAS Core: Natural Sciences without Lab ^d		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Spring

PORT:4700	Latin American Studies Seminar	3
or PORT:3850	or Topics in Cultural Studies	
or PORT:4100	or Topics in Luso-Brazilian Culture	
Major: PORT elective course ^g		3
Elective course ^f		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Fourth Year**Fall**

PORT:3850	Topics in Cultural Studies	3
or PORT:4100	or Topics in Luso-Brazilian Culture	
or PORT:4700	or Latin American Studies Seminar	
Major: PORT elective course ^g		3
GE CLAS Core: Literary, Visual, and Performing Arts ^g		3
Elective course ^f		3
Elective course ^f		3
Hours		15

Spring

Major: PORT elective course ^g		3
Major: PORT elective course ^g		3
GE CLAS Core: Social Sciences ^d		3
Elective course ^f		3
Elective course ^f		3
Hours		15
Total Hours		121-123

- a PORT:1000, PORT:2000, PORT:2010, PORT:2015, and PORT:3050 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may not use a course as a major elective that has been applied toward another requirement.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students may not use a course as an elective that has been applied towards another requirement. At least 18 s.h. from: PORT:2500, PORT:2700, PORT:2850, PORT:3100, PORT:3150, PORT:3400, PORT:3850, PORT:4000, PORT:4100, PORT:4700, PORT:4995, PORT:4998, PORT:4999.
- h PORT:4100 must be taken at least once.

publishing, advertising, social services, media, law, and academia.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Career Advancement

Majors have reported securing positions in multinational companies, international agencies, import/export companies, government tourism, research institutes, health institutions, the arts, graduate schools, and with the airlines, to name just a few. Portuguese can help students prepare to work in diverse fields such as banking, diplomacy, journalism,

Spanish, Minor

The undergraduate minor in Spanish requires a minimum of 18 s.h. in Spanish courses, including at least 15 s.h. in Department of Spanish and Portuguese courses at the University of Iowa numbered SPAN:2000-SPAN:4998. At least 6 s.h. must be numbered SPAN:3000-SPAN:4998. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students can count course work toward the minor in study abroad programs that earn University of Iowa resident credit. At least one course for the minor must be a literature, culture, or Hispanic linguistics course.

Students can apply one University of Iowa course taught in English toward the minor (see "Spanish Courses Taught in English" below), but all other courses for the minor must be taught in Spanish, including study abroad courses.

In consultation with their advisor, students also may choose to count 3 s.h. toward their Spanish minor from:

course work in Spanish at the University of Iowa below the major level (such as SPAN:1502 Intermediate Spanish II); or

transfer credit approved by the department, including credit from study abroad programs sponsored by other universities; or

Advanced Placement Program (AP) Spanish Language and Culture or Literature and Culture exams with a score of 4 or higher; or

incentive credit earned from the Furthering Language Incentive Program (FLIP).

Spanish Courses Taught in English

Code	Title	Hours
SPAN:2050	Spanish in the U.S.	3
SPAN:2280	Introduction to Latina/o Studies	3
SPAN:2700	Introduction to Latin American Studies	3
SPAN:2850	Brazilian Narrative in Translation	3
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:3295	Topics in Film and Culture	3
SPAN:3440	Topics in Latino/a Literature and Culture	3
SPAN:3850	Topics in Cultural Studies	3
SPAN:4810	Topics in Latin American Cinema	3
SPAN:4820	Latino/a Popular Culture	3
SPAN:4900	Latin American Studies Seminar	3
SPAN:4925	Topics in Film Narrative	3

Study Abroad

The department participates in study abroad programs in Spain and Latin America; most of these programs offer both summer and semester or yearlong programs. The programs in

Spain include the Board of Regents Hispanic Institute program in Valladolid (summer only); USAC (University Studies Abroad Consortium) programs in Alicante, Bilbao, Madrid, and San Sebastián; and CIEE programs in Alcalá de Henares, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville.

The programs in Latin America include USAC programs in Chile (Santiago) and Costa Rica (Heredia, Puntarenas, and San Ramón); CIEE programs in Argentina (Buenos Aires), Chile (Santiago and Valparaíso), Dominican Republic (Santiago), Mexico (Guanajuato), and Peru (Lima). They also include the CIC Latin America Health, Nutrition, and Environmental Issues Program in Santiago, Dominican Republic. For information about other international study programs in Spanish, contact International Programs Study Abroad.

Participation in a number of different programs allows the department to offer study abroad opportunities that take into account a variety of student interests and needs. Credit earned in these or other study abroad programs may be applied toward the requirements for the Spanish minor. The amount of credit that may be accepted varies according to the program.

Interested students should contact the department's study abroad advisor. Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 3 s.h. maximum allowed for the minor.

Teacher Licensure

Students who plan to use their work toward a minor in Spanish as academic background for earning teacher licensure should contact the Office of Student Services about requirements.

Portuguese, Minor

The undergraduate minor in Portuguese requires a minimum of 15 s.h. in Portuguese courses, including 12 s.h. in University of Iowa courses numbered PORT:2500 or above; credit earned in a University of Iowa study abroad program also may be counted toward the minor. A maximum of 3 s.h. of transfer credit may be applied toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Furthering Language Incentive Program (FLIP) credit may not be applied toward the minor.

Students may apply up to 3 s.h. from PORT:2500 Accelerated Intermediate Portuguese toward the minor. One 3 s.h. course taught in English in the Department of Spanish and Portuguese or one course taught in Spanish numbered SPAN:2000 or above can be applied toward the minor, but not both. All other courses must be numbered PORT:2500 or above.

All students planning to complete a minor in Portuguese are strongly encouraged to consult with Portuguese faculty advisors.

Spanish, M.A.

Requirements

The Master of Arts program in Spanish requires 30 s.h. of graduate credit. A maximum of 9 s.h. of graduate credit in approved courses may be transferred from other institutions toward the 30 s.h. required for the M.A.

Students choose one of two emphases: literature, which provides training in literary analysis and broad knowledge of representative works in principal areas of Hispanic literature; or linguistics, which provides training in linguistic analysis and argumentation and broad knowledge of the principal subfields of Hispanic linguistics.

The M.A. with a major in Spanish requires the following 10 courses.

Literature Emphasis Courses

Code	Title	Hours
This course:		
WLLC:5000	Teaching and Learning Languages	3
All of these:		
One course in Spanish linguistics numbered SPAN:4000 or above		3
Two courses in Spanish (peninsular) literature numbered SPAN:4000 or above		6
Two courses in Spanish American literature numbered SPAN:4000 or above		6
One course in literary theory		3
Three electives		9

At least eight of the ten literature emphasis courses must be taken in Department of Spanish and Portuguese courses numbered 5000 or above. The remaining two may be taken in Department of Spanish and Portuguese courses numbered 4000 or above or in courses offered by related departments, subject to approval by the director of graduate studies.

Linguistics Emphasis Courses

Code	Title	Hours
This course:		
WLLC:5000	Teaching and Learning Languages	3
All of these:		
One course in Spanish or Spanish American literature numbered SPAN:4000 or above		3
Two courses in syntax		6
Two courses in phonetics/phonology		6
One course in history of the Spanish language or sociolinguistics/language variation		3
One course in applied linguistics or language acquisition		3
Two electives		6

At least six of the ten linguistics emphasis courses must be taken in Department of Spanish and Portuguese courses numbered 5000 or above. The remaining four may be taken in Department of Spanish and Portuguese courses numbered 4000 or above or in Department of Linguistics courses (prefix LING).

Language Tool Requirement

Students must complete the equivalent of one year of college-level study of any approved second foreign language; Portuguese is highly recommended. They may satisfy this requirement either by examination or through courses taken at the University of Iowa or another accredited university; such course work does not count toward the 30 s.h. required for the M.A.

Examinations

The comprehensive examination includes written and oral components. The written portion consists of a two-hour examination in each of three areas; an oral examination follows, usually lasting 90 minutes. The examining committee is composed of four departmental faculty members.

Students in the literature emphasis may choose to be examined in three literature areas or in two literature areas and one linguistics area. At least one literature area must be in Spanish literature and at least one must be in Spanish American literature. If three literature areas are chosen, at least one must represent literature written before 1700 (peninsular or Spanish American).

Students in the linguistics emphasis may choose to be examined in three linguistics areas or in two linguistics areas and one literature area. At least one of the linguistics areas must be in syntax or phonology. For students in both emphases, the third examination area may be a film area.

For reading lists, contact the Department of Spanish and Portuguese.

Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level course work in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 1 s.h. for all graduate students. Students who fail to register for 36 months must apply for readmission to the Graduate College.

Admission

Applicants to the M.A. program should have completed the equivalent of the undergraduate Spanish major with a g.p.a. of at least 3.00 in course work for the major.

Financial Support

Teaching and research assistantships are available to qualified graduate students. Usually, two years of support are available for completion of the M.A. degree. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Spanish Creative Writing, M.F.A.

Requirements

The Master of Fine Arts program in Spanish creative writing requires 48 s.h. of graduate credit earned over four semesters in residence at the University of Iowa. Students complete courses in writing, including several workshops and other relevant course work. They also are required to participate in several outreach workshops in the community and to do a final public reading in the spring semester of their second year. Work toward the degree culminates in a creative thesis.

Students must enroll in SPAN:6210 Fiction Workshop, SPAN:6220 Poetry Workshop, and SPAN:6241 Creative Project Development during each year of residence in the program. Groups of 8-12 students read and critique each other's work in these courses.

The M.F.A. with a major in Spanish creative writing requires the following course work.

Code	Title	Hours
Required Courses		
All of these:		
SPAN:6210	Fiction Workshop (taken twice; each for 3 s.h.)	6
SPAN:6220	Poetry Workshop (taken twice; each for 3 s.h.)	6
SPAN:6241	Creative Project Development	3
Electives		
At least two of these:		
SPAN:6231	Graphic Novel/Comic Script Workshop	3
SPAN:6235	Film Script/Theater Workshop	3
SPAN:6241	Creative Project Development (must be taken once as a requirement as noted above; may be repeated once toward elective requirement)	3
SPAN:6251	Workshop on Editing a Literary e-Journal	3
SPAN:6260	Detective Narrative Workshop	3
SPAN:6280	Nonfiction Workshop	3
All of these:		
Four graduate-level courses offered by the Department of Spanish and Portuguese		12
Four additional courses offered by the M.F.A. program in Spanish creative writing, the Department of Spanish and Portuguese, or related units in consultation with faculty advisor		12
SPAN:6299	Thesis: Creative Writing	3

Thesis

Students submit their graduate thesis, a manuscript of substantial length, during their last semester, and must enroll in SPAN:6299 Thesis: Creative Writing. The thesis

committee is composed of at least three members: two faculty members in the Spanish creative writing program and a third Department of Spanish and Portuguese faculty member who could be part of the creative writing program, or a faculty member from one of the related units—Center for the Book, the Creative Writing Program (Iowa Writers' Workshop), the Comparative Literature Program, or the International Writing Program.

Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level course work in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 2 s.h. for all graduate students. Students who fail to register for 36 months must apply for readmission to the Graduate College.

Financial Support

Teaching and research assistantships are available to qualified graduate students. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Spanish, Ph.D.

Requirements

The Doctor of Philosophy program in Spanish requires a total of at least 72 s.h. of graduate credit. Ph.D. students choose from two tracks: one is dedicated to Hispanic literatures, the other to Hispanic linguistics. The literature track trains students in textual analysis and literary history, criticism, and theory. The linguistics track provides training in linguistic analysis and theory.

The literature track requires a minimum of 66 s.h. of course work (22 courses), of which 30 s.h. may have been earned for an M.A. in Spanish at the University of Iowa or at another institution, as approved by the director of graduate studies.

The linguistics track requires a minimum of 57 s.h. of course work (19 courses), of which 30 s.h. may have been earned for an M.A. in Spanish at the University of Iowa or at another institution, as approved by the director of graduate studies.

Both tracks also require 6 s.h. earned in SPAN:6999 Thesis, to complete the 72 s.h. required for the Ph.D.

No credit is awarded for course work completed after the M.A. is granted and prior to entrance into the Ph.D. program. If, in the course of doctoral study, the advisory committee recommends a student take course work at another institution, the student may petition the director of graduate studies for approval of up to 9 s.h. of transfer credit well in advance of enrollment in the courses. The Graduate College requires 39 s.h. of the 72 s.h. required for the degree be resident credit (course work taken at the University of Iowa).

Students who hold a teaching assistantship in the department are required to take WLLC:5000 Teaching and Learning Languages, a course in foreign language teaching methods. Those who have not earned their M.A. degree at the University of Iowa, and who want to request that this requirement be waived because of previous course work in foreign language teaching methods, should consult the director of the Spanish language general education program for approval. Students receive no credit toward their degree if the requirement is waived.

Course requirements for each track are as follows.

Literature Track

Courses

Students must complete at least 36 s.h. (12 courses) beyond the master's degree (or 22 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

Code	Title	Hours
All of these:		
Two courses in literary theory		6
One course in cinema		3
Two 7000-level seminars in literary or cultural studies		6
One literature course in another Romance language (see "Language and Literature Tool Requirement")		3
SPAN:6999	Thesis	6

All of these, with at least one course in pre-1700 literature:

Three courses in Spanish literature	9
Three courses in Spanish American literature	9

Each student's plan of study is tailored to the chosen area of emphasis and must be approved by the student's advisory committee. Ph.D. course work in Spanish (taken after the M.A.) must be numbered 6000 or above, except the Romance literature course taken for the language tool requirement.

Language and Literature Tool Requirement

Before the comprehensive examination, students must complete the equivalent of three years of college-level study in another Romance language and become well acquainted with its literature in limited areas of specialization; the study of Luso-Brazilian literature is highly recommended. This requirement may be satisfied only through course work at the University of Iowa or another accredited university.

Students also must complete the equivalent of one year of college-level study of another approved foreign language. Students who do not fulfill the Romance language requirement with Portuguese must use it to satisfy this requirement. Students who will write dissertations on topics in Spanish or Portuguese literature before 1700 are strongly encouraged to select Latin, Arabic, or an Amerindian language to satisfy this requirement; students should consult specialists in their field to determine which language is most appropriate. Students may take more than two languages, earning more than the 72 s.h. required for the degree, if their literary course work permits.

Students may satisfy the language tool requirement by examination or by course work at the University of Iowa or at another accredited university; language tool course work does not count toward the 72 s.h. required for the degree. Courses taken to fulfill the language tool requirements may be taken pass/nonpass. If the language tool requirements are satisfied by examination, the exam results must be documented in the student's file. Courses taken to fulfill the second Romance literature requirement must be taken on a graded basis and may be counted toward the degree.

Linguistics Track

Courses

Students must earn at least 27 s.h. (9 courses) beyond the master's degree (or 19 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

Code	Title	Hours
SPAN:6110	Spanish Phonology	3
SPAN:6120	Spanish Syntax	3
SPAN:6150	Topics in Spanish Language Acquisition	3
SPAN:6190	Topics in Comparative Romance Linguistics	3
SPAN:6999	Thesis	6
LING:3005	Articulatory and Acoustic Phonetics	3
LING:5010	Introduction to Syntax	3
LING:5020	Introduction to Phonology	3
LING:6010	Syntactic Theory	3

One additional course in the dissertation research area	3
One course in historical linguistics, sociolinguistics/language variation, or language acquisition/psycholinguistics	3
One Hispanic linguistics seminar numbered 7000 or above	3

The additional course in the dissertation research area (phonology, syntax, language acquisition, language variation) must be taken in the Department of Spanish and Portuguese or the Department of Linguistics.

Each student's plan of study is tailored to the chosen area of emphasis and must be approved by the student's advisory committee. Ph.D. course work in Spanish (taken after the M.A.) must be numbered 6000 or above, except for some courses offered by the Department of Linguistics and the required third-year-level course in Portuguese (see "Language Tool and Additional Requirements" below).

Language Tool and Additional Requirements

Students in the linguistics track must complete the equivalent of three years of college-level study of Portuguese, and the equivalent of one year of college-level study of each of two other languages. For students specializing in historical linguistics, one of those two languages must be Latin.

Students may satisfy the language tool requirement by examination or by course work at the University of Iowa or at another accredited university. Courses taken to fulfill the language tool requirements may be taken pass/nonpass. If the language tool requirements are satisfied by examination, the exam results must be documented in the student's file. The language tool course work does not count toward the 57 s.h. of pre-thesis course work required for the degree, except the third-year-level course work in Portuguese, which may be counted with the faculty advisor's approval if the student took it for a grade.

Students also must write two extended research papers and give two colloquium presentations based on these papers. The first paper must be in an area distinct from the intended dissertation research; it must be approved by the student's advisory committee by the end of fall semester of the second year of Ph.D. course work in order for the student to continue in the track. The second paper must be in the dissertation research area, must be of publishable quality, and must be approved by the student's advisory committee no later than the beginning of the semester in which the student takes the comprehensive exam.

Independent Study

Only 3 s.h. earned for post-M.A. independent study may be applied toward the 72 s.h. required for the degree; the department discourages students from including independent study as a part of their course work. Exceptions may be made under extraordinary circumstances, but must be preapproved by the director of graduate studies. For consideration of a request for independent study credit, students must complete the Department of Spanish and Portuguese Independent Study Contract for Graduate Students form, obtain the approval of the director of graduate studies and the chair of the department, and submit a copy of the form to the graduate student academic coordinator before the first day of the semester. Only students in good academic standing may enroll in an independent study course.

Comprehensive Portfolio

By the end of the fourth semester, students should have completed all of their required course work. They should develop the various parts of the comprehensive portfolio in conjunction with their Ph.D. course work. The two broad area reading lists (see "Reading Lists" for the literature or linguistics track below) can be developed while enrolled in graduate-level courses in the department, and the article should be based on a research paper written in a seminar-level department course.

Comprehensive Examination

The purpose of the comprehensive examination is to determine whether a student has gained sufficient breadth and depth of research knowledge in Hispanic literatures or linguistics to enter the profession as a teacher-scholar. The examining committee is composed of five departmental faculty members or four departmental faculty members and a fifth faculty member from a related department.

Graduate students planning to take the examination must file the departmental Notification of Intent to Take M.A. or Ph.D. Exams form with the graduate student academic coordinator by the third week of the relevant semester. Students presenting the comprehensive exams cannot have more than one course work requirement left to be completed, including courses for the fulfillment of the language tool requirements, after the semester in which the exams are presented. Generally, students either have finished their course work requirements prior to presenting the comprehensive exams or they are completing them in the semester of their exams.

The Graduate College requires that written and oral exams be completed within a 15-week period. The research essay and position paper should be given to the Comprehensive Examination Committee at least one month before the oral exam, after approval by the faculty supervisors. The two written examinations are typically scheduled over a two-week period and must be finished at least one week before the oral exam. Between the time of the written exams and the oral exam, examining faculty individually evaluate and discuss the exams with the candidate. The information provided in the evaluation guides the candidate in final preparation for the oral component of the examination; although, it does not include specific questions to be asked in the oral exam, nor does it limit the questions that may be asked.

Students normally present their Ph.D. comprehensive examination in their fifth semester. They are encouraged to complete their comprehensive examinations before October 15 (in the fall semester) or March 15 (in the spring semester) and to present and defend their dissertation prospectus before the end of the same semester.

Students must be registered during the semester in which they take their comprehensive examinations. If all course work has been completed prior to that semester, then students should register for 2 s.h. in SPAN:6998 Special Work with their advisor, on a satisfactory/unsatisfactory basis. Students may not register in SPAN:6999 Thesis during the semester of their comprehensive examination.

Literature Track

The literature track's comprehensive exam has written and oral components. The oral exam lasts two hours, with approximately half of the exam devoted to the two broad areas and half to the article and the position paper.

The written component includes four elements: two broad areas, one specialized area, and one article. Each element is supervised by a different committee member.

Reading Lists

The two broad areas comprise lists of approximately 40 readings, with each list covering an established historical period that is tied to the student's Ph.D. course work (one Peninsular, the other Spanish American). The lists must be approved by the supervisor before distribution to the rest of the committee. Each area is evaluated with a three-hour written exam, which is discussed during the student's oral exam.

The specialized area's reading list includes 25-40 secondary works that define the area and are related to the dissertation. The area is examined via a 15-20 page position paper, which is a critical synthesis of the secondary readings and normally becomes part of the dissertation introduction. The list and the paper must be written in consultation with a faculty supervisor and must be approved by the supervisor at least one month before the oral exam.

The article is a 20-25 page research essay, usually a revised version of a paper written for one of the two required seminars numbered 7000 or above. The article should be written in consultation with the professor who taught the seminar and with a faculty supervisor; if the professor who taught the course also supervises the area, the student must consult with at least one more professor. The article must be approved by the supervisor at least one month before the oral exam.

Oral Examination

The oral examination provides the opportunity for further development of the written examinations as well as examination of the position paper and research essay. At the end of the oral exam, the candidate is asked to leave the exam room in order for the committee to determine its evaluation. The candidate is then invited to return to the room to learn of the committee's evaluation, including an appraisal of specific areas of strength and/or weakness and recommendations for future academic work. The official evaluation of the exam is reported to the Graduate College as satisfactory, reservation, or unsatisfactory. If reservations are imposed, the examination committee must send a letter to the candidate specifying the reservations to be met and the deadline for their removal; copies are sent to the student's file, the director of graduate studies, and the Graduate College.

Linguistics Track

The comprehensive exam for the linguistics track includes written and oral components. The written component comprises two weekend take-home exams consisting of linguistic analysis in two subdisciplines distinct from the subdiscipline of the intended dissertation research. The two-hour oral exam consists of one hour devoted to discussion of the second research paper and the other hour devoted to follow-up questions on the written exams.

Dissertation

After the comprehensive examination is completed, the candidate submits a dissertation prospectus for the dissertation committee's approval. The dissertation committee is composed of five faculty members; at least four committee

members must be from the Department of Spanish and Portuguese.

The dissertation, complete and in final form, must be submitted in the required electronic format at the Graduate College office by the first-deposit deadline date of the session in which the degree is to be conferred. The final deposit of the approved dissertation in electronic format must be deposited at the office by the appropriate deadline in a student's graduation semester.

Students must adhere to the Graduate College regulations regarding preparation of the dissertation copy; consult the Graduate College. For information on the dissertation and final examinations, see the Manual of Rules and Regulations of the Graduate College.

Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level course work in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 1 s.h. for all graduate students. Doctoral students who have passed the comprehensive examinations typically register for 1 s.h. of thesis work to satisfy the minimum registration requirement. Students who fail to register for 36 months must apply for readmission to the Graduate College.

Financial Support

Teaching and research assistantships are available to qualified graduate students. Usually, four years of support are available beyond the receipt of the M.A. for the Ph.D. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Statistics and Actuarial Science

Chair

- Joseph B. Lang

Director of Graduate Studies

- Dale Zimmerman

Director of Undergraduate Studies, Actuarial Science

- Elias S. Shiu

Director of Undergraduate Studies, Statistics

- Ralph P. Russo

Undergraduate majors: actuarial science (B.S.); statistics (B.S.)

Undergraduate minor: statistics

Graduate degrees: M.S. in actuarial science; M.S. in statistics; Ph.D. in statistics

Faculty: <https://stat.uiowa.edu/people>

Website: <https://stat.uiowa.edu/>

The Department of Statistics and Actuarial Science offers undergraduate majors, an undergraduate minor, and graduate degree programs. They partner with other departments to offer the undergraduate Certificate in Large Data Analysis [p. 686] and the Certificate in Social Science Analytics [p. 914] (see below). The department offers courses that undergraduate students in all majors may use to satisfy the GE CLAS Core [p. 459] Quantitative or Formal Reasoning requirement.

Probability and statistics are important scientific disciplines essential to all fields of study that rely on information obtained from data. In a world bombarded with numerical information, informed decisions rely on the ability to separate fact from fiction by applying valid statistical analyses and visualizations. Statisticians can provide crucial guidance in determining what information is reliable and which predictions may be trusted. They often help search for clues to the solution of a scientific mystery and sometimes keep investigators from being misled by false impressions.

The work of a statistician may range from the theoretical (developing new methodologies and statistical theory) to the applied (working with scientists and decision makers to collect, analyze, and interpret data). Regardless of the areas in which they work, statisticians need strong mathematical, computational, and communication skills. Because uncertainty and data arise in many settings, statisticians have the opportunity to work on a variety of projects in industry, education, government, and research. Thousands of statisticians work in medicine, law, agriculture, public policy, marketing, manufacturing, engineering, and other fields in the social and natural sciences. The diversity of applications is an exciting aspect of the field and is one reason why the demand for well-trained statisticians continues to be strong.

An actuary is a business executive, professionally trained in the mathematical sciences. Actuaries specialize in the evaluation of financial risk—most often in the context of life, health, and casualty insurance, where they design, analyze, and refine varied programs to meet the insurance

needs of society. Many actuaries are employed by insurance companies, where they have responsibilities for all phases of the development and maintenance of their company's products. They have considerable influence on the financial soundness of their company through work in pricing insurance policies and in compiling data for financial statements.

Many actuaries are employed as consultants. Their actuarial services are used by smaller insurance companies and by individual employers who need actuarial guidance in establishing insurance and retirement programs for their employees. A growing number of actuaries work in the areas of asset/liability management and risk management. Some of these actuaries are employed by investment and consulting firms; others are employed by insurance companies.

Actuaries have been called financial architects and social mathematicians, because their combined analytical and business skills help solve a growing variety of financial and social problems. The actuarial profession is a demanding yet rewarding career choice.

Related Major and Certificates

Major: Data Science

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a field where new problems are encountered at an ever-increasing rate. A highly technical program, the major emphasizes the statistical/probabilistic and algorithmic (e.g., machine and statistical learning) methods that underlie the analysis process, developing data preparation skills (which generally involve writing software to obtain, extract, merge, clean, and/or transform the raw data), and the creation and implementation of new or special-purpose analysis tools.

Statistics majors may not earn a major in data science. The Department of Statistics and Actuarial Science and the Department of Computer Science [p. 274] collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science; see the B.S. in data science [p. 327] in the Catalog.

Certificate: Large Data Analysis

The Certificate in Large Data Analysis [p. 915] can be earned in addition to a B.S. degree in statistics. The certificate focuses on handling, processing, and extracting information from large data sets. As computers have become faster and smaller, more information can be gathered and used for a large range of applications, such as for weather forecasting, identifying people and trends utilizing Facebook or other social media, understanding the genome, and searching for disease causes and cures, as well as many other areas of study. The certificate is interdisciplinary, requiring courses from three areas of study—computer science, mathematics, and statistics. Computer science teaches students how to handle large amounts of data and how to implement the algorithms to process them, while statistics helps students to understand what can and cannot be legitimately inferred from the data. Mathematics focuses on algorithms and methods for connecting these important areas of data collection.

Certificate: Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and

quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Statistics and Actuarial Science collaborates with the Departments of Geographical and Sustainability Sciences, Political Science, and Sociology to offer the undergraduate program in social science analytics; see the Certificate in Social Science Analytics [p. 915] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Statistics (Bachelor of Science) [p. 997]
- Major in Actuarial Science (Bachelor of Science) [p. 1002]

Minor

- Minor in Statistics [p. 1005]

Graduate Programs of Study

Majors

- Master of Science in Statistics [p. 1006]
- Master of Science in Actuarial Science [p. 1008]
- Doctor of Philosophy in Statistics [p. 1009]

Facilities

The Department of Statistics and Actuarial Science is housed in Schaeffer Hall, adjacent to Old Capitol, a National Historic Landmark and the center of campus. The department operates two computer labs in Schaeffer Hall. One, which also is used as an electronic classroom, contains 28 Windows PCs. The second houses 18 high-end UNIX workstations. Students use these labs for class work and research.

Courses

- Statistics Courses [p. 992]
- Actuarial Science Courses [p. 995]

Undergraduate Duplication and Regression Policy

Undergraduate students should be aware of the duplication and regression policies concerning the following courses.

Students may earn credit for only two of these:

STAT:1010 Statistics and Society,
STAT:1020/PSQF:1020 Elementary Statistics and Inference,
STAT:1030 Statistics for Business, and
STAT:2010 Statistical Methods and Computing.

Credit for STAT:1010 Statistics and Society may be earned only if the course is taken before any of these:

STAT:1020/PSQF:1020 Elementary Statistics and Inference,
STAT:1030 Statistics for Business, and
STAT:2010 Statistical Methods and Computing.

Students may receive credit for only one course from each of these pairs:

STAT:2010 Statistical Methods and Computing
and STAT:4200/IGPI:4200 Statistical Methods and Computing,
STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and STAT:3120/IGPI:3120 Probability and Statistics, and
STAT:3510/IGPI:3510 Biostatistics and
STAT:4143/PSQF:4143 Introduction to Statistical Methods.

Students may not take STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II and STAT:4101/IGPI:4101 Mathematical Statistics II at the same time and get credit for both (nor go back to STAT:3101/IGPI:3101 after taking STAT:4101/IGPI:4101).

Statistics Courses

STAT:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

STAT:1010 Statistics and Society 3 s.h.

Statistical ideas and their relevance to public policy, business, humanities, and the social, health, and physical sciences; focus on critical approach to statistical evidence. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning.

STAT:1020 Elementary Statistics and Inference 3 s.h.

Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction; logic of statistical inference, elementary probability models, estimation and tests of significance. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning. Same as PSQF:1020.

STAT:1030 Statistics for Business 4 s.h.

Descriptive statistics, graphical presentation, elementary probability, estimation and testing, regression, correlation; statistical computer packages. GE: Quantitative or Formal Reasoning.

STAT:2010 Statistical Methods and Computing 3 s.h.

Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: undergraduate standing. GE: Quantitative or Formal Reasoning.

STAT:2020 Probability and Statistics for the Engineering and Physical Sciences 3 s.h.

Probability, random variables, important discrete and continuous distributions, joint distributions, transformations of random variables, descriptive statistics, point and interval estimation, tests of hypotheses, regression. Prerequisites: MATH:1560 or MATH:1860.

STAT:3100 Introduction to Mathematical Statistics I 3 s.h.

Descriptive statistics, probability, discrete and continuous distributions, sampling, sampling distributions. Prerequisites: MATH:1860 or MATH:1560. Same as IGPI:3100.

STAT:3101 Introduction to Mathematical Statistics II**3 s.h.**

Estimation, testing statistical hypotheses, linear models, multivariate distributions, nonparametric methods. Prerequisites: STAT:3100. Same as IGPI:3101.

STAT:3120 Probability and Statistics**4 s.h.**

Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: MATH:1560 or MATH:1860. Same as IGPI:3120.

STAT:3200 Applied Linear Regression**3 s.h.**

Regression analysis with focus on applications; model formulation, checking, selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010. Same as IE:3760, IGPI:3200.

STAT:3210 Experimental Design and Analysis**3 s.h.**

Single- and multifactor experiments; analysis of variance; multiple comparisons; contrasts; diagnostics; fixed, random, and mixed effects models; designs with blocking and/or nesting; two-level factorials and fractions thereof; use of statistical computing packages. Prerequisites: STAT:3200.

STAT:3510 Biostatistics**3 s.h.**

Statistical concepts and methods for the biological sciences; descriptive statistics, elementary probability, sampling distributions, confidence intervals, parametric and nonparametric methods, one-way ANOVA, correlation and regression, categorical data. Requirements: MATH:0100 or MATH:1005 or ALEKS score of 30 or higher. Same as IGPI:3510.

STAT:3620 Quality Control**3 s.h.**

Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or (STAT:3100 and STAT:3101 and STAT:3200). Same as CEE:3142, IE:3600.

STAT:4100 Mathematical Statistics I**3 s.h.**

Probability, conditional probability, random variables, distribution and density functions, joint and conditional distributions, various families of discrete and continuous distributions, mgf technique for sums, convergence in distribution, convergence in probability, central limit theorem. Prerequisites: MATH:2850 and MATH:2700. Same as IGPI:4100.

STAT:4101 Mathematical Statistics II**3 s.h.**

Transformations, order statistics, point estimation, sufficient statistics, Rao-Blackwell Theorem, delta method, confidence intervals, likelihood ratio tests, applications. Prerequisites: STAT:4100. Same as IGPI:4101.

STAT:4143 Introduction to Statistical Methods**3 s.h.**

Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as PSQF:4143.

STAT:4200 Statistical Methods and Computing**3 s.h.**

Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: graduate standing in non-statistics or less quantitative major. Same as IGPI:4200.

STAT:4510 Regression, Time Series, and Forecasting**3 s.h.**

Regression analysis, forecasting, time series methods; use of statistical computing packages. Prerequisites: STAT:3101 with a minimum grade of C+.

STAT:4520 Bayesian Statistics**3 s.h.**

Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as IGPI:4522, PSQF:4520.

STAT:4540 Statistical Learning**3 s.h.**

Introduction to supervised and unsupervised statistical learning, with a focus on regression, classification, and clustering; methods will be applied to real data using appropriate software; supervised learning topics include linear and nonlinear (e.g., logistic) regression, linear discriminant analysis, cross-validation, bootstrapping, model selection, and regularization methods (e.g., ridge and lasso); generalized additive and spline models, tree-based methods, random forests and boosting, and support-vector machines; unsupervised learning topics include principal components and clustering. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to programming and/or software, such as R, SAS, and Matlab. Same as IGPI:4540.

STAT:4560 Statistics for Risk Modeling**3 s.h.**

Theory and applications of general linear models, generalized linear models, and regression-based time series models; emphasis on parameter estimation, variable selection, and diagnostic checking for these models and their use for statistical inference and prediction; demonstration of practical implementations of these models with real data in actuarial and financial contexts. Prerequisites: STAT:4101 with a minimum grade of C+ or STAT:5101 with a minimum grade of C+. Requirements: knowledge of computer programming.

STAT:4580 Data Visualization and Data Technologies**3 s.h.**

Introduction to common techniques for visualizing univariate and multivariate data, data summaries, and modeling results; students learn to create and interpret these visualizations, and assess effectiveness of different visualizations based on an understanding of human perception and statistical thinking; data technologies for obtaining and preparing data for visualization and further analysis. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to basic use of statistical programming software (e.g., R or SAS) as obtained from a regression course strongly recommended. Same as IGPI:4580.

STAT:4740 Large Data Analysis**3 s.h.**

Current areas that deal with problem of Big Data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or IE:3760 or IGPI:3200). Same as CS:4740, IGPI:4740, MATH:4740.

STAT:4880 Data Science Creative Component 1 s.h.

Independent project under a faculty advisor's supervision; emphasis on communication of ideas learned in student's data science course work or internship.

STAT:4890 Data Science Practicum 2 s.h.

On- or off-campus internship or group-based consulting project that provides experience in a real-world setting and introduces ethical and confidentiality issues related to data collection, storage, and sharing.

STAT:5090 ALPHA Seminar 1 s.h.

Resources available to students, program requirements, tips for academic success, professional statistical organizations, library and career center resources, statistical computing, scientific document preparation, history of statistics. Requirements: graduate standing in statistics.

STAT:5100 Statistical Inference I 3 s.h.

Review of probability, distribution theory (multiple random variables, moment-generating functions, transformations, conditional distributions), sampling distributions, order statistics, convergence concepts, generating random samples. Prerequisites: MATH:2850 and STAT:3101.

STAT:5101 Statistical Inference II 3 s.h.

Continuation of STAT:5100; principles of data reduction, point estimation theory (MLE, Bayes, UMVU), hypothesis testing, interval estimation, decision theory, asymptotic evaluations. Prerequisites: STAT:5100.

STAT:5120 Mathematical Methods for Statistics 3 s.h.

Real numbers, point set theory, limit points, limits, metric spaces, continuity, sequences and series, Taylor series (multivariate), uniform convergence, Riemann-Stieltjes integrals. Requirements: statistics graduate standing.

STAT:5200 Applied Statistics I 4 s.h.

Introduction to computing environments and statistical packages, descriptive statistics, basic inferential methods (confidence intervals, chi-square tests); linear models (regression and ANOVA models—specification and assumptions, fitting, diagnostics, selection, testing, interpretation). Prerequisites: STAT:3101. Corequisites: STAT:4100 or STAT:5100. Requirements: facility with matrix algebra. Same as IGPI:5199.

STAT:5201 Applied Statistics II 3 s.h.

Design of experiments and analysis of designed experiments; models for fixed and random effects; mixed models; design and analysis of complex plans; sample-size methods. Prerequisites: STAT:5200. Recommendations: prior exposure to SAS software.

STAT:5400 Computing in Statistics 3 s.h.

R; database management; graphical techniques; importing graphics into word-processing documents (e.g., LaTeX); creating reports in LaTeX; SAS; simulation methods (Monte Carlo studies, bootstrap, etc.). Prerequisites: CS:1210 and STAT:3200 and (STAT:3120 or STAT:3101 or STAT:4101). Corequisites: STAT:5100 and STAT:5200 if not already completed. Same as IGPI:5400.

STAT:5610 Regression Modeling and ANOVA in the Health Sciences 3 s.h.

Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs, and an introduction to mixed models; designed for non-biostatistics majors. Offered spring semesters and summer sessions. Prerequisites: BIOS:4120. Same as BIOS:5120, IGPI:5120.

STAT:5810 Research Data Management 3 s.h.

Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as BIOS:5310, IGPI:5310.

STAT:6220 Statistical Consulting 3 s.h.

Realistic supervised data analysis experiences, including statistical packages, statistical graphics, writing statistical reports, dealing with complex or messy data. Offered spring semesters. Prerequisites: (STAT:3200 and STAT:3210) or (STAT:5201 and STAT:5200). Requirements: for undergraduate majors—major g.p.a. of 3.00 or above, and grades of B or higher in STAT:3200 and STAT:3210.

STAT:6300 Probability and Stochastic Processes I 3 s.h.

Conditional expectations; Markov chains, including random walks and gambler's ruin; classification of states; stationary distributions; branching processes; Poisson processes; Brownian motion. Prerequisites: STAT:4100.

STAT:6301 Probability and Stochastic Processes II 3 s.h.

Markov chains with continuous state space, Martingales, random walks, Brownian motion and other continuous-time Markov chains, simulation methods. Prerequisites: STAT:6300.

STAT:6510 Applied Generalized Regression 3 s.h.

Applications of semiparametric models, generalized linear models, nonlinear normal errors models, correlated response models; use of statistical packages, especially R and SAS. Requirements: introductory statistics and applied linear models. Same as IGPI:6511.

STAT:6513 Intermediate Statistical Methods 4 s.h.

Foundation for more advanced applied courses; logic of statistical inference, chi-square, and other tests of statistical hypotheses; small sample error theory, interval estimates, introduction to analysis of variance, selected nonparametric methods. Requirements: for PSQF:6243—PSQF:4143; for STAT:6513—STAT:4143. Same as PSQF:6243.

STAT:6514 Correlation and Regression 4 s.h.

Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Requirements: for PSQF:6244—PSQF:6243; for STAT:6514—STAT:6513. Same as PSQF:6244.

STAT:6516 Design of Experiments 4 s.h.

Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Requirements: for PSQF:6246—PSQF:6243; for STAT:6516—STAT:6513. Same as PSQF:6246.

STAT:6530 Environmental and Spatial Statistics 3 s.h.

Methods for sampling environmental populations, sampling design, trend detection and estimation, geostatistics, kriging, variogram estimation, lattice data analysis, analysis of spatial point patterns. Prerequisites: STAT:4101 and STAT:3200. Same as IGPI:6530.

STAT:6540 Applied Multivariate Analysis 3 s.h.

Multivariate descriptive statistics, multivariate normal distribution, Hotelling's T-squared, MANOVA, multivariate regression, principal components, discrimination and classification, cluster analysis. Prerequisites: STAT:3200 and STAT:3210. Requirements: facility with matrix algebra. Same as PSQF:6245.

STAT:6547 Nonparametric Statistical Methods 3 s.h.

Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Same as PSQF:6247.

STAT:6550 Introductory Longitudinal Data Analysis 3 s.h.

Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as BIOS:6310, IGPI:6310.

STAT:6560 Applied Time Series Analysis 3 s.h.

General stationary, nonstationary models, autocovariance autocorrelation functions; stationary, nonstationary autoregressive integrated moving average models; identification, estimation, forecasting in linear models; use of statistical computer packages. Offered spring semesters. Prerequisites: (STAT:5200 or STAT:3200) and STAT:3101.

STAT:6970 Topics in Statistics 3 s.h.**STAT:6990 Readings in Statistics arr.****STAT:7100 Advanced Inference I 3 s.h.**

Concepts of convergence, asymptotic methods including the delta method, sufficiency, asymptotic efficiency, Fisher information and information bounds for estimation, maximum likelihood estimation, the EM-algorithm, Bayes estimation, decision theory. Prerequisites: STAT:5101 and STAT:5120.

STAT:7101 Advanced Inference II 3 s.h.

Hypothesis testing, asymptotics of the likelihood ratio test, asymptotic efficiency, statistical functionals, robustness, bootstrap and jackknife, estimation with dependent data. Prerequisites: STAT:7100.

STAT:7190 Seminar: Mathematical Statistics arr.**STAT:7200 Linear Models 4 s.h.**

Linear spaces and selected topics in matrix algebra, multivariate normal distribution and distributions of quadratic forms, full rank and non-full rank linear models, estimability, least squares and best linear unbiased estimation, interval estimation, hypothesis testing, random and mixed models, best linear unbiased prediction, variance component estimation. Prerequisites: STAT:5101 and STAT:5200 and STAT:5201.

STAT:7290 Seminar: Applied Statistics arr.**STAT:7300 Foundations of Probability I 3 s.h.**

Probability theory, with emphasis on constructing rigorous proofs; measure spaces, measurable functions, random variables and induced measures, distribution functions, Lebesgue integral, product measure and independence, Borel Cantelli lemma, modes of convergence. Prerequisites: STAT:5120.

STAT:7301 Foundations of Probability II 3 s.h.

Laws of large numbers, characteristic functions and properties, central limit theorem, Radon-Nikodym derivatives, conditional expected value and martingales. Prerequisites: STAT:7300.

STAT:7390 Seminar: Probability arr.**STAT:7400 Computer Intensive Statistics 3 s.h.**

Computer arithmetic; random variate generation; numerical optimization; numerical linear algebra; smoothing techniques; bootstrap methods; cross-validation; MCMC; EM and related algorithms; other topics per student/instructor interests. Prerequisites: (BIOS:5710 or STAT:5200) and STAT:3101. Requirements: proficiency in Fortran or C or C++ or Java. Same as IGPI:7400.

STAT:7510 Analysis of Categorical Data 3 s.h.

Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: (BIOS:5720 or STAT:5200) and (STAT:5101 or STAT:4101). Same as BIOS:7410.

STAT:7520 Bayesian Analysis 3 s.h.

Decision theory, conjugate families, structure of Bayesian inference, hierarchical models, asymptotic approximations for posterior distributions, Markov chain Monte Carlo methods and convergence assessment, model adequacy and model choice. Prerequisites: STAT:5101 and STAT:5400 and STAT:5200.

STAT:7560 Time Series Analysis 3 s.h.

Stationary time series, ARIMA models, spectral representation, linear prediction inference for the spectrum, multivariate time series, state space models and processes, nonlinear time series. Prerequisites: STAT:4101 and (STAT:3200 or STAT:6560).

STAT:7570 Survival Data Analysis 3 s.h.

Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:7210, IGPI:7210.

STAT:7990 Reading Research arr.

Actuarial Science Courses

ACTS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ACTS:1001 Introductory Seminar on Actuarial Science 1 s.h.

Introduction to actuarial science; U.S. actuarial organizations and actuarial qualification process; program requirements and tips for academic success; career center, actuarial club, and internships; actuarial career; ethics; communication; introduction to actuarial computing. Requirements: actuarial science interest major and first-year standing.

ACTS:3080 Mathematics of Finance I 3 s.h.

Mathematics of compound interest, annuities certain, amortization schedules, yield rates, sinking funds, and bonds. Prerequisites: STAT:3100 with a minimum grade of B-. Requirements: meet the prerequisite or have graduate standing.

ACTS:3110 Actuarial Exam P Preparation 1 s.h.

Preparation for the Society of Actuaries exam P.

ACTS:3210 Actuarial Exam FM Preparation 1 s.h.

Preparation for the Society of Actuaries exam FM. Corequisites: ACTS:3080, if not taken as a prerequisite.

ACTS:4110 Actuarial Exam LTAM Preparation 1 s.h.

Preparation for the Society of Actuaries exam. Corequisites: ACTS:4280, if not taken as a prerequisite.

ACTS:4130 Quantitative Methods for Actuaries 3 s.h.

Survival distributions, life tables, life insurance, introductory stochastic processes. Offered fall semesters. Prerequisites: STAT:3100 with a minimum grade of B- and ACTS:3080 with a minimum grade of C+. Corequisites: STAT:4100 or STAT:5100. Requirements: multivariate calculus and linear algebra.

ACTS:4160 Topics in Actuarial Science arr.

Selected topics in actuarial science, financial mathematics, and quantitative risk management not covered in other courses.

ACTS:4180 Life Contingencies I 3 s.h.

Life annuities, net and gross premiums, net and gross premium reserves, modified reserve methods, and Markov chains. Offered spring semesters. Prerequisites: ACTS:3080 with a minimum grade of C+ and ACTS:4130 with a minimum grade of C+ and (STAT:4100 with a minimum grade of C+ or STAT:5100 with a minimum grade of C+).

ACTS:4280 Life Contingencies II 3 s.h.

Multilife models, multiple-decrement models, continuous-time Markov chain models, profit testing, and profit measures. Offered fall semesters. Prerequisites: ACTS:4180 with a minimum grade of C+.

ACTS:4380 Mathematics of Finance II 3 s.h.

Derivatives markets, forwards, options, pricing models, and actuarial applications. Prerequisites: ACTS:3080 with a minimum grade of C+. Corequisites: STAT:4100 or STAT:5100. Requirements: multivariate calculus and linear algebra.

ACTS:4990 Readings in Actuarial Science arr.**ACTS:6160 Topics in Actuarial Science arr.**

Selected topics in actuarial science, financial mathematics, and quantitative risk management not covered in other courses; a required course for all final-year M.S. students in actuarial science. Prerequisites: ACTS:4180 with a minimum grade of C+ and ACTS:4380 with a minimum grade of C+.

ACTS:6480 Loss Distributions 3 s.h.

Severity, frequency, and aggregate models and their modifications; risk measures; construction of empirical models. Offered spring semesters. Prerequisites: STAT:5101 or STAT:4101. Corequisites: ACTS:6580.

ACTS:6580 Credibility and Survival Analysis 3 s.h.

Construction and selection of parametric models, credibility, and simulation. Offered spring semesters. Prerequisites: STAT:5101 or STAT:4101. Corequisites: ACTS:6480.

ACTS:6990 Readings in Actuarial Science arr.

Supervised reading and research in actuarial science, financial mathematics, or quantitative risk management.

ACTS:7730 Advanced Topics in Actuarial Science/Financial Mathematics arr.

Selected topics in actuarial science, financial mathematics, and quantitative risk management not covered in other courses.

Statistics, B.S.

Learning Outcomes

Students will:

- be able to distinguish between observational studies and designed experiments and understand the issues related to the data collection method, including sampling bias, sampling error, sample size determination, statistical power, association versus causation, and the design and analysis of randomized experiments;
- use critical thinking skills to translate substantive questions into well-defined statistical problems and choose appropriate statistical methods and graphical summaries for a given problem;
- use computer software to manage data, carry out exploratory data analyses and computer simulations, produce numerical and graphical summaries of data, and apply basic statistical methodology;
- be able to clearly communicate study results to non-statisticians, and write accurate and meaningful reports that describe the statistical analyses and summarize important findings; and
- understand the mathematical tools underlying statistical methods, including distribution theory, uncertainty quantification via probability, estimation theory, and the probabilistic basis of formal statistical inference.

Requirements

The Bachelor of Science with a major in statistics requires a minimum of 120 s.h., including at least 47 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students complete 10 core courses that provide essential instruction in statistical methods, applications, and theory. In addition, they concentrate on an area of interest by completing four or five courses in one of the major's three emphasis tracks: statistics in business, industry, government, and research; statistical computing and data science; or mathematical statistics.

The B.S. with a major in statistics requires the following course work.

Code	Title	Hours
Core Courses		35
Emphasis Track Courses		12-16
Total Hours		47-51

Core Courses

All students complete the following 10 core courses. The department recommends that well-prepared students who elect the mathematical statistics track take STAT:4100/IGPI:4100 Mathematical Statistics I and STAT:4101/IGPI:4101 Mathematical Statistics II in place of STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II to satisfy the core requirement in statistics.

Code	Title	Hours
Computer Science		
This course:		
CS:1210	Computer Science I: Fundamentals	4
Mathematics		
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
Statistics		
All of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:3200/IE:3760/ IGPI:3200	Applied Linear Regression	3
STAT:3210	Experimental Design and Analysis	3

Emphasis Tracks

Students choose one of the following tracks and must complete four or five courses in that track.

Statistics in Business, Industry, Government and Research Track

The statistics in business, industry, government, and research track emphasizes statistical applications and data analysis. It is appropriate for students interested in careers as applied statisticians.

Code	Title	Hours
This course:		
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
Three of these:		
STAT:3620/ CEE:3142/IE:3600	Quality Control	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3

STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3
BIOS:6110/ IGPI:6110	Applied Categorical Data Analysis	3

Statistical Computing and Data Science Track

The statistical computing and data science track emphasizes statistical applications and requires additional course work in computing. It prepares students for statistical work that requires computing expertise for data management, analysis, and reporting.

Code	Title	Hours
All of these:		
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
Two of these:		
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:4740/ CS:4740/IGPI:4740/ MATH:4740	Large Data Analysis	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3
STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3
CS:3700/ MATH:3800	Elementary Numerical Analysis	3

Mathematical Statistics Track

The mathematical statistics track provides a solid foundation in statistical theory and applications. It requires additional course work in mathematics and is good preparation for graduate study in statistics.

Students who use STAT:4100/IGPI:4100 Mathematical Statistics I and STAT:4101/IGPI:4101 Mathematical Statistics II to satisfy the core requirements may not use those courses to satisfy the track requirement.

Code	Title	Hours
This course:		
MATH:3770	Fundamental Properties of Spaces and Functions I	4
9 s.h. from these:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100- IGPI:4101)	6
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300- STAT:6301	Probability and Stochastic Processes I-II	6
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3
STAT:6560	Applied Time Series Analysis	3

Combined Programs

B.S./M.S.

The combined Bachelor of Science/Master of Science in statistics is for eligible students who seek to complete both the B.S. and the M.S. at the University of Iowa in five years. Students in the combined program must complete all requirements for each degree. A traditional M.S. in statistics requires completion of 32 s.h. of graduate-level course work. The B.S./M.S. program permits students to count 12 s.h. of credit (four courses) toward the requirements for both degrees. To complete the M.S., an additional 20 s.h. of course work is required. The four courses that count toward both degrees must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.S. and the M.S. in statistics.

B.S./M.P.H.

Students majoring in statistics who are interested in earning a Master of Public Health degree with a quantitative methods (biostatistics) subprogram may apply to the combined B.S./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 12 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. For information about the public health program, see "Quantitative Methods Subprogram" in the Master of Public Health [p. 1732] section of the Catalog.

Honors

Honors in the Major

Students majoring in statistics have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.40 in their major and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors in the statistics major, students must complete an honors project or a suitable alternative. Statistics honors students should consult with the statistics honors advisor.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the statistics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Much of the course work in statistics is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult their advisor to confirm a four-year plan.

Courses must be taken in sequence, so students must begin work early.

Before the fifth semester begins: at least four courses in the major, including MATH:1850 Calculus I, MATH:1860 Calculus II, and STAT:2010 Statistical Methods and Computing

Before the seventh semester begins: seven or eight courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: nine or ten courses in the major

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Statistics, B.S.

- Statistics in Business, Industry, Government and Research Track [p. 999]
- Statistical Computing and Data Science Track [p. 1000]
- Mathematical Statistics Track [p. 1001]

Statistics in Business, Industry, Government and Research Track

Course	Title	Hours
First Year		
Fall		
MATH:1850	Calculus I ^{a, b}	4

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CS:1210	Computer Science I: Fundamentals ^b	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		17-19

Spring

MATH:1860	Calculus II	4
STAT:2010	Statistical Methods and Computing ^b	3

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		17-19

Second Year

Fall

STAT:3200	Applied Linear Regression	3
STAT:3100	Introduction to Mathematical Statistics I ^e	3

GE CLAS Core: Natural Sciences with Lab ^f		4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		14-15

Spring

STAT:3101	Introduction to Mathematical Statistics II ^g	3
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MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Historical Perspectives ^f		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		14-15

Third Year

Fall

MATH:2850	Calculus III	4
STAT:5810	Research Data Management ^h	3
Major: upper-level statistics course ^h		3
GE CLAS Core: International and Global Issues ^f		3
GE CLAS Core: Natural Sciences without Lab ^f		3
Hours		16

Spring

STAT:3210	Experimental Design and Analysis ^g	3
Major: upper-level statistics course ^h		3
GE CLAS Core: Social Sciences ^f		3
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
Elective course ^d		3
Hours		15

Fourth Year

Fall

GE CLAS Core: Diversity and Inclusion		3
Major: upper-level statistics course ^h		3
Elective course ^d		3

Elective course ^d	3
Elective course ^d	3
Hours	15

Spring

Major: upper-level statistics course ^h	3
GE CLAS Core: Values and Culture ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Total Hours	123-129

- a Enrollment in math courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Students must complete STAT:5810 and 9 s.h. from approved courses for the Statistics in Business, Industry, Government and Research emphasis track.

Statistical Computing and Data Science Track

Course	Title	Hours
First Year		
Fall		
MATH:1850	Calculus I ^{a, b}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CS:1210	Computer Science I: Fundamentals ^b	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		17-19

Spring

MATH:1860	Calculus II	4
STAT:2010	Statistical Methods and Computing ^b	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		17-19

Second Year**Fall**

STAT:3200	Applied Linear Regression	3
CS:2210	Discrete Structures ^e	3
GE CLAS Core: Natural Sciences without Lab ^f		3

GE CLAS Core: Historical Perspectives ^f	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c	4 - 5
Hours	16-17

Spring

CS:2230	Computer Science II: Data Structures ^e	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Natural Sciences with Lab ^f		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		16-17

Third Year**Fall**

STAT:3100	Introduction to Mathematical Statistics I ^g	3
MATH:2850	Calculus III	4
GE CLAS Core: International and Global Issues ^f		3
GE CLAS Core: Social Sciences ^f		3
Elective course ^d		3
Hours		16

Spring

STAT:3210	Experimental Design and Analysis ^h	3
STAT:3101	Introduction to Mathematical Statistics II ^h	3
Major: upper-level statistics course ^e		3
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
Elective course ^d		3
Hours		15

Fourth Year**Fall**

STAT:5810	Research Data Management ^e	3
Major: upper-level statistics course ^e		3
GE CLAS Core: Diversity and Inclusion ^f		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: upper-level statistics course		3
GE CLAS Core: Values and Culture ^f		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15
Total Hours		127-133

- a Enrollment in math courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students must complete five courses for the Statistical Computing and Data Science emphasis track.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

Mathematical Statistics Track

Course	Title	Hours
First Year		
Fall		
MATH:1850	Calculus I ^{a, b}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CS:1210	^a Computer Science I: Fundamentals	4
GE CLAS Core: World Languages First Level Proficiency or elective course ^c		4 - 5
CSI:1600	Success at Iowa	2
Hours		17-19
Spring		
MATH:1860	Calculus II	4
STAT:2010	^a Statistical Methods and Computing	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Elective course ^d		3
Hours		17-19
Second Year		
Fall		
STAT:3100	Introduction to Mathematical Statistics I ^e	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Historical Perspectives ^f		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^c		4 - 5
Hours		14-15
Spring		
STAT:3101	Introduction to Mathematical Statistics II ^g	3
STAT:3200	Applied Linear Regression	3
MATH:3770	Fundamental Properties of Spaces and Functions I ^h	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^c		4 - 5
Hours		14-15
Third Year		
Fall		
MATH:2850	Calculus III	4
Major: upper-level statistics course ^{h, i}		3
GE CLAS Core: Literary, Visual, and Performing Arts ^f		3
GE CLAS Core: International and Global Issues ^f		3
Elective course ^d		3
Hours		16
Spring		
STAT:3210	^g Experimental Design and Analysis	3
GE CLAS Core: Social Sciences ^f		3
GE CLAS Core: Natural Sciences without Lab ^f		3

Elective course	3
Elective course ^d	3
Hours	15

Fourth Year

Fall	
Major: upper-level statistics course ^{h, i}	3
GE CLAS Core: Values and Culture ^f	3
GE CLAS Core: Natural Sciences with Lab ^f	4
Elective course ^d	3
Elective course ^d	3
Hours	16

Spring

Major: upper-level statistics course ^{h, i}	3
GE CLAS Core: Diversity and Inclusion ^f	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15

Total Hours 124-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in math courses requires completion of a placement exam.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Students must complete MATH:3770 and 9 s.h. from approved courses for the Mathematical Statistics emphasis track.
- i Students who use STAT:4100 and STAT:4101 to satisfy the core requirements may not use those courses to satisfy the track requirement. Typically STAT:4100 is offered in fall semesters only and STAT:4101 is offered in spring only. Check MyUI for course availability since offerings are subject to change.

Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

When students graduate, they will be prepared to fill entry-level positions as statisticians or go on to graduate school. An advisor assists students in locating internship opportunities as well as the best-fitting graduate programs.

To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Actuarial Science, B.S.

Learning Outcomes

Students will:

- be able to bring to bear actuarial, financial, mathematical, and statistical techniques to model and analyze risks, particularly in the context of insurance and pension;
- have the knowledge and analytical ability to pass the initial professional actuarial examinations given by the Society of Actuaries and Casualty Actuarial Society, and develop the skills needed for successful self-study of the advanced professional examinations;
- be skillful in using and developing computer software to solve actuarial problems;
- be able to clearly communicate results from an actuarial analysis to all stakeholders, and write effective reports that describe the analysis and summarize important findings; and
- possess a basic understanding of insurance and business operations.

Overview

Due to the demanding nature of the actuarial science major and the difficulty of the professional examinations, the department maintains a selective admission program for actuarial science. Students must apply and be admitted to the major.

Students interested in becoming actuaries should declare an interest in actuarial science as their major when they enter the University of Iowa. Ordinarily, students apply for admission to the actuarial science major in the fall semester of their sophomore year, after they have taken MATH:3770 Fundamental Properties of Spaces and Functions I or MATH:2850 Calculus III, and STAT:3100 Introduction to Mathematical Statistics I. Students should apply no later than the end of the spring semester of their junior year.

Students admitted to the actuarial science major usually have completed at least 40 s.h. at the University or at another postsecondary institution, including a three- or four-course calculus sequence, a course in linear algebra, and a calculus-based course in probability and statistics. The admission decision is based on a student's performance in these courses and other courses relevant to success in the major. The student's grades from semester to semester also are considered. ACT or SAT scores are considered in evaluating transfer students. Factors such as work ethic, enthusiasm, and commitment also may be considered. Students who do well in the prerequisite math courses tend to be the most successful in actuarial science.

For application forms and more information about selective admission, contact the Department of Statistics and Actuarial Science.

Requirements

The Bachelor of Science with a major in actuarial science requires a minimum of 120 s.h., including 59 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The program prepares students for careers as actuaries. It also helps them learn material that is included in professional examinations administered by professional organizations such as the Society of Actuaries and the Casualty Actuarial Society.

Students take a variety of actuarial science courses. They prepare for business aspects of the actuarial profession by studying accounting, law, finance, insurance, and economics. They also complete courses that enhance important communication skills, such as writing and speaking, as part of their CLAS Core requirements.

Courses Required for the Major

The B.S. with a major in actuarial science requires the following course work. Permission to substitute course work taken at another institution for required courses at the University of Iowa is decided case by case; students should contact the department.

Code	Title	Hours
Computer Science		
This course:		
CS:1210	Computer Science I: Fundamentals	4
Economics		
Both of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
Mathematics		
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
Statistics and Actuarial Science		
All of these:		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
ACTS:4380	Mathematics of Finance II	3
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:4100/ IGPI:4100	Mathematical Statistics I	3
STAT:4101/ IGPI:4101	Mathematical Statistics II	3

In exceptional cases, the advisor may grant permission to waive STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and/or STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II.

Students may choose to complete ACTS:6480 Loss Distributions and ACTS:6580 Credibility and Survival Analysis (both courses) instead of ACTS:4280 Life

Contingencies II, except honors students, who must complete all three courses.

Honors

Honors in the Major

Students majoring in actuarial science have the opportunity to graduate with honors in the major. They must maintain a UI cumulative g.p.a. of at least 3.33, a g.p.a. of at least 3.40 in all departmental courses, and complete the following five courses in addition to all courses required for the major.

Code	Title	Hours
ACTS:6480	Loss Distributions	3
ACTS:6580	Credibility and Survival Analysis	3
STAT:4560	Statistics for Risk Modeling	3
FIN:3300	Corporate Finance	3
MATH:3600	Introduction to Ordinary Differential Equations	3

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the actuarial science major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Much of the course work is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult their advisor to confirm a four-year plan.

Before the third semester begins: MATH:1860 Calculus II and MATH:2700 Introduction to Linear Algebra

Before the fifth semester begins: MATH:2850 Calculus III, MATH:3770 Fundamental Properties of Spaces and Functions I, STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I, STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II, and ACTS:3080 Mathematics of Finance I

Before the seventh semester begins: STAT:4101/IGPI:4101 Mathematical Statistics II, ACTS:4130 Quantitative Methods for Actuaries, ACTS:4180 Life Contingencies I, ACTS:4380 Mathematics of Finance II, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: ACTS:4280 Life Contingencies II

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Actuarial Science, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Students apply to the Actuarial Science B.S. program through a selective process. Acceptance is not guaranteed. ^a		
	Hours	0
First Year		
Fall		
MATH:1850	Calculus I ^{b, c}	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
ECON:1100	Principles of Microeconomics ^c	4
GE CLAS Core: World Languages First Level		4 - 5
	Proficiency or elective course ^d	
CSI:1600	Success at Iowa	1
ACTS:1001	Introductory Seminar on Actuarial Science	1
	Hours	17-19
Spring		
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
ECON:1200	Principles of Macroeconomics ^c	4
GE CLAS Core: World Languages Second Level		4 - 5
	Proficiency or elective course ^d	
	Hours	16-17
Second Year		
Any Semester		
The curriculum shown in second year spring and the third and fourth years on this plan begins upon acceptance into the Actuarial Science B.S. program.		
	Hours	0
Fall		
MATH:2850	Calculus III	4
STAT:3100	Introduction to Mathematical Statistics I ^e	3
GE CLAS Core: Historical Perspectives ^f		3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: World Languages Second Level		4 - 5
	Proficiency or elective course ^d	
Admission Application: apply to the Actuarial Science B.S. major ^g		
	Hours	17-19
Spring		
MATH:3770	Fundamental Properties of Spaces and Functions I	4
STAT:3101	Introduction to Mathematical Statistics II ^h	3
ACTS:3080	Mathematics of Finance I	3
GE CLAS Core: Natural Sciences with Lab ^f		4

GE CLAS Core: World Languages Fourth Level Proficiency or elective course^d 4 - 5

Hours 18-19

Third Year

Fall

ACTS:4130 Quantitative Methods for Actuaries^e 3

STAT:4100 Mathematical Statistics I^e 3

FIN:3300 Corporate Finance^{i, j} 3

GE CLAS Core: Diversity and Inclusion^f 3

CS:1210 Computer Science I: Fundamentals^c 4

Hours 16

Spring

ACTS:4180 Life Contingencies I^h 3

ACTS:4380 Mathematics of Finance II 3

STAT:4101 Mathematical Statistics II^h 3

GE CLAS Core: Literary, Visual, and Performing Arts^f 3

Elective course^k 3

Hours 15

Fourth Year

Fall

ACTS:4280 Life Contingencies II^{e, i} 3

STAT:4560 Statistics for Risk Modeling^j 3

ACCT:2100 Introduction to Financial Accounting^{i, j} 3

GE CLAS Core: Diversity and Inclusion^f 3

Elective course^k 3

Hours 15

Spring

ACTS:4380 Mathematics of Finance II 3

GE CLAS Core: Natural Sciences without Lab^f 3

GE CLAS Core: Values and Culture^f 3

GE CLAS Core: International and Global Issues^f 3

Elective course^k 3

Hours 15

Total Hours 129-135

- a The Academic Advising Center advises Actuarial Science Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one and a half years to complete.
- b Enrollment in math courses requires completion of a placement exam.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Ordinarily, students apply for admission to the actuarial science major in the fall semester of their sophomore year, after they have taken MATH:3770 or MATH:2850, and STAT:3100. Students should apply no later than the end of the spring semester of their junior year. For further details and application instructions, see your advisor and the Department of Statistics and Actuarial Science website.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i This course may count for VEE credit.

j This course is a recommended elective, not a requirement. Prerequisites may apply.

k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

l Students may choose to complete ACTS:6480 and ACTS:6580 (both courses) instead of ACTS:4280, except honors students, who must complete all three courses.

Career Advancement

Most actuaries are employed by insurance companies or employee benefits consulting firms. They have responsibilities related to all phases of product development and maintenance for their companies. Individual employers who need guidance in establishing employee insurance and retirement programs also hire actuarial science graduates. A growing number of actuaries work in asset/liability management, some in investment firms, and others in insurance companies.

Actuaries have always been in high demand and earn good salaries. Most Iowa graduates find work as actuaries, but some become financial managers and teachers. They take positions in locations all across the country, often in large metropolitan areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Statistics, Minor

BIOS:6110/
IGPI:6110

Applied Categorical Data
Analysis

3

The undergraduate minor in statistics requires a minimum of 15 s.h. in statistics courses taken at the University of Iowa. At least 12 s.h. must be taken in courses numbered 3000 or above (selected from the lists below). Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

The minor in statistics requires a minimum of 15 s.h. of course work, as follows.

Code	Title	Hours
One of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3
One of these:		
STAT:3200/IE:3760/ IGPI:3200	Applied Linear Regression	3
STAT:4510	Regression, Time Series, and Forecasting	3
A maximum of one of these:		
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3120/ IGPI:3120	Probability and Statistics	4
STAT:4100/ IGPI:4100	Mathematical Statistics I	3
A maximum of one of these:		
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:4101/ IGPI:4101	Mathematical Statistics II	3
A maximum of three of these:		
STAT:3210	Experimental Design and Analysis	3
STAT:3620/ CEE:3142/IE:3600	Quality Control	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3

Statistics, M.S.

Requirements

The Master of Science program in statistics requires 32 s.h. of graduate credit. The program prepares students for careers as professional statisticians or for entry into a Ph.D. program. It includes a solid foundation in statistical computing, statistical modeling, experimental design, and mathematical statistics plus electives in statistical methods and/or theory. Students have the opportunity to concentrate on theory or applications or a combination of the two.

In addition to required course work, students must pass a two-part graduate final examination and complete the M.S. creative component.

Students must maintain a g.p.a. of at least 3.00 in all work toward the degree and in additional relevant course work. Students must take a computer programming proficiency test during the first semester of study; those who display inadequate programming skills are assigned activities to build their proficiency.

The M.S. with a major in statistics requires the following work.

Statistics Courses

Code	Title	Hours
All of these:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2
At least 7 s.h. from these:		
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:6301	Probability and Stochastic Processes II	3
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3
STAT:6547/ PSQF:6247	Nonparametric Statistical Methods	3
STAT:6560	Applied Time Series Analysis	3

STAT:6970	Topics in Statistics	3
A Ph.D.-level course numbered 7000 or above, including seminar courses		1-3

Students planning to enter the doctoral program may wish to include STAT:5120 Mathematical Methods for Statistics in their course selections, since it is part of the required Ph.D. core.

Final Examination

The final examination consists of two parts: one covers the topics presented in STAT:5100 Statistical Inference I and STAT:5101 Statistical Inference II; the other part covers the topics presented in STAT:5200/IGPI:5199 Applied Statistics I, STAT:5201 Applied Statistics II, and STAT:5400/IGPI:5400 Computing in Statistics. Each part includes a few problems that test readiness for the Ph.D. program.

Final examinations are offered the week before classes begin in August. Study guides are available in the department office. Students who do not succeed the first time they take the exam may repeat it once, with the possibility to retake it the week before classes begin in January.

Students must complete all requirements and be granted the Master of Science degree within one calendar year of passing the M.S. final examination; those who do not meet this deadline are required to take the exam again.

Students entering the Ph.D. program, who will choose either biostatistics, probability/mathematical statistics, or statistical computing as their concentration area, and who already have taken the equivalent of the first-year courses, may take the M.S. final examination in statistics before beginning further studies.

Creative Component

Students also must complete a creative component that is related to their application and career interests. Students wishing to qualify for the Ph.D. program are encouraged to write a research-oriented creative component. The creative component entails writing an 8-15 page report on a suitable topic, under an advisor's supervision (with two consecutive 1 s.h. enrollments in STAT:6990 Readings in Statistics, normally during the fall and spring semesters of the second year). A draft of the paper should be completed by the end of the first enrollment in STAT:6990, and polished by early- to mid-semester in the second enrollment. The paper is then presented orally in a public seminar. A faculty committee, in consultation with the creative component advisor, evaluates the work and the presentation, and assigns a grade of satisfactory or unsatisfactory.

For students wishing to qualify for the Ph.D. program, the creative component represents one piece of the body of work used to determine Ph.D. qualification. The creative component must be satisfactorily completed within one calendar year of passing the M.S. final examination; failure to meet this deadline requires reexamination of the student.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians

work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Actuarial Science, M.S.

Requirements

The Master of Science program in actuarial science requires 36 s.h. of graduate credit. The program prepares students for actuarial careers by emphasizing the theory that underlies risk processes and the application of this theory to practical problems of insurance pricing and management. It also helps them learn material that is included in professional examinations administered by professional organizations such as the Society of Actuaries and the Casualty Actuarial Society.

Students complete required courses and a final examination.

The M.S. with a major in actuarial science requires the following course work.

Code	Title	Hours
One of these sequences:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100- IGPI:4101)	6
STAT:5100- STAT:5101	Statistical Inference I-II (for well prepared students)	6
All of these:		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
ACTS:4380	Mathematics of Finance II	3
ACTS:6160	Topics in Actuarial Science	3
ACTS:6480	Loss Distributions	3
ACTS:6580	Credibility and Survival Analysis	3
STAT:4560	Statistics for Risk Modeling	3
A course approved by the advisor		3

Final Examination

The final examination is offered the weekend before classes begin in January. The exam covers the material presented in ACTS:6160 Topics in Actuarial Science, ACTS:4180 Life Contingencies I, ACTS:4280 Life Contingencies II, and ACTS:4380 Mathematics of Finance II. Students who do not succeed the first time they take the exam may repeat it once.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Most actuaries are employed by insurance companies or employee benefits consulting firms. They have responsibilities related to all phases of product development and maintenance for their companies. Individual employers who need guidance in establishing employee insurance and retirement programs also hire actuarial science graduates. A growing number of actuaries work in asset/liability

management, some in investment firms, and others in insurance companies.

Actuaries have always been in high demand and earn good salaries. Most Iowa graduates find work as actuaries, but some become financial managers and teachers. They take positions in locations all across the country, often in large metropolitan areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Statistics, Ph.D.

Requirements

The Doctor of Philosophy program in statistics requires a minimum of 76 s.h. of graduate credit, including work completed for the M.S. degree.

The Graduate College requires a minimum g.p.a. of 3.00 to graduate with a Ph.D. degree; however, the Department of Statistics and Actuarial Science requires a higher g.p.a. of at least 3.40 to earn the Ph.D. in statistics. This includes all courses used to meet degree requirements plus additional courses that are relevant to a student's program.

Ph.D. students complete required course work, including four courses in one of four concentration areas: biostatistics, probability/mathematical statistics, statistical computing, or actuarial science/financial mathematics (see "Concentration Areas" below for area descriptions and course lists). They may take course work or seminars in other departments to relate an area of specialization to other fields of knowledge, to acquire the ability to use electronic digital computing equipment, or to learn non-English language skills necessary for reading scientific journals and communicating with scholars in other languages.

Ph.D. Qualifying Procedure

Students enter the Ph.D. program in one of two tracks.

Statistics: After successfully passing both the M.S. final examination in statistics and the creative component (in exceptional cases, a student may petition to go through the Ph.D. qualifying procedure early), a student who will choose either biostatistics, probability/mathematical statistics, or statistical computing as the selected concentration area, can request, by notifying the director of graduate studies, to go through the Ph.D. qualifying procedure. Upon this request, the faculty evaluate the student's body of work and assess the student's potential for research. The body of work will include the M.S. final examination in statistics, the creative component, and course work. This evaluation and assessment results in one of three decisions—the student is officially admitted into the Ph.D. program; the student must reapply to go through the Ph.D. qualifying procedure after accumulating a larger body of work for evaluation; or the student is not admitted into the Ph.D. program.

Actuarial Science: After successfully passing the M.S. final examination in actuarial science (in exceptional cases, a student may petition to go through the Ph.D. qualifying procedure early), a student who will choose actuarial science/financial mathematics as the selected concentration area, can request, by notifying the director of graduate studies, to go through the Ph.D. qualifying procedure. Upon this request, the faculty evaluate the student's body of work and assess the student's potential for research. The body of work will include the M.S. final examination in actuarial science, professional examinations passed, and course work. This evaluation and assessment results in one of two decisions—the student is officially admitted into the Ph.D. program in the actuarial science/financial mathematics concentration area, or the student is not admitted into the Ph.D. program.

Students complete the program by passing the Ph.D. final (comprehensive) examination and writing and defending a dissertation. Students usually complete the program three years after earning the M.S. degree.

A plan of study that does not conform to the requirements described below but is of high quality may be approved by the department chair.

Each semester a student registers for at least 6 s.h., and at least 2 s.h. of those must be departmental courses.

The Ph.D. with a major in statistics requires the following work.

Statistics Courses

Biostatistics, Probability/Mathematical Statistics, or Statistical Computing Concentration Area

Students in the biostatistics, probability/mathematical statistics, or statistical computing concentration area must complete the following core courses from the M.S. in statistics program.

Code	Title	Hours
All of these:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2

Actuarial Science/Financial Mathematics Concentration Area

Students in the actuarial science/financial mathematics concentration area must complete the following core courses from the M.S. in actuarial science program.

Code	Title	Hours
One of these sequences:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100-IGPI:4101)	6
STAT:5100- STAT:5101	Statistical Inference I-II (for well-prepared students)	6
All of these:		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
ACTS:4380	Mathematics of Finance II	3
ACTS:6160	Topics in Actuarial Science	3
ACTS:6480	Loss Distributions	3

ACTS:6580	Credibility and Survival Analysis	3
STAT:4560	Statistics for Risk Modeling	3
A course approved by the advisor		3

All Concentration Area Courses

Additional Ph.D. core course work, regardless of concentration area, requires the following course work.

Code	Title	Hours
All of these:		
STAT:5120	Mathematical Methods for Statistics	3
STAT:7100	Advanced Inference I	3
STAT:7101	Advanced Inference II	3
STAT:7200	Linear Models	4
STAT:7300	Foundations of Probability I	3
STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
STAT:7990	Reading Research	18
Seminars, chosen from STAT:7190 or STAT:7290 or STAT:7390		2

Concentration Areas

Students take at least four courses in one of the following concentration areas; at least one of the four courses must be at the Ph.D. level (numbered 7000 or above).

Statistical Computing

Statistical computing emphasizes the theory and application of a broad array of statistical models, such as linear, generalized linear, nonlinear, categorical, spatial, correlated response, and nonparametric regression models. This concentration area prepares students to specify and choose appropriate models; fit the models using available statistical software; and make sound statistical conclusions and interpretive statements. It is excellent preparation for students interested in academic, industrial, or government positions that involve data modeling and analysis.

Code	Title	Hours
STAT:6510/ IGPI:6511	Applied Generalized Regression	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3
STAT:6560	Applied Time Series Analysis	3
STAT:6970	Topics in Statistics	3
STAT:7510/ BIOS:7410	Analysis of Categorical Data	3
STAT:7520	Bayesian Analysis	3
STAT:7560	Time Series Analysis	3

Probability/Mathematical Statistics

Probability/mathematical statistics emphasizes a broad, solid foundation in techniques and underpinnings of mathematical statistics. Its focus on breadth and depth is intended to produce well-rounded, knowledgeable scholars. It is excellent preparation for academic positions in mathematical statistics and industrial or government positions that require broadly trained statisticians with a strong understanding of statistical theory.

Code	Title	Hours
STAT:6301	Probability and Stochastic Processes II	3
STAT:7301	Foundations of Probability II	3
STAT:7520	Bayesian Analysis	3
STAT:7560	Time Series Analysis	3

Biostatistics

Biostatistics emphasizes exposure to various biostatistical methods, such as survival analysis, categorical data analysis, and longitudinal data analysis. It prepares students for consulting and other positions in industry.

Code	Title	Hours
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6540/ PSQF:6245	Applied Multivariate Analysis	3
STAT:7510/ BIOS:7410	Analysis of Categorical Data	3
STAT:7570/ BIOS:7210/ IGPI:7210	Survival Data Analysis	3
BIOS:7310/ IGPI:7310	Longitudinal Data Analysis	3

Actuarial Science/Financial Mathematics

Actuarial science/financial mathematics emphasizes the theory of actuarial science, finance, and risk management. It is excellent preparation for academic positions in universities that offer actuarial science programs and for positions in the insurance, pension, and financial industries.

Code	Title	Hours
ACTS:7730	Advanced Topics in Actuarial Science/Financial Mathematics	arr.
STAT:6301	Probability and Stochastic Processes II	3
STAT:7301	Foundations of Probability II	3
STAT:7560	Time Series Analysis	3
FIN:7110	Finance Theory I	3
FIN:7130	Finance Theory II	3

Final Examination

Students typically take the Ph.D. final (comprehensive) examination at the beginning of the third year of graduate study, during the week before fall classes begin. Students who do not succeed the first time they take the exam may repeat it once. Ordinarily, this second opportunity to pass the exam will occur one year later, during the week before fall classes begin. However, a student who performs well on one area of the exam but not the other may, in consultation with their advisor and the director of graduate studies, petition the department to move up their second opportunity to the week before the next spring semester's classes begin. The department's decision on whether to grant this petition will take into account any extenuating circumstances.

The comprehensive examination consists of a written core examination and an oral examination in two of the following four areas:

statistical inference (topics in STAT:5100 Statistical Inference I, STAT:5101 Statistical Inference II, and STAT:7100 Advanced Inference I);

linear models (topics in STAT:7200 Linear Models);

probability (topics in STAT:6300 Probability and Stochastic Processes I and STAT:7300 Foundations of Probability I); and

statistical computing (topics in STAT:5400/IGPI:5400 Computing in Statistics and STAT:7400/IGPI:7400 Computer Intensive Statistics).

Students in the actuarial science/financial mathematics concentration area have the option of taking only one of the four examinations listed above and an actuarial science/financial mathematics examination designed by their advisor and approved by the director of graduate studies.

Committee

Upon passing the Ph.D. final examination, the candidate chooses a committee of at least five members, which is approved by the advisor. At least four of the faculty members must be University of Iowa tenure-track faculty members. At least two of the faculty members must be from the major department (defined as faculty members who hold any appointment in the major department), and University of Iowa tenure-track faculty members.

The department may request the Graduate College dean's permission to replace one of the five committee members with a recognized scholar of professorial rank from another academic institution.

Prospectus

Within 18 months of passing the Ph.D. final exam, the candidate presents a written and oral prospectus to the committee. The prospectus describes the problems the student is considering for the thesis, relevant background material, ideas for solving the problems, and any preliminary results.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Funds are available to help support outstanding Ph.D. applicants. Fellowships, teaching assistantships, and research assistantships provide an attractive stipend plus tuition at the resident rate and tuition scholarships for students who are appointed at least one-quarter time. In most cases, full tuition waivers are granted.

Students who wish to be considered for financial assistance for their third year in the program should request to go through the Ph.D. qualifying process no later than the spring semester of their second year.

Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making,

marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

The program prepares students for careers in research, applications, and teaching. To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Theatre Arts

Director, Division of Performing Arts

- Alan M. MacVey

Chair, Department of Theatre Arts

- Alan M. MacVey

Undergraduate major: theatre arts (B.A.)

Undergraduate minor: theatre arts

Graduate degree: M.F.A. in theatre arts

Faculty: <https://theatre.uiowa.edu/people>

Website: <https://theatre.uiowa.edu/>

The Department of Theatre Arts offers academic programs for undergraduate and graduate students. It also stages live performances throughout the academic year and during the summer. The department also administers the Certificate in Public Digital Arts [p. 878].

The department is one of the academic units in the Division of Performing Arts [p. 334]. Students have the opportunity to earn a major in theatre arts and a second major in one of the other units within the division—dance or music. It also participates in offering the division's Certificate in Arts Entrepreneurship [p. 118].

The department also educates students who plan to enter other fields in which understanding of the arts and experience with theatre skills are useful. Some earn a major in theatre arts, sometimes with a second major in another discipline. Others earn a minor or take theatre classes as nonmajors. For information, view the minor in theatre arts [p. 1023] in the Catalog or see "Courses for Nonmajors" below.

Several of the department's courses are approved for GE CLAS Core; look for courses with the prefix THTR in the GE CLAS Core [p. 459] section of the Catalog.

Courses for Nonmajors

Most theatre arts courses are open to all students, regardless of their majors, and are appropriate for nonmajors interested in theatre. The following courses are designed specifically for nonmajors.

Code	Title	Hours
THTR:1120	Basic Acting for Language Learners	3
THTR:1140	Basic Acting	3
THTR:1141	Basic Acting II	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1410	Musical Theatre History	3
THTR:1411	Comedy and Society	3
THTR:1412	The Arts in Performance	3
THTR:2120	Movement: Special Topics	2-3
THTR:2320	Playwriting in a Global World	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
THTR:2610	Acting for Success	3
THTR:2620	Improvisation for Engineers, Scientists, and the Curious	3
THTR:3210	Makeup Design for the Stage	3

THTR:3301	Playwriting II	3
THTR:3510	Introduction to Arts Management	3
THTR:3520	New Ventures in the Arts	3
THTR:3521	Acting for Singers and for Dancers	2

Productions and Auditions

The Department of Theatre Arts presents around 25-30 public productions each year. These include a subscription series of five plays, a festival of new works by students, and other productions, many of them new plays.

Special attention is given to the process of developing new works and to the collaborative process that involves writers, directors, designers, dramaturgs, stage managers, and actors. Graduate and undergraduate students, faculty, and visiting guest artists work together on large and small projects throughout the year.

Auditions for Theatre Arts Productions

Auditions for theatre arts productions are open to everyone, including all University of Iowa students and members of the local community. Theatre arts students are given first priority for roles, but many roles are available throughout the year, so many students in other majors and nonstudent actors are cast each season. Occasionally, professional actors are employed.

General auditions are held at the beginning of the fall semester, and callback lists are posted during the semester. Additional general auditions usually are scheduled in early November and in March. Information about auditions is available from the Department of Theatre Arts office in August. Notices of auditions are posted on the department's online call board.

Programs

Undergraduate Programs of Study

Major

- Major in Theatre Arts (Bachelor of Arts) [p. 1019]

Minor

- Minor in Theatre Arts [p. 1023]

Graduate Program of Study

Major

- Master of Fine Arts in Theatre Arts [p. 1024]

Facilities

The University of Iowa has one of the finest educational theatre complexes in the country. The Theatre Building offers four theatres and up-to-date facilities for classroom, laboratory, shop, and performance work.

The E.C. Mabie Theatre, a continental-style, 457-seat proscenium playhouse, is one of the finest theatres of its type in the United States. The David Thayer Theatre is a "black box" production space; its flexible seating units accommodate from 140 to 225 people and allow modification of space and audience relationships. Theatre B, which seats 137, is an

open-stage theatre dedicated primarily to the production of new and experimental works. The flexible studio theatre seats 50.

In addition to classrooms for acting and directing, several spaces are designed for teaching particular aspects of dramatic studies. The Cosmo Catalano Acting Studio is for study of movement and motion by acting students. The Arnie Gillette Design Studio serves as classroom and studio workshop for design students.

To support its production schedule and to provide students with an appropriate range of experience, the department maintains shops for building, painting, maintaining, and storing scenery, costumes, and properties. Using these shops, students learn to work in metal, plastics, canvas, and wood.

Courses

Theatre Arts Courses

THTR:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

THTR:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, BIOC:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010.

THTR:1120 Basic Acting for Language Learners 3 s.h.

Development of theatrical creativity to enhance English language skills through acting games, monologues, and scene work; exercises in concentration, relaxation, communication, imagination, observation, sensory awareness.

THTR:1140 Basic Acting 3 s.h.

Concentration, relaxation, imagination, observation, communication, sensory awareness; development of theatrical creativity through objectives, obstacles, action, conflict, spontaneity; development of a scene from scripts. Requirements: non-theatre arts major. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

THTR:1141 Basic Acting II 3 s.h.

Continuation of THTR:1140; emphasis on development of scenes. Prerequisites: THTR:1140. Requirements: non-theatre arts major.

THTR:1400 Theatre and Society: Ancients and Moderns 3 s.h.

Representative plays as performed in social contexts of ancient Egypt; classical Greece, Rome, India, and Japan; and medieval and early modern Europe. Duplicates THTR:2410. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

THTR:1401 Theatre and Society: Romantics and Rebels 3 s.h.

Representative plays as performed in social contexts of revolutionary and modern Europe and postwar United States. Duplicates THTR:2411. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

THTR:1410 Musical Theatre History 3 s.h.

American musical theatre's form, function, evolution; major composers (Berlin, Gershwin, Rodgers and Hammerstein, Sondheim), lesser-known and contemporary writers; roots of the rock musical, future of musical theatre, how musicals reflect their own eras and cultural attitudes of their times; readings, recordings, videos. Ability to read music not required.

THTR:1411 Comedy and Society 3 s.h.

How comedy reflects, comments upon, and intersects with western culture, society, and identity; roots of western comedy, satire, censorship; stand-up comedians, improv and sketch troupes, satirists; race, gender and sexuality, class perception; how portrayals of African Americans in popular culture evolved from 19th century to present; videos, readings, live performances. GE: Values and Culture.

THTR:1412 The Arts in Performance 3 s.h.

GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DANC:1412, DPA:1412.

THTR:1834 Modes of Film and Video Production 4 s.h.

Introduction to filmmaking; how to shoot and edit short works of cinematic art; exposure to various working methods including nonfiction, fiction, and experimental modes of video production. Corequisites: for CINE:1834—CINE:1601, if not taken as a prerequisite. GE: Engineering Be Creative. Same as CINE:1834.

THTR:2120 Movement: Special Topics 2-3 s.h.

Specialized study in movement techniques and movement styles for body conditioning; development of yoga techniques; varied topics.

THTR:2140 Acting I 3 s.h.

Development of creativity, imagination, and openness through exercises to engage mind, body, and voice in theatrical play and scene work. Requirements: theatre arts major, or theatre arts minor and THTR:1140.

THTR:2170 Acting for Musical Theatre 3 s.h.

Focus on acting technique for musical theatre; within the framework of song, this course will teach students to work truthfully with a partner, find the action of the piece, mine a piece of music for acting clues from the composer, and connect authentically while being larger than life. Prerequisites: THTR:1140 or THTR:2140 or THTR:3521 or THTR:3130. Requirements: any one of the courses listed as prerequisites, or one semester of applied lessons in vocal performance.

THTR:2200 Elements of Design 3 s.h.

Development of visual literacy; manipulation of line, shape, color, value, texture, form; development of designs for theatre through techniques explored in class. GE: Engineering Be Creative.

THTR:2215 Theatre Technology 3 s.h.

Theatrical production; technology and backstage operations including sound, projections, lighting, scenery, costumes, stage management. GE: Engineering Be Creative.

THTR:2220 Production Lab 1-3 s.h.

Practical experience in physical construction and operation of live theatre; theatre department productions provide lab experiences for applied learning in technical theatre and run crew opportunities in scenery, costumes, lighting, sound, and stage management. GE: Engineering Be Creative.

THTR:2301 Playwriting I 3 s.h.

Elements of playwriting; emphasis on analysis and discussion of original student writing. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

THTR:2320 Playwriting in a Global World 3 s.h.

Students read and analyze the works of a diverse range of American and international playwrights and documentarians; fundamental skills of reading, hearing, imagining, and writing for local and global stages; emphasis on a broad range of voices, styles, and stories. GE: Diversity and Inclusion.

THTR:2402 Script Analysis 3 s.h.

Basic skills in critical reading and close analysis of dramatic texts, with focus on dramatic structure, challenges of putting texts into production.

THTR:2405 Staging Americans: U.S. Cultures Through Theatre and Performance 3 s.h.

Role of American theatre as a complex tapestry of race, gender, sexuality, and disability; examination of plays and performance outside primarily white-male canon; contemporary social practice and cultural politics in local and national contexts. GE: Diversity and Inclusion.

THTR:2410 History of Theatre and Drama I 3 s.h.

Major developments in Anglo-European, Indian, Asian, and African theatre and drama, 3000 B.C.E. to C.E. 1700; sociopolitical, economic, and cultural circumstances of original productions. Offered spring semesters. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

THTR:2411 History of Theatre and Drama II 3 s.h.

Continuation of THTR:2410; 1700 to 1960; revolutionary and modern European theatre and culturally diverse postwar U.S. theatre. Offered fall semesters. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

THTR:2450 Animals and Performance in American Culture 3 s.h.

Role of animals in various forms of cultural expression in the U.S. from the 19th to the 21st centuries; along with visual and literary arts, special emphasis will be placed on live performance (e.g., circus and theatre) because of how it highlights embodied and affective modes of communication that inform our connections to animals; relationship of cultural forms involving animals (real and imagined) to the lived experience of animals in the wider historical and social context; how animals shape human ideas about race, ethnicity, class, gender, sexuality, and construct notions of "Americanness." Same as AMST:2950.

THTR:2601 Theatre for Social Change 3 s.h.

Introduction to applied theatre—history and facilitation; students explore the work of Augusto Boal and Paolo Freire, use methods learned to create a collective piece, and work as a team to create a theatre workshop for a local community partner. GE: Diversity and Inclusion.

THTR:2605 Monsters, Victims, and Villains: Changing Perceptions 3 s.h.

Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations; students gain skills necessary to create radical opportunities for and implementation of performances including individuals with disabilities in theatre, dance, and music; students from different backgrounds experience collaborative artistic excellence while redefining audience expectations; historic background for perceptions of disability. GE: Diversity and Inclusion. Same as ECTL:2963.

THTR:2610 Acting for Success 3 s.h.

How skills learned by actors in the theatre world can be applied to presentations and interactions in business, education, and beyond; business world reliance on technology for communication; ability to connect and communicate on a personal level with others as the x-factor to stand out as a team player and a leader; acting techniques traditionally used in theatre to open up communication in office and interviews; presentations and elevator pitches (armed with techniques to avoid stage fright); how to connect and bring authentic self to everything you do. Corequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative. Same as RHET:2610.

THTR:2620 Improvisation for Engineers, Scientists, and the Curious 3 s.h.

Use of theatrical exercises and improvisation techniques to help students develop their imaginations, stimulate creativity, and approach practical projects from a fresh point of view; emphasis on working in teams and using improvisational techniques to solve problems. GE: Engineering Be Creative.

THTR:2800 Digital Arts: An Introduction 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800.

THTR:3110 Voice for the Actor 3 s.h.

Progressive development of voice and speech for theatre; physical awareness, relaxation, breathing, freeing the sound channel, resonance, articulation; application of voice work through prose, poetry, text.

THTR:3120 Theatre Movement 3 s.h.

The body as a tool for dramatic expression; basic principles and practices of stage movement; approaches to physical technique. Requirements: theatre arts major.

THTR:3130 Singing for Actors and Dancers 2 s.h.

Skill development for healthy, effective singing in the musical theatre style; techniques of vocal production through breath management, resonance, articulation, flexibility; song interpretation and repertoire. Recommendations: for MUS:3520—concurrent registration in MUS:1020. Same as DANC:3130, MUS:3520.

THTR:3140 Acting II 3 s.h.

Extension of work begun in THTR:2140; scene study, with focus on contemporary realism and development of collaborative dynamic. Prerequisites: THTR:1141 or THTR:2140.

THTR:3151 Accents and Dialects 3 s.h.

Varied topics on a rotational basis, may include vocal study of classical text including Shakespeare, dialects, and voice in classical and contemporary comedy. Prerequisites: THTR:3110.

THTR:3160 Movement Styles 3 s.h.

Intensive study of a selected movement style (e.g., mask, clown, commedia dell'arte). Prerequisites: THTR:3120.

- THTR:3165 Stage Combat** 3 s.h.
Fundamental principles of stage combat in a specialized area of study—unarmed combat, rapier and dagger techniques, and hand-to-hand and knife techniques.
- THTR:3180 Media Studies** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3180.
- THTR:3202 Graphic Design and Identity** 3 s.h.
Series of projects focusing on creating strong graphic design and graphic identity using Adobe Creative Suite. GE: Engineering Be Creative.
- THTR:3205 Concepts in Drawing** 3-4 s.h.
Intermediate-level topics; observation, theory, media, form, content; emphasis on personal direction. Prerequisites: DRAW:2310. Same as DRAW:3310.
- THTR:3208 Mask and Puppet Crafts** 3 s.h.
Mask and puppet design; paper mache, plaster gauze, thermal plastics, and soft sculpture techniques. GE: Engineering Be Creative.
- THTR:3210 Makeup Design for the Stage** 3 s.h.
GE: Engineering Be Creative. Same as DPA:3210.
- THTR:3211 Period Styles** 3 s.h.
Survey of design and motifs spanning history of western civilization through development of interior and exterior architecture, furniture, decorative themes, fashion, and fine art.
- THTR:3221 Technology for the Entertainment Industry** 3 s.h.
Introduction to technology skills that are at the center of the entertainment industry; programming and operating digital lighting and sound consoles, intelligent lighting systems, projection hardware and software; outdoor event rigging, metal construction, and fabrication. Same as DPA:3221.
- THTR:3223 Introduction to Lighting Technology** 3 s.h.
Training for a career as a touring or resident stage electrician in the entertainment industry; plot organization/shop orders, digital fixtures, power distribution, personal management, console configuration/control, and electrical troubleshooting/maintenance.
- THTR:3225 Makeup Design: Special Topics** 3 s.h.
Advanced techniques in stage makeup design and application through analysis of forms, research, and hands-on projects.
- THTR:3230 Scene Design I** 3 s.h.
Development of theatre scenery; how to research, conceptualize, and express ideas in 3-D models, simple sketches, and drafting. GE: Engineering Be Creative. Same as ARTS:3230.
- THTR:3240 Costume Design I** 3 s.h.
Introduction to theatre costumes; how to conceptualize and express ideas through rendering and 3-D mannequin projects. May be taken after THTR:4240. GE: Engineering Be Creative.
- THTR:3250 Lighting Design I** 3 s.h.
How to research, conceptualize, and express ideas through light plots, other design paperwork, and theatre lighting design projects. GE: Engineering Be Creative.
- THTR:3260 Sound Design for the Theatre** 3 s.h.
Introduction to digital sound recording and live sound reinforcement techniques for a variety of entertainment venues (theatre, dance, concerts, industrial projects); creation of soundscapes using Pro Tools software; implementation of designs through the use of QLab playback systems and digital mixing consoles; documentation of sound design for theoretical and realized productions. GE: Engineering Be Creative.
- THTR:3270 Entertainment Design** 3 s.h.
Introduction to entertainment design and technology; primary focus on contemporary approaches to design and delivery of content in entertainment industry; assignment of practical projects using media servers, projection, LED arrays, video editing software, and moving light technologies. GE: Engineering Be Creative.
- THTR:3276 Medieval Drama** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3276.
- THTR:3277 English Renaissance Drama** 3 s.h.
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3277.
- THTR:3301 Playwriting II** 3 s.h.
Application of fundamental skills learned in THTR:2301 to more advanced study of dramatic structure and style; reading of plays, weekly writing assignments; focus on writing one-act play. Prerequisites: THTR:2301.
- THTR:3310 Undergraduate Playwriting Workshop** 1-3 s.h.
Workshop discussion of original full-length plays, collaborative creation of new plays, work with guest artists. Prerequisites: THTR:2301 and THTR:3301. Requirements: submission of writing sample.
- THTR:3315 Standup Comedy Practicum** 3 s.h.
Writing and performing standup comedy; emphasis less on creating a comic persona and more on pulling from and articulating personal truth; analysis of contemporary comedians and joke structure; performing original work for multiple audiences in classroom and out in community.
- THTR:3320 Writing for Film** 3 s.h.
Rigorous writing for film; focus on feature-length screenplay; for students with experience in dramatic writing, fiction, or screenwriting. Requirements: completion of at least 60 s.h. or graduate standing.
- THTR:3401 Topics in Dramatic Literature** 3 s.h.
Topics in dramatic literature, including specific authors, periods, and movements; sample topics include Ibsen and Strindberg, Chekov, Brecht and the Brechtian, and avant-garde theatre.
- THTR:3402 Shakespeare the Dramatist** 3 s.h.
Exploration of a number of Shakespeare's greatest works; close textual analysis supplemented with historical, theoretical, theatrical, and philosophical considerations; special attention given to Shakespeare's dramatic method and relation of his dramaturgy to profession of theater-making.

THTR:3403 Free-Style Writing: Poetry, Plays, and Performances 3 s.h.

Creative writing lab experience in reading, writing, and performing poetry and short plays; expansion of students' horizons of the self; arc of innovation in African American literature from Harlem Renaissance to present, with texts from Langston Hughes and Zora Neale Hurston to Saul Williams and Jill Scott; role of the artist in society and as outsider and insider; shifting perspectives on race, gender, class; musical influences and models, from blues to house music; sensuality, spirituality; artistic reflections on the cultural moment; effects of these on literary form and performance style; students create and perform a work for an audience. Same as AFAM:3840.

THTR:3421 Performing Autobiography 3 s.h.

Write and perform original pieces stemming from personal experiences and interests; readings and videos; genre of contemporary autobiographical performance as established artists have developed it; improvisational performance and writing exercises to foster deeper reflection on personal experiences; final staging of students' original work. Recommendations: RHET:1030. Same as GWSS:3421.

THTR:3430 Women on Stage 3 s.h.

Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as AMST:3430, GWSS:3430.

THTR:3440 American Drama Since 1900 3 s.h.

American playwrights and plays after 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. Same as ENGL:3440.

THTR:3462 African American Drama 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3462, ENGL:3462.

THTR:3501 Stage Management I 3 s.h.

Duties and procedures of stage management; focus on development of production from preparatory work through performance; role of stage manager in collaboration.

THTR:3510 Introduction to Arts Management 3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as DPA:3510, INTD:3510.

THTR:3520 New Ventures in the Arts 3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates ENTR:2000 and MGMT:3100. Corequisites: ENTR:1350 or (ACCT:2100 and MKTG:3000). Same as DPA:3520, ENTR:3520, INTD:3520.

THTR:3521 Acting for Singers and for Dancers 2 s.h.

Fundamentals of acting technique, with attention to demands on performers in opera, musical theater, and dance. Same as DANC:3521, MUS:3521.

THTR:3530 Musical Theatre Workshop 2 s.h.

Development of musical theatre performance skills through participation; students learn how to project intentions, attitudes, and personality traits of characters they portray; fundamentals of stagecraft, acting, movement, relaxation, and concentration; accurate musical coaching, including clear diction and solidly built dramatic musical interpretation. Same as MUS:3530.

THTR:3605 Inclusive Theatre 3 s.h.

Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations. Same as EDTL:3963.

THTR:3610 Drama in the Classroom 3 s.h.

Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as EDTL:3180.

THTR:3875 Topics in Digital Performing Arts 2 s.h.

Introduction to digital documentation and editing for dance performance; from a digital reel of student's work, including performance and teaching, to creative strategies for using digital imagery in performance; digital arts literacy as an invaluable tool in today's dance field. Same as DANC:3875.

THTR:3876 Video for Performance 3 s.h.

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:3890 or CINE:1834 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, INTM:3876.

THTR:3880 Installations and Interactive Performance 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DANC:3880, INTM:3880.

THTR:3890 Producing and Directing Digital Video 3 s.h.

Introduction to the basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with a focus on aesthetic and technical principles; focus on developing proficiency in contemporary approaches to digital media production by understanding the production pipeline, from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:3890, INTM:3890.

THTR:3895 Performance, Art, and New Technologies in Society 3 s.h.

Survey of major technological innovations that have deeply impacted society and live performance in the late 20th and early 21st century, and the future of the rapidly evolving technological world; students examine theoretical texts and performances that address the impact of technology on the human condition, as well as create original applied live performances and installations; a variety of technologies are explored and adapted for live performance as they relate to the following five categories of original human experience—telepresence, liveness, artificial intelligence, augmented and virtual reality, and transhumanism. Same as DANC:3895.

THTR:4144 Acting: Special Topics 3 s.h.

Specialized study in a specific aspect or theory of acting.

THTR:4180 Directing I 3 s.h.

Basic elements of stage direction; exercises in composition, emphasis, movement, rhythm, directorial analysis; director's role in production process; short scenes, projects, papers. Prerequisites: THTR:2140 and (THTR:2402 or CINE:1601).

THTR:4230 Scene Design II 3 s.h.

Design and execution of increasingly complex projects in a variety of formats, including perspective sketching, detailed drafting, and color models. Prerequisites: THTR:3230.

THTR:4240 Costume Design II 3 s.h.

Conceptual and analysis skills in costuming; fashion history and dress related to individual, cultural, and artistic expression. May be taken before THTR:3240.

THTR:4250 Lighting Design II 3 s.h.

Development of advanced lighting artistry; preparation for mainstage lighting assignments through a series of hands-on projects and practicals; emphasis on the process of design, communicating the design concept, acclimating to University of Iowa venues, advanced moving light programming, 3-D modeling, pre-visualization techniques, and organizing the plot and paperwork in accordance with professional lighting practices. Prerequisites: THTR:3250.

THTR:4265 International Perspectives: Xicotepec 2-3 s.h.

Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Requirements: P3 standing. Same as CEE:4788, GHS:4126, PHAR:8788.

THTR:4270 Scenic Art 3 s.h.

Techniques in scenic art for the theatre; classical trompe l'oeil scene painting, sculpting with nontraditional materials, finishing. Offered every other year. GE: Engineering Be Creative.

THTR:4402 Dramas of the Spirit 3 s.h.

Western and nonwestern dramatic texts that enact or describe journeys of the human spirit; textual analysis, investigation of the notion of spirit and its relation to dramatic form. Prerequisites: THTR:2411 and THTR:2410 and THTR:2402.

THTR:4420 Dramatic Theory 3 s.h.

Theoretical questions of interest to dramatists and philosophers in western and nonwestern traditions; metaphysics of play; theories of character, psyche, self; narrative and nonnarrative dramatic forms. Prerequisites: THTR:2402 and THTR:2410 and THTR:2411.

THTR:4422 Dramaturgy 3 s.h.

Overview of history, theory, and practice of dramaturgy and dramaturg in Europe and the United States including relationship to dramatic criticism, dramaturgical research, analysis and conceptualization of texts for production, audience outreach, and new play development; may focus intensively on one of these topics and workshop creative work related to the topic. Prerequisites: THTR:2402.

THTR:4510 Arts Leadership Seminar 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000 or THTR:3520. Same as DPA:4510, ENTR:4510, INTD:4510.

THTR:4630 London Performance Study 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:4172.

THTR:4690 Senior Seminar: The Artist as Creator 3 s.h.

Advanced course to empower undergraduate theatre majors by providing tools to make provocative, courageous art as whole theatre artists, without waiting for permission or needlessly segmenting themselves as actor or designer; collapsing the artificial distance between theory and practice, use of tools for performance art, devised work, and classical dramaturgy to create and perform original and text-based works where performers have full, collective ownership of their creations; for theatre artists who want to explore their craft holistically—actors, designers, directors, writers, and managers. Requirements: senior standing and theatre arts major.

THTR:4691 Projects in Theatre arr.**THTR:4692 Honors Theatre Arts arr.**

Development and production of a new work for film or television by writers, directors, actors.

THTR:4693 Independent Study arr.**THTR:4694 Design: Special Topics 1-3 s.h.**

Specialized study in a specific aspect or theory of theatrical design.

THTR:4695 Performance Practicum 1-2 s.h.

Perform as an actor or serve as an assistant stage manager in a production of at least an hour's length, rehearsed for at least four weeks, directed by a faculty member or guest artist or graduate student, and produced by the Department of Theatre Arts.

THTR:5110 Acting for Graduate Non-Actors 3 s.h.

Examination of the practice and language of acting as developed by Constantin Stanislavski and Sanford Meisner. Requirements: admission to M.F.A. in theatre arts.

- THTR:5200 Graduate Design Seminar** arr. 3 s.h.
Graduate design in set, lighting, and costume design; teamwork; meetings with design faculty in specific disciplines; short-term projects in the theatre department; long-term projects, including summer design work, internships, and other professional opportunities during the three-year program and beyond. Prerequisites: THTR:4230 or THTR:4240 or THTR:4250.
- THTR:5230 Scene Design III** 3 s.h.
Complex assignments; documentation skills, scenic design preparation. Prerequisites: THTR:3230 and THTR:4230.
- THTR:5240 Costume Design III** 3 s.h.
Advanced projects in costume design and portfolio development. Prerequisites: THTR:4240.
- THTR:5250 Lighting Design III** 3 s.h.
Advanced projects in venues such as dance, opera, industrials; preparation of lighting designs for production. Prerequisites: THTR:4250.
- THTR:5300 The Collaborative Process** 3 s.h.
Development of new plays, collaboratively created works.
- THTR:5420 Dramaturgy Practicum** arr. 3 s.h.
Exploration of theoretical, creative, and practical issues that arise in working dramaturgically on both established and new plays, and in a variety of collaborative processes; practical dramaturgical exercises in script reporting, dramaturgical research, educational programming, season planning, production documentation, and writing of critical and dramaturgical essays for a general audience. Requirements: admission to M.F.A. dramaturgy program.
- THTR:5500 Stage Management: Special Topics** 3 s.h.
Topics in stage management, arts production, and their professional practice. Requirements: admission to M.F.A. stage management program.
- THTR:5510 Production Management** 3 s.h.
Organization and supervision of theatre productions; resources, procedures for successfully mounting a theatre production or season; personnel, equipment, facility and budget management, scheduling, communication. Requirements: stage management M.F.A. enrollment.
- THTR:5600 Orientation to Graduate Studies** 1-2 s.h.
Requirements: theatre arts M.F.A. enrollment.
- THTR:5605 Career Preparation** 1-3 s.h.
Business aspects of the actor's career; entrepreneurial tools for the professional world; topics include agents, managers, taxes, fees, résumés, head shots, unions, the similarities and differences between the three major markets (New York, Chicago, and Los Angeles), and the particular needs for television, film, and theatre.
- THTR:5610 Collaborative Performance** 3-4 s.h.
Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DANC:5550, DPA:5550.
- THTR:6140 Advanced Acting** 3 s.h.
Preprofessional training; may include psychophysical training in impulse, openness and the "mask," individual and group dynamics, improvisation, repetition, characterization and scene work, Shakespeare and style, on-camera, development of professional work habits and skills, audition and interview. Requirements: admission to M.F.A. program.
- THTR:6150 Vocal Technique** 3 s.h.
Skills training; voice and speech for the actor, phonetics, dialects, sound exploration, contemporary and classical text analysis. Requirements: admission to M.F.A. program.
- THTR:6160 Movement Technique** 3 s.h.
Fundamental principles and practices required for physical acting technique; basic stage movement, stage combat, mime technique, Lecoq-based improvisation; a new works project. Requirements: admission to M.F.A. program.
- THTR:6170 Graduate Acting: Special Topics** 3 s.h.
Specialized study in one aspect or theory of acting. Requirements: admission to M.F.A. program.
- THTR:6180 Director's Seminar** 1-3 s.h.
Preprofessional training in stage direction; the art and craft of directing; research, practical experience; development of new pieces; approaches to a variety of theatrical materials through concept, type, style. Requirements: admission to M.F.A. program.
- THTR:6300 Guest Seminar** arr. 3 s.h.
- THTR:6310 Special Topics in Playwriting** 3 s.h.
- THTR:6400 Classical to Romantic Theatre** 3 s.h.
Representative plays from the Classical to the Romantic periods—in historical context of their original productions, contemporary production potential. Requirements: theatre arts M.F.A. enrollment.
- THTR:6401 Modern Drama** 3 s.h.
Questions of dramatic form and content examined in-depth through close readings of modern plays.
- THTR:6402 Postmodern Theatre** 3 s.h.
Diverse postmodern traditions; emphasis on questions of relation of text.
- THTR:6500 Stage Management Seminar** 1-2 s.h.
Practice and techniques of stage management. Requirements: graduate stage management major.
- THTR:6691 Projects in Theatre Advanced** arr. 3 s.h.
Create a special project under the mentorship of a faculty member; projects may include performing in a main stage production, writing, directing, or designing a play performed in the department, developing a research project that intersects production.
- THTR:7300 Playwrights Workshop** 1,3 s.h.
Development of works by Iowa Playwrights Workshop members. Requirements: playwriting or dramaturgy M.F.A. enrollment.
- THTR:7601 M.F.A. Thesis** 0-3 s.h.
Work related to M.F.A. thesis projects in theatre arts.

Theatre Arts, B.A.

Learning Outcomes

All theatre students have special interests they want to pursue—acting, writing, design, and more. To make this possible, the department offers beginning and advanced courses in every theatrical area.

No matter which theatre arts area chosen, the overall experience as a theatre student will give each major the ability to:

- apply knowledge of theatre's role in society throughout history to creative and/or scholarly work,
- explore and apply understanding of a dramatic script to creative and/or scholarly work,
- collaborate with others to produce a play,
- talk about and assess a student's work and the work of others,
- articulate an emerging artistic vision that starts to inform a student's work and thinking about the arts, and
- write well about theatre.

Overview

The undergraduate program in theatre arts is based on the philosophy that the best way to develop future artists is to expose them to rigorous professional practice within the framework of a liberal arts and sciences education.

Department of Theatre Arts students take workshop courses in acting, directing, design, technical theatre, stage management, and playwriting and complement them with classes in dramatic literature, history, and criticism. Students also are encouraged to explore a range of courses throughout the University. Around 25 public productions are staged each year, providing additional opportunities to learn the theatre craft and to develop a personal artistic vision.

Student Auditions for Theatre Arts Productions

Theatre arts majors are encouraged to audition for the department's productions in general auditions at the beginning of the fall semester. Students normally present a three-minute audition consisting of two contrasting pieces. From this audition, callback lists are posted for major productions offered during the first semester. Additional general auditions normally are scheduled in early November and in March.

Students in other majors are welcome to audition for the department's productions, as are community members (see "Productions and Auditions" in the Department of Theatre Arts [p. 1012] section of the Catalog). For academic considerations, theatre arts majors are given first consideration for roles.

Materials and information about the general auditions are available from the Department of Theatre Arts office in August. Notices of auditions for all subsequent productions are posted on the department's online call board.

Requirements

The Bachelor of Arts with a major in theatre arts requires a minimum of 120 s.h., including 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses

for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Students can add a focus area to their theatre arts degree—music theatre. See "Music Theatre Track" below.

The curriculum for the theatre arts major constitutes the basic experience for all undergraduate theatre arts students. Registration in some courses for the major requires special permission. Contact the Department of Theatre Arts for details.

Students who transfer to the University from other accredited two- or four-year institutions must demonstrate that they have successfully completed course work equivalent to the basic requirements of the Department of Theatre Arts and the University of Iowa before they may take advanced-level electives. If a student completes the courses listed for the approved 2 Plus 2 Plan theatre arts program at Kirkwood Community College, Iowa Central Community College, or Indian Hills Community College in Iowa, those courses are automatically counted toward requirements for the theatre arts major at the University of Iowa. Consult the department's director of undergraduate studies for more information.

In planning course work, especially electives, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the course work is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students majoring in theatre arts may count a maximum of 20 s.h. earned in Department of Theatre Arts elective courses (prefix THTR) toward their Bachelor of Arts degree. Theatre arts elective credit beyond 20 s.h. is listed on their transcript but does not count toward the 120 s.h. required for graduation.

Students must complete a course's prerequisites before registering for the course. They normally complete the following required courses within their first four semesters in the major.

Code	Title	Hours
THTR:2140	Acting I	3
THTR:2402	Script Analysis	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

Students who complete THTR:1400 Theatre and Society: Ancients and Moderns or THTR:1401 Theatre and Society: Romantics and Rebels before declaring a major in theatre arts must consult the undergraduate director before they may register for THTR:2410 History of Theatre and Drama I or THTR:2411 History of Theatre and Drama II.

The B.A. with a major in theatre arts requires the following course work.

Code	Title	Hours
	Theatre Foundation Courses	15
	Elective Theatre Arts Courses	9

Design Course	3
Dramatic Literature Course	3
Production Lab	3
Capstone Course	3
Total Hours	36

Theatre Foundation and Elective Theatre Arts Courses

Code	Title	Hours
All of these:		
THTR:2140	Acting I	3
THTR:2215	Theatre Technology	3
THTR:2402	Script Analysis	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3
Elective theatre arts courses (approved courses include THTR:2301 and all courses numbered THTR:3000 or above)		9

Design

Code	Title	Hours
One of these:		
THTR:2200	Elements of Design	3
THTR:3230	Scene Design I	3
THTR:3240	Costume Design I	3
THTR:3250	Lighting Design I	3
THTR:4240	Costume Design II	3

Dramatic Literature

Code	Title	Hours
One of these:		
THTR:1410	Musical Theatre History	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
THTR:2450	Animals and Performance in American Culture	3
THTR:3401	Topics in Dramatic Literature	3
THTR:3402	Shakespeare the Dramatist	3
THTR:3421	Performing Autobiography	3
THTR:4402	Dramas of the Spirit	3
THTR:4420	Dramatic Theory	3
THTR:4630	London Performance Study	3

Production Courses

Students must earn a total of 3 s.h. in THTR:2220 Production Lab. The course requires students to work backstage on a department production. All students must serve as a crew member on at least one production (normally earning 1 s.h. per production). They have options to earn 2 s.h. for serving as a crew chief or taking on other advanced responsibilities.

With the instructor's approval, students who enroll in one of these two elective production courses (THTR:3501 Stage Management I or THTR:3221 Technology for the Entertainment Industry) also may enroll in the required production course THTR:2220 during the same semester or

session and may complete an additional project, earning 1 s.h. for THTR:2220 in addition to the credit they earn for the elective course. Students may earn a maximum of 1 s.h. of required production course credit for THTR:2220 this way.

Code	Title	Hours
Required Production Lab		
This course:		
THTR:2220	Production Lab	3
Elective Production Courses		
THTR:3221	Technology for the Entertainment Industry	3
THTR:3501	Stage Management I	3

Capstone Course

Code	Title	Hours
One of these:		
THTR:4180	Directing I	3
THTR:4690	Senior Seminar: The Artist as Creator	3

Music Theatre Track

Students have the option of adding a focus to their study plan by completing a specialized track in music theatre. This optional track provides a gateway for students to develop and enhance the basic performance skills necessary for a music theatre performer to be successful. Students who wish to enter the program must audition. The track requires a minimum of 51 s.h. of course work, including 36 s.h. required for the theatre arts major, 8 s.h. in dance and 7 s.h. in music. Each student's program of study will culminate in a final presentation, to be determined in consultation with the track advisor.

Students may use some of the course work to satisfy requirements for the theatre arts major, such as THTR:1410 Musical Theatre History (dramatic literature requirement) and THTR:3110 Voice for the Actor, THTR:3120 Theatre Movement, and THTR:3140 Acting II (elective theatre arts courses requirement, 9 s.h.).

The music theatre track requires the following course work, in addition to the 36 s.h. (listed above) required to earn the B.A. in theatre arts.

Theatre Courses

Code	Title	Hours
All of these:		
THTR:1410	Musical Theatre History (dramatic literature course option to satisfy B.A. requirement)	3
THTR:3110	Voice for the Actor (elective theatre arts courses option to satisfy B.A. requirement)	3
THTR:3120	Theatre Movement (elective theatre arts courses option to satisfy B.A. requirement)	3
THTR:3140	Acting II (elective theatre arts courses option to satisfy B.A. requirement)	3

Dance Courses

Code	Title	Hours
4 s.h. from these:		
DANC:1020	Beginning Jazz	2
DANC:1120	Continuing Jazz	2
DANC:2020	Intermediate Jazz	2
Two of these:		
DANC:1020	Beginning Jazz	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1120	Continuing Jazz	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2030	Intermediate Ballet	2
DANC:2040	Intermediate Modern	2
DANC:3030	Major Ballet I	3
DANC:3040	Major Modern Dance I	3
DANC:3530	Major Ballet II	2
DANC:3540	Major Modern Dance II	2
DANC:4030	Major Ballet III	2
DANC:4040	Major Modern Dance III	2

Music Courses

Code	Title	Hours
This course (either section 1 or section 26):		
MUS:1020	Performance Instruction for Nonmajors (taken four times for 1 s.h. each)	4
This course:		
MUS:3530	Musical Theatre Workshop	2
One of these:		
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1002	Group Piano II: Non-Music Majors	1

Honors

Honors in the Major

Students majoring in theatre arts have the opportunity to graduate with honors in the major. Students who wish to graduate with honors should declare their intention to the department's honors advisor. To graduate with honors in the major, students must maintain a g.p.a. of at least 3.33 in the major; complete at least 12 s.h. of work in Department of Theatre Arts honors courses, which must include THTR:4692 Honors Theatre Arts; and give a creative presentation or performance or write an honors thesis.

Students who elect to give a creative presentation or performance must have senior standing and must complete at least one honors course before their proposed project may be approved. They must apply to the director of theatre for approval of their project by April 1 of the year before the project is to be scheduled (projects are not guaranteed a production slot). They also must enroll in THTR:4692 Honors Theatre Arts during the semester in which they complete their presentation or performance.

For more information about theatre arts honors requirements, contact the Department of Theatre Arts office.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the theatre arts major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the fifth semester begins: three courses in the major chosen from THTR:2140 Acting I, THTR:2215 Theatre Technology, THTR:2402 Script Analysis, THTR:2410 History of Theatre and Drama I, and THTR:2411 History of Theatre and Drama II

Before the seventh semester begins: three more courses in the major, two semesters of production credit, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: two more courses in the major and one more semester of production credit

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Theatre Arts, B.A.

Course	Title	Hours
First Year		
Fall		
THTR:2402	Script Analysis	3

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^a		3
GE CLAS Core: Social Sciences ^a		3
CSl:1600	Success at Iowa	2
Hours		14-15

Spring

THTR:2140	Acting I	3
THTR:2410	History of Theatre and Drama I ^{b, c}	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab ^a		4
Elective course ^d		2
Hours		15-16

Second Year**Fall**

THTR:2220	Production Lab ^e	1
THTR:2411	History of Theatre and Drama II ^{b, c}	3
Major: theatre arts design course		3
GE CLAS Core: Quantitative or Formal Reasoning ^a		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2 - 3
Hours		16-18

Spring

THTR:2220	Production Lab ^e	1
THTR:2215	Theatre Technology ^c	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
GE CLAS Core: International and Global Issues ^a		3
Elective course ^d		3
Elective course ^d		2 - 3
Hours		16-18

Third Year**Fall**

THTR:2220	Production Lab ^e	1
Major: advanced theatre arts elective course		3
GE CLAS Core: Natural Sciences without Lab ^a		3
GE CLAS Core: Values and Culture ^a		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2
Hours		16-17

Spring

Major: theatre arts dramatic literature course		3
Major: advanced theatre arts elective course ^g		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Elective course ^d		3
Elective course ^d		3
Hours		16-17

Fourth Year**Fall**

Major: advanced theatre arts elective course ^g		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		2

Elective course ^d	4
Hours	15

Spring

Major: theatre arts senior capstone project ^h	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Elective course ^d	3
Hours	15
Total Hours	123-131

- a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- b Students who complete THTR:1400 or THTR:1401 before declaring a major in theatre arts must consult the undergraduate director before they may register for THTR:2410 or THTR:2411.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students must earn a total of 3 s.h. in THTR:2220.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students must complete at least 9 s.h. in elective theatre arts courses (approved courses include THTR:2301 and all courses in acronym THTR numbered :3000 or above).
- h Select from either THTR:4180 or THTR:4690.

Career Advancement

The National Association of Colleges and Employers recently listed the top skills employers look for in college graduates. They include communication skills, strong work ethic, teamwork skills, initiative, interpersonal skills, problem solving skills, analytical skills, and flexibility/adaptability. Theatre is an excellent way to learn these skills. As a theatre major, students learn to think critically, read carefully, write well, and present themselves in front of others—skills vital for many careers.

Theatre graduates find work as actors, directors, designers, critics, stage managers, writers, producers, and agents. Some work in film and television, some decide to teach, and some combine scholarship with production or performance with teaching. Others go into business or law.

After graduating, many students move to a metropolitan area to find work. In theatre, there are no guarantees. Success takes talent, patience, hard work, and a bit of luck, yet most graduates who want to work in this exciting profession find a way to do so.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Theatre Arts, Minor

The undergraduate minor in theatre arts requires a minimum of 15 s.h. in theatre arts courses, including 12 s.h. in courses considered advanced for the minor taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. Students must complete all prerequisites for the courses they choose for the minor.

Most theatre courses are open to students minoring in theatre arts except THTR:2140 Acting I, which is normally reserved for students earning the theatre arts major. Theatre arts minors who are interested in acting usually take THTR:1140 Basic Acting and THTR:1141 Basic Acting II. Then they may request permission to enroll in THTR:3140 Acting II. When enrollment allows, they also may request permission to take THTR:2140 Acting I.

The following courses are considered advanced for the minor.

Code	Title	Hours
THTR:1141	Basic Acting II	3
THTR:2140	Acting I	3
THTR:2200	Elements of Design	3
THTR:2215	Theatre Technology	3
THTR:2301	Playwriting I	3
THTR:2402	Script Analysis	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

Courses numbered 3000 or above (some courses require special permission)

Contact the Department of Theatre Arts for more information about how to meet the requirements for the minor.

Theatre Arts, M.F.A.

Requirements

The Master of Fine Arts program in theatre arts requires a minimum of 60 s.h. of graduate credit, plus additional courses and production requirements depending on the student's specialty area of concentration. Students normally must complete six semesters in residence (internships may be substituted).

The graduate program is dedicated to creative development of theatre artists. Graduates have a solid background in major performance theories, dramatic literature, and practices of the past and present as well as in the craft of their chosen specialties.

Special attention is given to understanding the role and importance of live theatre in society. Interactions among the various theatre disciplines are emphasized, both in classes and through the department's extensive production program. Particular emphasis is placed on the development of new works for the theatre.

Students must make normal progress toward completion of the degree requirements to remain in the program: they must maintain a g.p.a. of at least 3.00 overall and in all course work within the primary area of concentration, they must receive no letter grade in the primary area below B-minus and no grade of U (unsatisfactory) in the primary area, and they must build a record of substantial creative work of high quality. Students who fail to make normal progress are placed on academic probation and given one additional semester to demonstrate their qualifications for earning the degree.

Contact the Department of Theatre Arts for specific information on any of the M.F.A. specialty areas.

Admission

Students who demonstrate exceptional ability in acting, directing, dramaturgy, playwriting, design, or stage management may apply for admission to the program of study and production leading to the M.F.A. Admission is based on an interview, audition, and/or a portfolio of relevant work, the undergraduate record or other proof of artistic accomplishment, and letters of recommendation.

Submission of playscripts is the most important element in gaining admission to the Playwrights Workshop.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The graduate program in theatre develops not only talent but discipline, self-confidence, and personal vision. Through their work in courses and productions, through teaching and production assistantships, and through the intensive, individual mentoring they receive from faculty, graduate students prepare themselves to contribute to the nation's culture. They can then enter the profession, joining hundreds of other University of Iowa graduates who have made their mark in theatre, film, television, and the entertainment industry.

Translation

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Graduate degree: M.F.A. in comparative literature—translation

Faculty: <https://clas.uiowa.edu/dwllc/mfa-literary-translation/faculty>

Website: <https://clas.uiowa.edu/dwllc/mfa-literary-translation/home>

Beginning with the country's first translation workshop over 50 years ago, literary translation has long been an integral part of the conversation about writing at the University of Iowa. The M.F.A. program in comparative literature—translation combines creative practice, international literature in-the-making, with training in world languages, literatures, and theory. The focus of the program is on creating translations into English that convey both the distinctness of the original and the immediacy of contemporary language.

The translation program enjoys close relationships with the University's program in comparative literature; M.F.A. programs in creative writing (fiction, poetry, and Spanish creative writing), nonfiction writing, and playwriting; and the International Writing Program. Faculty members from departments in the Division of World Languages, Literatures and Cultures provide resources for the translation program and often serve as language mentors and committee members for M.F.A. students in translation. The program also sponsors residencies for renowned translators who facilitate a five-week translation workshop during their stay.

The translation program is administered by the Division of World Languages, Literatures and Cultures [p. 336].

Resources

Student translators in the M.F.A. program publish *Exchanges*, a journal of literary translation. A vibrant source of international writing in translation, the journal provides hands-on editing and online publishing experience as well as an occasional venue for the editors' own works. The M.F.A. program regularly hosts and cohosts conferences, invites speakers from around the world for readings and short-term residencies, and is a constituent unit of the Virtual Writing University.

Programs

Graduate Program of Study

- Master of Fine Arts in Comparative Literature—Translation

Courses

Translation Courses

TRNS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

TRNS:1620 Bhagavad Gita: Essential Teachings of Indian Religion 3 s.h.

Students read the Bhagavad Gita and discuss its interpretations and use in classical and modern religious, literary, and political contexts; composed around 2000 years ago, it is the best known and most influential religious text in Indian history and concisely addresses war and peace, duty and righteousness, renunciation, devotion, and the nature of the universe; its been read, debated, and discussed by ancient philosophers, modern religious teachers, and political figures such as Mahatma Gandhi, the father of modern Independent India. Same as RELS:1620, SOAS:1620.

TRNS:2000 Translation and Global Society 3 s.h.

Contexts and functions of translation in the age of globalization; how translations are produced, received, and utilized in various contexts; effects of globalization on ethics, aesthetics, and politics of translation; how we understand cultures when they are received or transmitted through translation; effects of these exchanges on the English language.

TRNS:2208 Classical Chinese Literature Through Translation 3 s.h.

Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Requirements: completion of required ESL courses. Same as ASIA:2208, CL:2208.

TRNS:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, WLLC:2248.

TRNS:3179 Undergraduate Translation Workshop 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CL:3179, CLSA:3979, ENGL:3850.

TRNS:3189 Undergraduate Translation Workshop II 3 s.h.

Continued training through translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Prerequisites: TRNS:3179.

TRNS:3200 Literary Translation from German 3 s.h.

Workshop and seminar on translating from German to English; emphasis on literary translations and studying existing translations; special issues of German as a source language for translation into English. Requirements: prior completion of two German courses at the 3000 level or above. Same as GRMN:3200.

TRNS:3201 Workshop in Japanese Literary Translation 3 s.h.

Workshop in translation from Japanese to English, with emphasis on literary translation; issues in theory and practice of translation; special features of Japanese as a source language for translation. Corequisites: JPNS:3001, if not taken as a prerequisite. Same as JPNS:3201.

TRNS:3202 Workshop in Chinese Literary Translation 3 s.h.

Translation from Chinese to English with emphasis on literary translation; issues in theory and practice of translation; special features of Chinese as a source language for translation. Prerequisites: CHIN:3102. Same as CHIN:3201.

TRNS:3481 Introduction to Computer-Assisted Translation 1 s.h.

Translation memory, terminology management, multimodal translation, and project management to increase proficiency in a range of technological skills; evolving translation technologies emphasize learning skills required to employ tools of today and effectively learn to use those of tomorrow; use of translation technology in freelance and agency settings from document receipt through delivery. Requirements: completion of GE CLAS Core Rhetoric and GE CLAS Core Interpretation of Literature.

TRNS:3491 Translation Internship 1-3 s.h.

Translation internship. Requirements: permission of the program coordinator of the undergraduate minor in translation for global literacy in consultation with the student's advisor.

TRNS:3498 Translate Iowa Project arr.

Internship with the Translate Iowa Project. Requirements: TRNS:2000 or TRNS:3179 or TRNS:3202 or ENGL:3724 or JPNS:3201 or FREN:4890 or SPAN:3030 or SPAN:3050 or SPAN:4980. Same as ARAB:3498.

TRNS:3499 Undergraduate Translation Seminar 3 s.h.

Translation studies for undergraduates; topics related to practice of literary translation.

TRNS:3700 Topics in Global Cinema 3 s.h.

Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Same as ASIA:3700, JPNS:3700, WLLC:3700.

TRNS:4050 Independent Study 1-3 s.h.

Focused study on topic of student's choosing under direction of faculty member. Requirements: permission of the student's academic advisor or the program coordinator of the undergraduate minor in translation for global literacy.

TRNS:4100 Approaches to Critical Theory 3 s.h.

Introduction to major critical approaches in literary and cultural theory from a variety of traditions; studying existing models, students learn to think theoretically about language and society, and to orient themselves among existing theoretical discourses, interrogating the latter critically in terms of their own perspectives and theoretical needs; selections from influential works, shared class discussion, and presentations; no prior knowledge in the area of critical theory is presumed. Same as CL:4100.

TRNS:4480 Literature and Translation 3 s.h.

Translation in the broadest sense; originality, authority, authorship, accuracy, ownership, audience; issues problematizing differences between medium and message.

TRNS:4497 Techniques of Translation 3 s.h.

Prerequisites: FREN:3300. Same as FREN:4890.

TRNS:4500 Undergraduate Capstone Project 0-3 s.h.

Culmination of undergraduate minor in translation for global literacy; translation manuscript or a scholarly/research thesis on topics relevant to scope of minor. Requirements: approval of the program coordinator of the undergraduate minor in translation for global literacy; consent of a faculty member willing to serve as director of the capstone project.

TRNS:4800 Seminar in Comparative Literature 3 s.h.

Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Same as CL:4800, GRMN:4800, WLLC:4801.

TRNS:5205 International Translation Workshop 1-3 s.h.

International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as IWP:5205.

TRNS:5491 Translation Internship arr.**TRNS:5500 Advanced Translation Practice 1-3 s.h.**

Substantial translation project guided by a faculty advisor; readings and assignments designed to help translator with particular tasks and challenges presented by the project; translation and critical/reflective writing. Prerequisites: TRNS:6459 and TRNS:7460. Requirements: advanced-level translator in literary translation M.F.A. program.

TRNS:6000 The Craft and Contexts of Translation 1 s.h.

Focus on craft and contexts of translation practice; provides students with information and experience regarding the profession and practice of translation; readings, reflective writing, and participation at guest events that focus on topics and practices relevant to the craft and professional contexts of translation.

TRNS:6050 Independent Study arr.**TRNS:6400 Thesis arr.**

Translation thesis with critical introduction.

TRNS:6459 Issues in Translation 3 s.h.

Contemporary and historical theories.

TRNS:6555 Translator-in-Residence Workshop 3 s.h.

Translation workshop facilitated by the translator-in-residence; focus on review and revision of student manuscripts; readings on technique and theories, translation practice, and manuscript review.

TRNS:7460 Translation Workshop 3 s.h.

Requirements: at least one foreign language. Same as IWP:7460.

Comparative Literature— Translation, M.F.A.

Requirements

The Master of Fine Arts program in comparative literature—translation requires 48 s.h. of graduate credit, including a thesis. Students typically complete the program and graduate in two to three years.

Translators in the program focus on creating works that can convey the distinctness of the original languages and the immediacy of contemporary languages, whether poetry, fiction, or drama. Students consider ideas of literariness, style, cultural politics, authority, and how these come into play in the relationships between authors and their texts, authors and translators, translations and readers, and in the media landscapes in which these circulate.

At the core of the M.F.A. program are the workshops (TRNS:6555 and TRNS:7460) which every student must take for a minimum of 12 s.h. of credit. Depth in the literature and culture of the source language, creative writing (translation is considered a writing art), translation theory and history, and contemporary literary theory are basic curricular requirements, supplemented with elective courses in which students may develop an area of special interest in consultation with their advisors.

During the first year, each student has an advisory committee of two faculty members: one from the translation program, who is the student's primary advisor; and one from a department in the Division of World Languages, Literatures and Cultures or from one of the M.F.A. writing programs. A third member joins the committee during the second year, when a student submits the thesis proposal. At least one member of the committee should be competent in the student's source language.

The M.F.A. with a major in comparative literature—translation requires the following work.

Required Courses

Code	Title	Hours
All of these (36 s.h.):		
TRNS:6000	The Craft and Contexts of Translation (taken three semesters for 1 s.h. each semester)	3
TRNS:6459	Issues in Translation	3
	Courses in literature and culture of the source language	9
	Courses in creative writing (chosen in consultation with advisor)	6
	Additional course in theory (chosen in consultation with advisor)	3
12 s.h. of workshop courses (each course taken at least twice):		
TRNS:6555	Translator-in-Residence Workshop	3
TRNS:7460	Translation Workshop	3

Electives

Code	Title	Hours
Students earn 9 s.h. in electives of their choice, or from additional course work in translation:		
TRNS:4480	Literature and Translation	3
TRNS:4497	Techniques of Translation	3
TRNS:5205	International Translation Workshop	1-3
TRNS:5491	Translation Internship	1-2
TRNS:5500	Advanced Translation Practice	1-3

Thesis and Examination

Code	Title	Hours
TRNS:6400	Thesis	3

Students earn 3 s.h. for the thesis, which is a translated collection of poems, literary essays, short stories, a short novel, or a drama with an introduction that sets the work in appropriate context. The introduction should include a critical discussion of issues and problems related to the translation; it should present a rationale for the translator's approach and strategies, based on interpretation, analysis of the leading features, structure, style, or authorial objectives of the source text. The source text should be a work that has not been translated previously or, at the discretion of the advisory committee, a work whose previous translation is judged to be outdated or inadequate in some respect. An oral defense of the thesis examines the student's translation and the introductory essay in detail.

Admission

Applicants to the program are evaluated mainly on a writing portfolio. The portfolio should include translations, including source texts, and an original critical literary essay or literary writing in English; a statement of purpose; and three letters of recommendation. Applicants should provide evidence of advanced competence in their source language—normally at least three years of college-level work or the equivalent—and substantial preparation in English literature. Availability of faculty expertise in the applicant's source language and culture is considered in admission decisions.

All applicants must submit their scores on the Graduate Record Examination (GRE) General Test and transcripts from previous college-level study. Individuals whose first language is not English should provide scores on the Test of English as a Foreign Language (TOEFL).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

The program nominates up to two newly admitted, qualified students for the Iowa Arts Fellowship, a full-support fellowship awarded by the Graduate College each year. In addition, qualified students may receive teaching assistantships or part-time graduate assistantships. Students must apply for assistantships and other support; contact the translation program and the Office of Student Financial Aid for information.

Career Advancement

Graduates have gone on to work in the world of professional publishing as editors and reviewers or as free-lance translators; to become university professors after earning a Ph.D.; and to pursue other careers involving cross-cultural and artistic exchange. In recent years, publishers of works by translation alumni have included Greywolf, Seven Stories, Autumn Hill Books, Melville House, Word Without Borders, The Iowa Review, 91st Meridian, TWO LINES Online, Circumference, The Literary Review, Passport, Absinthe, and others.

Translation for Global Literacy

Director, Division of World Languages, Literatures and Cultures

- Russell Ganim

Coordinator, Translation for Global Literacy

- Denise K. Filios (Spanish and Portuguese)

Undergraduate minor: translation for global literacy

Website: <https://clas.uiowa.edu/dwllc/translation-global-literacy>

Literally every form of global exchange—from material goods and natural resources to knowledge, values, ideologies, and cultures—depends on translation across languages. Aided by the range of human migration, globalization has led to rich syntheses between and among cultures, languages, and sensibilities. Borders between countries have become tenuous in relation to transnational, multicultural, and multilingual realities.

The minor in translation for global literacy introduces undergraduate students to translation as a field and provides some basic course work and practice in translation from a world language to English. It encourages students to explore the topic and practice of translation as a crucial dimension of global literacy.

The minor in translation for global literacy is administered by the Division of World Languages, Literatures and Cultures [p. 336].

Programs

Undergraduate Program of Study Minor

- Minor in Translation for Global Literacy [p. 1030]

Facilities

Language Media Center

The Language Media Center (LMC) is an essential resource unit for faculty and students in the Division of World Languages, Literatures and Cultures. The LMC provides a wide variety of facilities and services for traditional language laboratory work as well as for foreign language digital media production and computer-based activities. The LMC facilities include a 50-computer information technology center (ITC), two digital audio laboratories, a multimedia development studio, a One Button Studio for video production, 13 media viewing stations, and six small group collaboration spaces. The LMC also circulates a collection of over 3,000 foreign language, American Sign Language, and English as a Second Language digital media materials.

The Autonomous Language Learning Network (ALLNet), administered by the Language Media Center in the Division of World Languages, Literatures and Cultures, offers scholarship opportunities to learn critical and less commonly taught languages that are not currently taught at the University of

Iowa. Any current university student, staff, or faculty member who is interested in pursuing language study to enhance their professional research or academic profile can apply for an ALLNet scholarship. With the support of the ALLNet staff, learners design their own study plans to learn basic language skills or improve upon existing skills in preparation for study or research abroad. Upon admission to the program, learners are provided with learning materials and tutorial sessions with a trained language and culture consultant.

Translation for Global Literacy, Minor

The undergraduate minor in translation for global literacy requires a minimum of 18 s.h., including a minimum of 12 s.h. in courses taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. At least 12 s.h. of course work must be taken in courses numbered 2000 or above.

Students are encouraged to declare the minor after satisfying the GE CLAS Core [p. 459] World Languages requirement or during more advanced language study. Most students who successfully complete the minor will need at least 6 s.h. of additional course work beyond the GE CLAS Core requirement in language study. Students may count a maximum of 6 s.h. of course work taken for each major, minor, or certificate program toward the requirements for the minor.

All students should tailor their plan of study to their experience and objectives. Students interested in the minor should meet with a faculty member associated with the minor program as soon as possible to develop an individualized plan of study.

Courses listed in two or more categories may only be used toward one requirement.

The minor in translation for global literacy requires the following course work.

Code	Title	Hours
Core Course		3
Translation Courses		6
Language, Linguistics, Literature, and Culture Courses		6
Capstone Course		3
Total Hours		18

Core Course

Code	Title	Hours
This course:		
TRNS:2000	Translation and Global Society	3

Translation Courses

Code	Title	Hours
A total of 6 s.h. from these:		
ASLE:2500	Introduction to Interpreting	3-4
CHIN:3201/ TRNS:3202	Workshop in Chinese Literary Translation	3
ENGL:3724	Writers' Seminar: Literary Translation	3
ENGL:4724	Advanced Writers' Seminar: Literary Translation	3
FREN:4890/ TRNS:4497	Techniques of Translation	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
SPAN:3030	Translation Workshop: English to Spanish	3

SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:4980	Advanced Translation: Spanish to English	3
TRNS:3179/ CL:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3

Language, Linguistics, Literature, and Culture Courses

Code	Title	Hours
A total of 6 s.h. in this area (the following are sample courses):		
CL:2531/RUSS:2531	Topics in Russian, East European, and Eurasian Studies	arr.
CL:3203/JPNS:3203	Modern Japanese Fiction in Translation	3
FREN:3060	Introduction to Reading and Writing in Literature	3
GRMN:3501	German Writers Engaged	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
JPNS:3204	Topics in Japanese Literature in Translation	3
SPAN:2300	Introduction to Reading Literature	4
TRNS:4480	Literature and Translation	3

Other courses approved by advisor (students can select from a wide range of options)

Capstone Course

Code	Title	Hours
One of these:		
TRNS:3499	Undergraduate Translation Seminar	3
TRNS:4500	Undergraduate Capstone Project (consult advisor; credit earned toward certificate should total 18 s.h.)	3

A departmental capstone course in which a project on translation is completed (must be approved by advisor)

Tippie College of Business

Dean

- Sarah Gardial

Senior Associate Dean

- Amy Kristof-Brown

Associate Dean, Graduate Management Programs

- David W. Frasier

Associate Dean, Undergraduate Programs

- Kenneth G. Brown

Undergraduate major: B.B.A.

Undergraduate minors: business administration; economics

Undergraduate certificates: entrepreneurial management; international business; risk management and insurance

Professional certificates: business fundamentals; finance; leadership; marketing

Graduate degrees: M.A.; M.Ac.; M.B.A.; M.S.; Ph.D.

Professional minors: business analytics; finance; marketing

Graduate certificate: business analytics

Website: <https://tippie.uiowa.edu/>

The Tippie College of Business is composed of six academic departments: accounting, economics, finance, management and organizations, management sciences, and marketing.

The college's undergraduate and graduate programs are accredited by AACSB International—the Association to Advance Collegiate Schools of Business.

Research, executive development, and education activities are supported by these centers and institutes: Emmett J. Vaughan Institute of Risk Management and Insurance, Hawkinson Institute of Business Finance, Institute for International Business, Iowa Electronic Markets Institute, John Pappajohn Entrepreneurial Center, Judith R. Frank Business Communication Center, Marketing Institute, RSM Institute of Accounting Education and Research, Pomerantz Career Center, Small Business Development Center, and Iowa MBA Consulting.

Integrity and honesty are essential to success in all facets of life. The purpose of the undergraduate Tippie Honor Code and the MBA Honor Code is to promote honorable and ethical behavior. Students admitted to the college or enrolled in courses offered by the college are required to uphold the honor code.

Facilities and Resources

The Tippie College of Business is located in the John Pappajohn Business Building, at the heart of the campus. The Pappajohn Business Building contains seminar and conference rooms, a computer laboratory, two auditoriums, two computer classrooms, a behavioral laboratory, a restaurant (Pat's Diner), a newly created cafe and study space called Biz Hub, the Marvin A. Pomerantz Business Library, and a variety of classroom facilities.

The computer laboratory in the John Pappajohn Business Building serves the instructional programs of the college, and the staff maintains a current library of computational

programs to accommodate users' needs. Business students also have access to the full range of services offered by the University's Information Technology Services and the extensive research materials and other resources of the University of Iowa Libraries.

Alumni Relations

The Tippie College of Business alumni network numbers more than 50,000 graduates worldwide. Alumni have access to the college's wide array of resources, including the in-house Office of Alumni Relations. The college's assistant director of alumni relations and staff in the Undergraduate Program Office and the Master of Business Administration Program maintain relationships with alumni. Tippie Magazine is mailed to alumni who support the college.

The alumni office hosts individual visits, receptions, speakers, and other events on campus and in cities nationwide and around the world. Members of the Business Student Ambassadors, an undergraduate student organization, often serve as hosts and guides for alumni who visit the college, and the Young Alumni Board works to strengthen ties between the college and younger alumni.

To learn more about staying in touch, see About Tippie Alumni on the college's website.

Programs

Undergraduate Programs of Study

The Tippie College of Business offers the Bachelor of Business Administration (B.B.A.) with majors in accounting, business analytics and information systems, economics, finance, management (including a distance education option), and marketing, and it collaborates with the College of Liberal Arts and Sciences to offer an undergraduate major in economics for Bachelor of Arts and Bachelor of Science students. See Bachelor of Business Administration for information about requirements common to all B.B.A. majors as well as the admission and academic rules and procedures, and view the Tippie College of Business departments in the Catalog for information about the college's majors.

The college also offers combined undergraduate degrees with the College of Engineering and the College of Liberal Arts and Sciences; see "Combined Degrees" under Requirements [p. 1049] in the Bachelor of Business Administration section of the Catalog. The John Pappajohn Entrepreneurial Center also collaborates with the College of Liberal Arts and Sciences to offer the Bachelor of Arts in enterprise leadership.

The college offers the undergraduate Certificate in Entrepreneurial Management and Certificate in Risk Management and Insurance. It collaborates with the College of Engineering to offer the Certificate in Technological Entrepreneurship and with the College of Liberal Arts and Sciences to offer the Certificate in International Business. The John Pappajohn Entrepreneurial Center collaborates with the College of Liberal Arts and Sciences to offer the Certificate in Arts Entrepreneurship.

The college also offers a minor in business administration [p. 1056] for non-business students.

Graduate Programs of Study

The Tippie College of Business offers several graduate degree programs: the Master of Accountancy (M.Ac.), the Master

of Business Administration (M.B.A.), the Master of Science in business analytics, the Doctor of Philosophy (Ph.D.) in business administration, and the Doctor of Philosophy in economics. The M.A. in business administration is a terminal degree; students are admitted into the Ph.D. in business administration degree program. For information about the M.Ac. and the Ph.D. in economics, see Master of Accountancy [p. 1041] and Ph.D. in economics [p. 1078] in the Catalog.

For information about the graduate Certificate in Business Analytics and M.S. in business analytics, administered by the Department of Management Sciences and conferred by the Graduate College, see Full-Time Master of Business Analytics and Part-Time Master of Business Analytics on the Tippie College of Business website, and Certificate in Business Analytics [p. 1121] and M.S. in business analytics [p. 1119] in the Catalog.

For information about the Master of Science in finance, administered by the Department of Finance and conferred by the Graduate College, see M.S. in finance [p. 1089] in the Catalog.

For information on M.B.A. programs, see Master of Business Administration Program [p. 1132] in the Catalog.

For a description of the Ph.D. in business administration, see Ph.D. in business administration [p. 1058] in the Catalog. The Ph.D. is an interdepartmental degree; programs leading to the degree are offered by the Departments of Accounting [p. 1036], Finance [p. 1083], Management and Organizations [p. 1101], Management Sciences [p. 1110], and Marketing [p. 1122].

CIMBA Italy

CIMBA Italy offers semester and summer study abroad programs for undergraduate and graduate students in Paderno del Grappa, Italy, northwest of Venice. Students who attend the programs come from a variety of public and private universities worldwide.

At CIMBA, students immerse themselves in a wide range of rigorous courses, including innovative leadership and development programming, while living amidst the Venetian countryside in one of the most popular travel and study destinations in the world. Business and cultural immersions begin for students the minute they arrive on campus. All courses are taught by English-speaking professors from top universities throughout the United States and Europe. For more information, see the CIMBA Italy website.

Centers and Institutes

Emmett J. Vaughan Institute of Risk Management and Insurance

The Emmett J. Vaughan Institute of Risk Management and Insurance prepares students for risk management careers. The institute's certificate program is open to undergraduate students pursuing any major. In addition to the course work, the Institute provides professional development, including networking events with industry speakers, scholarships, a mentorship program with young alumni, and a job fair.

There are great career opportunities in risk management and insurance. The industry needs to fill 400,000 jobs by 2020 in the United States. There are 228 insurance companies in Iowa; 29 major carriers have headquarters in the state. Within the United States, there are only 60 risk management insurance programs. The institute's Certificate in Risk

Management and Insurance [p. 1146] assists students in the competition for those jobs.

Graduates in the program begin their careers as corporate risk managers, risk management consultants, employee benefits managers, insurance brokers, underwriters, personal banking wealth managers, asset managers, financial analysts, claims adjusters, producers (sales), actuaries, and auditors.

The Tippie College of Business, in partnership with the Iowa insurance industry, developed the Vaughan Institute in 2005. The institute provides innovative education and research on contemporary risk management practice, while laying a business foundation for a productive future. In 2016, the Vaughan Institute was labeled a Global Center of Insurance Excellence; only 12 universities and colleges in the United States have been awarded this honor.

Hawkinson Institute of Business Finance

The Hawkinson Institute of Business Finance facilitates career opportunities in investment banking and related fields for students in the Tippie College of Business. The institute prepares high-achieving undergraduates for interviews, internships, and full-time jobs in the industry. Criteria for admission to the institute include a strong academic record, involvement in campus and community activities, high motivation, strong interpersonal skills, and demonstrated interest in business and financial markets.

Hawkinson Scholars participate in a course taught by former investment bankers that features guest speakers from leading banks, private equity firms, and hedge funds. Hawkinson Scholars also receive intensive education in equity valuation, financial market dynamics, soft skills, and more. An extensive network of dedicated Hawkinson alumni serve as mentors.

The institute has worked to broaden entry-level employment opportunities for Iowa graduates, who land jobs at prestigious firms such as Goldman Sachs, Barclays, Bank of America, Merrill Lynch, and JP Morgan. Graduating Hawkinson Scholars enjoy a 100 percent placement rate.

Institute for International Business

The Institute for International Business (IIB) is a partnership between the Tippie College of Business and the John Pappajohn Entrepreneurial Center (Iowa JPEC). The IIB fosters international entrepreneurship while strengthening links between the University of Iowa, the State of Iowa, and the world. The institute's international entrepreneurship and global engagement programs have the following goals:

- Provide an avenue for students to obtain cross-cultural skills through global experiential learning projects.

- Offer a vehicle for citizen diplomacy where students can collaborate and exchange ideas with their peers in developing countries.

- Offer a platform to the faculty to foster social entrepreneurship projects in developing countries.

- Empower people in developing countries through entrepreneurship.

Iowa Electronic Markets Institute

The Iowa Electronic Markets Institute supports scholarship in prediction markets and experimental economics. It operates

the Iowa Electronic Markets (IEM), a small-scale, real-money online futures markets where contract payoffs are based on real-world events such as political outcomes, the U.S. federal funds rate, companies earnings per share, and stock price returns. Known internationally as the genesis of modern prediction markets, the Iowa Electronic Markets are used as tools for research and teaching.

John Pappajohn Entrepreneurial Center

The John Pappajohn Entrepreneurial Center (Iowa JPEC) has developed comprehensive, interdisciplinary programs that combine course work with experiential learning for University of Iowa students in all areas of study. The center prepares students to launch new ventures, manage growing companies, and apply entrepreneurship concepts to their future careers. The center's programs empower students, accelerate their careers, and encourage them to pursue their dreams.

Students earning the Bachelor of Business Administration degree who are majoring in management [p. 1101] may complete the major's entrepreneurial management track. Students working toward a bachelor's degree may earn the Certificate in Entrepreneurial Management [p. 1082]. Both programs are offered on campus at the Tippie College of Business, as well as online through the Distance and Online Education. Graduate and professional students may enroll in advanced entrepreneurship courses; see Master of Business Administration Program in the Catalog.

Students in the College of Liberal Arts and Sciences may earn a Bachelor of Arts degree with a major in enterprise leadership. [p. 396] The major presents a unique blend of skills, theory and content, encouraging students to apply their knowledge and skills to entrepreneurial concepts and ventures. Offering a combination of business and liberal arts approaches, the major allows students to enhance their skills in communication, leadership, innovation, and critical thinking. The major in enterprise leadership is offered jointly by the John Pappajohn Entrepreneurial Center and the College of Liberal Arts and Sciences; the degree is awarded by the College of Liberal Arts and Sciences. College of Liberal Arts and Sciences students may earn the Certificate in Entrepreneurial Management [p. 1082] in addition to their undergraduate degree unless they are currently pursuing the B.A. in enterprise leadership. Both programs are offered on campus and online.

College of Engineering students may earn the Certificate in Technological Entrepreneurship [p. 1413] in addition to their undergraduate degree. Performing arts students may earn the Certificate in Arts Entrepreneurship [p. 118] in addition to their undergraduate degree.

The Certificate in Media Entrepreneurialism [p. 742] is open to all current University of Iowa undergraduate students and to all individuals who have earned a bachelor's degree and are not enrolled in a UI graduate or professional degree program. Students can earn the certificate in addition to their undergraduate degree. The certificate is offered through the School of Journalism and Mass Communication.

Iowa JPEC also offers students additional opportunities to develop their professional skills and network with entrepreneurial leaders and industry experts through the sponsorship of workshops and seminars, coordinating company visits, supporting student participation at regional and national conferences, and fostering global awareness

through international trips and consulting. It also sponsors several entrepreneurial student organizations designed to support students' professional and career development.

For students who may want to pursue the creation of a new business and/or develop a new product or software application while at the University of Iowa, Iowa JPEC is dedicated to training and support of student entrepreneurs. Welcoming both individual students and teams, the Founders Club program is located in the Bedell Entrepreneurship Learning Laboratory (BELL), providing a physical home for student businesses on campus. Participants have access to a variety of resources including collaborative work space and equipment, one-on-one mentoring from experienced professionals, workshops, trainings, networking, and funding opportunities.

The Student Accelerator program and the Iowa Startup Games are two additional programs designed to help student teams identify new business opportunities, while they provide training on how to launch new ventures. Several campus, statewide, and national funding competitions also are available to support student startups.

Iowa JPEC offers programs and services to community members to enhance the region and state's entrepreneurial ecosystem. Venture School is an innovative training program focused on real-world experimentation, customer discovery, and Lean LaunchPad methodologies. Iowa JPEC also offers student consulting services led by faculty members through business consulting courses and the Institute for International Business, as well as business advising and mentoring through the Small Business Development Center, numerous workshops, and networking events. Iowa JPEC partners with entrepreneurial service organizations, economic development organizations, and private sector businesses to advance entrepreneurship and economic development across Iowa. The Jacobson Institute for Youth Entrepreneurship is committed to infusing the entrepreneurial mindset with 21st-century skills in K-12 students through teacher professional development and innovative curricula.

Judith R. Frank Business Communication Center

The Judith R. Frank Business Communication Center provides one-on-one tutoring to Tippie College of Business undergraduates and M.B.A. students for writing assignments, projects, and case studies. The center also provides summer writing support and instruction to Tippie Ph.D. students and oversees the Department of Accounting writing program. The center's staff includes graduate students with expertise in writing and undergraduate peer tutors who have completed a semester-long peer tutor training course. Communication consultants are available on staff to help students with speech presentations or other oral communication assignments.

The Center's course-dedicated consulting program helps faculty and students plan and prepare for required writing projects. Center staff members work closely with faculty members to study assignment requirements, develop handouts and assessment rubrics, and deliver class or workshop presentations to students on how to meet the expectations of the assignment. They also provide ongoing training and mentoring to the center's undergraduate peer tutors.

The Frank Business Communication Center serves as a resource for the college's international students. It offers targeted programming that promotes fluency in written and

spoken English. It also provides programming to support cross-cultural sensitivity and communication, including English Language Discussion Circles and sessions for staff and faculty on how to pronounce Chinese names.

The Frank Business Communication Center oversees the B.B.A. core course BUS:3000 Business Communication and Protocol; the peer tutor training courses BUS:3900 Business Communication Internship I and BUS:3910 Business Communication Internship II; and the electives BUS:3200 Advanced Business Presentation Workshop: Strategy and Implementation and BUS:3800 Business Writing. In addition, the center's staff adjudicates the annual Mary Thomas Prappas Business Ethics Essay Competition and helps prepare Tippie College of Business undergraduates for national case competitions.

Marketing Institute

The Marketing Institute prepares students for today's diverse and competitive job market in many areas of marketing, including market research, brand management, marketing communication, advertising, and sales. The Marketing Institute is a three-semester program; classes meet during the day and students earn 6 s.h. of elective credit. Students also earn credit toward the Tippie College of Business experiential learning requirement, RISE. Undergraduate students apply in the fall; 16 are selected to join. Admittance criteria includes academic performance, leadership, interpersonal skills, and executive potential. Field immersion projects are a major component of the institute's program. In the field projects, students work as consultants for a variety of clients, including multi-million or billion-dollar businesses, gaining hands-on experience in identifying and solving marketing-related issues and problems. In addition, students are advised and mentored by an advisory board of top executives from companies that include Kraft, Hormel, Mead Johnson, Kimberly Clark, Principal Financial Group, Neiman Marcus, John Deere, and Amperage Advertising & Marketing. The Marketing Institute and its advisory board work together to foster internship opportunities and provide career guidance that helps students use their skills and talents to develop rewarding careers.

Pomerantz Career Center

Career development and on-campus recruiting services are provided by the Marvin A. and Rose Lee Pomerantz Career Center. Professional career advisors and online resources provide University undergraduate students with assistance on résumés, cover letters, internship and job searches, employer research, interviewing skills, negotiation of job offers, as well as walk-in sessions with trained student career peer advisors. The center helps students choose a major and identify careers related to specific majors through online assessment tools and customized advising. The center also presents multiple fall and spring semester career fairs and networking events. Campus recruitment is facilitated through HireaHawk.com, where students can search and apply for full-time employment, internships, and student employment positions. Students may participate in mock interviews and on-campus interviews for full-time positions and internships during the academic year. Additionally, the center offers career-related and professional development courses such as LS:2002 Career Leadership Academy Part 1: Leadership in Practice, LS:3002 Career Leadership Academy Part 2: Leadership in Action, CCP:1300 Major and Career Explorations, and CCP:1303 Successful Teamwork for the Workplace. For more information, contact the Pomerantz Career Center.

RSM Institute of Accounting Education and Research

The RSM Institute of Accounting Education and Research fosters educational excellence in accounting at the University of Iowa, encourages high-quality research by Iowa accounting faculty members, and facilitates the development of doctoral students in accounting. The institute sponsors varied educational initiatives and activities, including an annual national speaker series, the biennial Sidney Winter Lecture Series, and the PricewaterhouseCoopers Accounting Research Workshop.

Small Business Development Center

Since 1981, Iowa Small Business Development Center at the University of Iowa has played an important role in helping enterprising Iowans manage or start their own successful businesses. The center provides support for small business owners and entrepreneurs. Its personnel are trained to meet the varied needs of small business management, including marketing, financing, human resource planning, cash flow analysis, product commercialization, market research and analysis, strategic planning, international trade, and advertising.

Courses

Most Tippie College of Business courses are offered by the college's departments and programs. They are listed and described in the corresponding Catalog sections.

The college also offers the following nondepartmental courses for undergraduate students.

Tippie College of Business Courses

BUS:1200 Tippie College Direct Admit Seminar 1 s.h.
Facilitates an introduction to the undergraduate student experience in the Tippie College of Business; discussions of transition issues, academic skill acquisition, and professional goal setting. Requirements: admitted to the direct admission program.

BUS:1300 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities and local businesses).

BUS:1999 Introduction to Research in Business 1 s.h.
Introduction to research in business including scope and methods of business research, questions for which business research seeks answers, and impact of business research on society; weekly seminars include discussion and exploration and serve as preparation for engaging in mentored research.

BUS:2013 Introduction to Sustainability arr.
Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). Same as GEOG:2013, URP:2013.

BUS:2200 Foundations for Success in Business 2 s.h.

Designed to facilitate business students' career exploration and professional development; students participate in a variety of career-related activities including informational interviews, networking events, guest speakers, and workshops; topics include exploring majors, researching career fields and associated qualifications, identifying experiential learning opportunities, networking with integrity, searching for internships, and developing professionalism.

BUS:2300 Searching for Business Information 1 s.h.

Search concepts and sources specific to business information; subscription and government online research sites.

BUS:2450 Business and Culture in China 3 s.h.

Business and cultural environment of China; lectures, readings, case studies, company visits, and immersion in cultural experiences; Chinese history, politics, business, economics, and culture; topics may include Chinese business culture and relationships, local companies going global, business strategies of multinational companies in Chinese market; United States-China trade relations, entrepreneurship, Chinese consumer, sustainability and social responsibility; two-week study program in China. Prerequisites: a minimum g.p.a. of 2.75 and ECON:1100 and ECON:1200. Requirements: UI and cumulative g.p.a. of 2.75.

BUS:2550 International Business in Asia Pacific 3 s.h.

International business in the Asia Pacific region and related management issues confronting small-medium enterprises and multinational enterprises in that region; topics include rise of the Association of Southeast Asian Nations (ASEAN), challenges and opportunities for trade growth and collaboration, and practical guidance on how to develop and sustain a competitive advantage in a fast growing and dynamic environment; offered by the international business in Sydney, Australia study abroad program through Tippie College of Business. Prerequisites: MGMT:2100. Requirements: admission to international business in Sydney, Australia study abroad program.

BUS:3000 Business Communication and Protocol 3 s.h.

Foundation in business communication and protocol; composing business messages, organizing and reporting workplace data, developing business presentation and team-building skills, exploring issues pertaining to professional behavior. Prerequisites: RHET:1030 or (RHET:1040 and RHET:1060). Requirements: admission to Tippie College of Business and 30 s.h. earned.

BUS:3025 Global Internship Preparation 1 s.h.

Classroom preparation for the Tippie Global Internship Program; includes interview preparation, host country research, internship goal setting, international business practices, cultural awareness and adjustment, and other preparation topics.

BUS:3050 Business, Culture, and Society 3 s.h.

International business environment and interpersonal traits and skills expected of successful international businessperson; interdisciplinary overview of issues related to business in Western Europe; important cultural differences, the code of business and professional etiquette, business protocol, Italian business history, cultural appreciation, and executive legal/ethical concerns in the workplace; series of lectures, workshops, speakers, plant tours, and cultural events.

BUS:3100 Academic Internship or Cooperative Education 0 s.h.

Participation in an internship or cooperative education; fulfills Tippie College of Business experiential learning requirement.

BUS:3200 Advanced Business Presentation Workshop: Strategy and Implementation 2 s.h.

Advanced oral business presentation skills for solo, paired, and team presentations; suitable for students considering participating in case competitions; emphasis on articulating a particular strategy for an oral presentation and three areas of implementation—content structuring, visual design of PowerPoint slides, and vocal and physical delivery; how to integrate presentation technologies effectively, evaluate other speakers, speak clearly, use gestures appropriately, and engage the audience during the presentation and in question-and-answer sessions. Prerequisites: BUS:3000 with a minimum grade of B.

BUS:3300 Global Engagement Student Advisory Board 0-1 s.h.

The Global Engagement Student Advisory Board (GESAB) is comprised of undergraduate students in the Tippie College of Business and promotes a culture of inclusivity and global awareness; GESAB advises the college's Undergraduate Program Office on issues pertaining to the internationalization of undergraduate experience at Tippie College of Business and raises global awareness of peers through cross-cultural programming, campaigns, partnerships, and advocacy. Recommendations: member of Global Engagement Student Advisory Board.

BUS:3500 Tippie Senate 1 s.h.

For elected student representatives on the Tippie Senate.

BUS:3600 Mentored Research arr.

Business research conducted by undergraduate students under faculty supervision.

BUS:3800 Business Writing 3 s.h.

Series of practical projects; development of effective and persuasive business communication and analytical skills in public relations context.

BUS:3900 Business Communication Internship I 3 s.h.

Opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center.

BUS:3910 Business Communication Internship II 1-3 s.h.

Continuation of BUS:3900; opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center. Prerequisites: BUS:3900.

BUS:4900 Academic Internship arr.

Professional internship experience with associated academic content (e.g., paper, course work).

BUS:4999 Honors Thesis in Business 3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

Accounting

Chair

- Daniel W. Collins

Director, Undergraduate Program

- Kevin J. Den Adel

Director, Master of Accountancy

- Thomas J. Carroll

Director, Ph.D. Program

- Steven Paul Hribar

Director, RSM Institute of Accounting Education and Research

- Ramamurthy "Ramji" Balakrishnan

Undergraduate major: accounting (B.B.A.)

Graduate degrees: M.Ac.; accounting subprogram for the Ph.D. in business administration

Faculty: <https://tippie.uiowa.edu/people?departments=166>

Website: <https://tippie.uiowa.edu/accounting>

The Department of Accounting offers a broad education that prepares undergraduate and graduate students for careers in public accounting, private industry, government, nonprofit organizations, and academia.

The department also collaborates with the College of Law to offer the combined M.Ac./J.D. program; see Combined Programs [p. 1042] under Master of Accountancy in this section of the Catalog. It also participates in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog.

Accounting Program

The accounting program draws on curricula that provide a strong base of traditional technical subject matter and the skills needed for solving complex business problems. This framework of study enables students to continue professional growth over the entire span of their careers. The program emphasizes communication skills and provides the academic background required for leadership positions in business, government, and public accounting. It also qualifies students to take the Certified Public Accountant (CPA) examination.

The accounting program leads to a Bachelor of Business Administration with a major in accounting, which requires 120 s.h. of credit and the Master of Accountancy, which requires 30 s.h. of graduate credit. Students are granted the B.B.A. upon successful completion of the third and fourth years; they are granted the M.Ac. after successful completion of 30 s.h. beyond the B.B.A.

Programs

Undergraduate Program of Study Major

- Major in Accounting (Bachelor of Business Administration) [p. 1039]

Graduate Programs of Study

Majors

- Master of Accountancy [p. 1041]
- Accounting subprogram for the Doctor of Philosophy [p. 1044] in Business Administration

Courses

Accounting Courses

ACCT:1300 First-Year Seminar 1 s.h.

Small discussion class taught by faculty member; topics chosen by instructor; may include outside activities (e.g., films, readings, visits to research facilities).

ACCT:2100 Introduction to Financial Accounting 3 s.h.

Accounting and financial reporting procedures used by business and not-for-profit entities; emphasis on accounting concepts and use of accounting information in making economic decisions. Requirements: sophomore or higher standing.

ACCT:2200 Managerial Accounting 3 s.h.

Basic topics in cost behavior, measurement, accumulation; use of cost data for relevant analysis, budgeting, performance evaluation. Prerequisites: ECON:1100 and ACCT:2100 and (MATH:1850 or MATH:1550 or MATH:1460 or MATH:1860 or MATH:1380).

ACCT:3020 Financial Accounting and Reporting 3 s.h.

External financial reporting practices in context of decisions by management, current and potential stockholders, financial analysts; emphasis on interpretation, use of financial statements. Prerequisites: ACCT:2200. Requirements: non-accounting major.

ACCT:3100 Professional Accounting Seminar 1 s.h.

Seminar topics, including accounting careers, curriculum, M.Ac. program, internships, CPA examination and other professional certificates, Beta Alpha Psi, ethics, and global standards. Offered fall semesters. Corequisites: ACCT:2200 or ACCT:3200.

ACCT:3200 Income Measurement and Asset Valuation 3 s.h.

Accounting rules that determine how economic events and transactions are described in published financial reports; emphasis on revenue and expense recognition, asset valuation, accrual accounting model. Corequisites: ACCT:3400. Requirements: admission to Professional Program in Accounting.

ACCT:3300 Valuation of Financial Claims 3 s.h.

Current and long-term liabilities and stockholders' equity, off-balance sheet financing, cash flow statement, earnings-per-share, financial instruments. Prerequisites: ACCT:3200 and ACCT:3400. Corequisites: ACCT:3100.

ACCT:3400 Introduction to Taxation 3 s.h.

Federal income taxation of individuals and businesses, including corporations, partnerships, and sole proprietorships; emphasis on developing a broad perspective on structure, administration, and rationale of federal income tax system. Corequisites: ACCT:3200. Requirements: admission to Professional Program in Accounting.

ACCT:3450 Tax Practicum (VITA) I**1-2 s.h.**

Transformative opportunity to work on real world tax problems with real clients; application of skills learned in classroom to real world problems; development of crucial accounting career soft skills including communication (explaining complicated ideas in simple language), moving out of one's comfort zone, working as a team, and having an appreciation for the importance of community service. Corequisites: ACCT:3400. Requirements: acceptance to undergraduate accounting program.

ACCT:3451 Tax Practicum (VITA) II**2 s.h.**

Transformative opportunity to work on real world tax problems with real clients; application of skills learned in classroom to real world problems; development of crucial accounting career soft skills including communication (explaining complicated ideas in simple language), moving out of one's comfort zone, working as a team, and having an appreciation for importance of community service. Requirements: successful completion of ACCT:3450 and certification on the most recent Internal Revenue Service certification tests.

ACCT:3500 Advanced Tax Topics**3 s.h.**

Taxation of corporations and partnerships from organization through liquidation; relative merits of conducting business as C corporation, partnership, S corporation; the alternative minimum tax; introduction to tax research. Prerequisites: ACCT:3400. Requirements: senior standing.

ACCT:3550 Financial Statement Analysis**3 s.h.**

How to analyze published financial statements; practical experience using financial statement information to assess accounting quality, historical performance, forecasted performance, credit risk, firm value. Prerequisites: ACCT:3020.

ACCT:3600 Accounting Information Systems**3 s.h.**

Application of computer technology to accounting and transaction processing systems; information systems infrastructure and trends; problem solving with microcomputer spreadsheets, databases; accounting cycle operations. Prerequisites: (MSCI:3005 or CS:2110) and ACCT:2200 and ACCT:2100. Same as MSCI:3100.

ACCT:4000 Special Topics in Accounting**1-3 s.h.****ACCT:4001 Continuing Education: Special Topics in Accounting****arr.**

Independent study topics determined by faculty member.

ACCT:4050 Directed Readings in Accounting**arr.**

Individual guided readings in accounting topics. Requirements: admission to Professional Program in Accounting.

ACCT:4100 Auditing**3 s.h.**

General framework underlying auditing, role of audit standards in planning and conduct of audits, effect of regulation, ethics, liability on audit practices. Prerequisites: ACCT:3100 and ACCT:3300 and ACCT:3600 and (MSCI:2800 or ECON:2800 or ECON:4800 or STAT:2020 with a minimum grade of B or STAT:4101). Requirements: senior standing.

ACCT:4200 Accounting for Management Analysis and Control**3 s.h.**

Advanced topics in cost estimation, measurement, accumulation; use of cost data for decision making, performance evaluation in multi-unit organizations. Prerequisites: (STAT:2020 with a minimum grade of B or ECON:4800 or STAT:4101 or ECON:2800 or MSCI:2800) and (CS:2110 or MSCI:3005). Requirements: admission to Professional Program in Accounting.

ACCT:4300 Business Law**3 s.h.**

Legal issues involving contracts, sale of goods, agency and partnership law, business structures including corporations and limited liability companies, employment law, and an overview of accountant's legal liability and securities regulation. Prerequisites: MGMT:2000. Requirements: senior standing.

ACCT:4400 Advanced Financial Accounting**3 s.h.**

Accounting and reporting standards for business combinations, including mergers, consolidations, and multinational enterprises; accounting for partnerships, business segments, transactions denominated in foreign currency, including hedges using foreign currency derivative instruments; reporting standards for interim financial statements and fund accounting applied to government and nonprofit entities. Prerequisites: ACCT:3300. Requirements: senior standing.

ACCT:4500 Accounting Measurement: Research and Analysis**3 s.h.**

How uncertainty and risk influence accounting judgments, estimates, and forecasts that underlie reported financial statement amounts; applications drawn from familiar accounting measurement challenges and those unique to industries (e.g., airline transportation, healthcare, insurance, gaming, oil and gas exploration). Prerequisites: ACCT:3300. Corequisites: ACCT:4100.

ACCT:4600 Tax Research**2 s.h.**

Understanding the validity and use of various tax law sources; performing tax research using printed and electronic tax materials; evaluation of tax law provisions and application to specific facts and circumstances; preparing tax memorandums. Prerequisites: ACCT:3500. Requirements: accounting major.

ACCT:4900 Academic Internship**1 s.h.**

Professional internship experience.

ACCT:4999 Honors Thesis in Accounting**3 s.h.**

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

ACCT:7850 Seminar in Accounting Research**arr.**

Forum on current research in accounting, related disciplines; faculty, student, guest papers, Ph.D. dissertation proposals. Requirements: Ph.D. enrollment.

ACCT:7900 Seminar in Selected Accounting Topics**arr.**

Individual study, research paper preparation. Requirements: Ph.D. enrollment.

ACCT:7975 Thesis: Accounting**arr.**

Requirements: Ph.D. enrollment.

ACCT:9020 Strategic Cost Analysis**2-3 s.h.**

Introduction to cost accumulation, reporting, cost management systems; managerial and divisional performance evaluation; appropriate use of cost data for short- and long-run decisions; product costing in manufacturing and service industries. Prerequisites: MBA:8140.

ACCT:9030 Financial Accounting Standards and Analysis**2-3 s.h.**

Accounting model, underlying measurement concepts, valuation rules for assets, liabilities, related issues of income determination; emphasis on economic substance of transactions, evaluation and interpretation of financial data. Prerequisites: MBA:8140.

ACCT:9040 Financial Statement Analysis 3 s.h.

Use of corporate financial statements for investment and lending decisions; emphasis on financial analysis techniques, valuation, business analysis, cash flow projections, credit scoring, related research evidence. Prerequisites: MBA:8180 and ((ACCT:3200 and ACCT:3300) or MBA:8140).

ACCT:9050 Taxes and Business Strategy 2-3 s.h.

Effect of taxes on business decisions, including investment strategies, capital structure decisions, compensation policies, international business, mergers and acquisitions, and financial reporting. Prerequisites: ACCT:3500 or MBA:8140 or LAW:8194. Requirements: graduate standing in business.

ACCT:9120 Design and Use of Cost Management Systems 3 s.h.

Development of cost accumulation and reporting systems that complement a firm's strategy and structure; how activity-based cost management systems increase competitiveness by helping a firm manage its costs, processes, people. Prerequisites: ACCT:4200 or ACCT:9020.

ACCT:9130 Financial Reporting: Theory and Practice 3 s.h.

Corporate accounting choices in framework of traditional accounting theory, economic consequences, firm valuation. Prerequisites: ACCT:3300. Requirements: graduate standing in business.

ACCT:9140 Advanced Auditing 3 s.h.

Advanced issues such as ethics, internal control audits, forensic auditing, and fair value auditing. Prerequisites: ACCT:4100. Requirements: graduate standing in business.

ACCT:9150 Tax Research 3 s.h.

Understanding the validity and use of various tax law sources; performing tax research using printed and electronic tax materials; evaluation of tax law provisions and application to specific facts and circumstances; preparing tax memorandums. Prerequisites: ACCT:3500. Requirements: admission to M.Ac. program.

ACCT:9170 Advanced Accounting Analytics 3 s.h.

Application of the latest business intelligence software packages to real world problems from auditing, managerial, financial, and tax accounting; how to use Big Data to make better business decisions and identify potential risks and opportunities. Prerequisites: ACCT:4100 and ACCT:4200. Corequisites: MSCI:9210.

Accounting, B.B.A.

Students who wish to earn the Bachelor of Business Administration with a major in accounting must be admitted to the accounting program. Undergraduate accounting majors are subject to the probation and dismissal rules described in the Bachelor of Business Administration [p. 1045] section of the Catalog and are governed by the Tippie Honor Code.

The B.B.A. is not sufficient preparation for CPA licensure in states that have passed a 150-hour law, including Iowa.

Requirements

The Bachelor of Business Administration with a major in accounting requires a minimum of 120 s.h., including at least 25 s.h. of work for the major. All required major course work must be taken at the University of Iowa. Students must be admitted to the accounting program in order to major in accounting. Course work in the program provides concentrated coverage of professional accounting subjects and closely related topics in commercial law, business, and information systems.

To enter the program, undergraduates must be admitted to the Tippie College of Business. They must have a University of Iowa g.p.a. of at least 3.00 and a cumulative g.p.a. of at least 3.00, a g.p.a. of at least 2.67 (B-minus average) in ACCT:2100 Introduction to Financial Accounting and ACCT:2200 Managerial Accounting, and a passing score on the Department of Accounting writing assessment. Students who wish to declare accounting as a major but do not satisfy the automatic admission requirements may still apply to the professional program; applications are reviewed case-by-case.

Students usually spend the first and second year taking prerequisites and other course work required for all B.B.A. students. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1049] in the Catalog.

Accounting Major

These business core classes are prerequisites to major-level courses:

- MGMT:2000 Introduction to Law
- MSCI:2800 Business Analytics
- MSCI:3005 Information Systems

Students may not count ACCT:3020 Financial Accounting and Reporting toward the B.B.A. in accounting due to overlap in course content.

The major in accounting requires the following work during the third and fourth years. All accounting major course work must be taken at the University of Iowa.

Code	Title	Hours
All of these:		
ACCT:3100	Professional Accounting Seminar (must be taken by the second semester in the program)	1
ACCT:3200	Income Measurement and Asset Valuation	3
ACCT:3300	Valuation of Financial Claims	3
ACCT:3400	Introduction to Taxation	3
ACCT:3600	Accounting Information Systems	3

ACCT:4100	Auditing	3
ACCT:4200	Accounting for Management Analysis and Control	3
ACCT:4300	Business Law	3
BUS:3000	Business Communication and Protocol (taken first year after admission to the college)	3
Four business core requirements		12
Electives		18-21
And one accounting elective during the fourth year:		
ACCT:3500	Advanced Tax Topics (offered fall only)	3
ACCT:4400	Advanced Financial Accounting (offered spring only)	3

Summer: GMAT and Admission to the M.Ac.

Students who intend to continue in the accounting program after receiving the B.B.A. should take the Graduate Management Admission Test (GMAT) during the summer before their senior year, as preparation for applying to the Master of Accountancy program.

Optional Accounting Electives

Code	Title	Hours
ACCT:3450	Tax Practicum (VITA) I	1
ACCT:3451	Tax Practicum (VITA) II	2
ACCT:4600	Tax Research	2
ACCT:4900	Academic Internship (consent of department required)	1

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Accounting, B.B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Complete writing assessment when enrolled in ACCT:2200 Managerial Accounting.		
Hours		0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4

RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
Hours		16

Spring

MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials ^e	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
Hours		16

Second Year**Fall**

ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
BUS:3000	Business Communication and Protocol ^f	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Hours		16

Spring

ACCT:2200	Managerial Accounting ^e	3
ECON:1200	Principles of Macroeconomics ^e	4
MSCI:2800	Business Analytics	3
MSCI:3005	Information Systems	3
Non-business elective course		3
Hours		16

Third Year**Fall**

ACCT:3100	Professional Accounting Seminar ^g	1
ACCT:3200	Income Measurement and Asset Valuation	3
ACCT:3400	Introduction to Taxation	3
FIN:3000	Introductory Financial Management	3
GE: International and Global Issues ^d		3
Non-business elective course		1
Hours		14

Spring

ACCT:3300	Valuation of Financial Claims	3
ACCT:3600	Accounting Information Systems	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3
Non-business elective course		3
Hours		15

SummerExam: GMAT^h

Hours 0

Fourth Year**Fall**

ACCT:4100	Auditing	3
Major: Accounting elective course ^{i, j}		3

MSCI:3000	Operations Management	3
Non-business elective course		3
Non-business elective course		2
Hours		14

Spring

ACCT:4200	Accounting for Management Analysis and Control	3
ACCT:4300	Business Law	3
Major: Accounting elective course ^{i, k}		3
Non-business elective course		3
Non-business elective course		2
Hours		14
Total Hours		121-124

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Business Core Part I component, required to declare major
- f BUS:3000 must be taken in the first semester after admission to the Tippie College of Business. Direct admits take BUS:3000 in their second year.
- g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Students who intend to continue in the accounting program after receiving the B.B.A. should take the Graduate Management Admission Test (GMAT) during the summer before their senior year, as preparation for applying to the Master of Accountancy program.
- i One Accounting major elective required, but both are highly recommended for students taking the CPA exam.
- j ACCT:3500 recommended. Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- k ACCT:4400 recommended. Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

Career Advancement

Over 95 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit Accounting on the Pomerantz Career Center website.

Master of Accountancy, M.Ac.

The Master of Accountancy (M.Ac.) is a nonthesis program. Course work focuses on the conceptual and economic foundations of accounting with applications to current and emerging problems of professional practice. M.Ac. students also have the opportunity to acquire expertise in one of four specialization areas: financial accounting/auditing, business analytics, taxation, and managerial accounting.

Graduate students in accounting are subject to the probation and dismissal rules of the Graduate College and are governed by the full-time M.B.A. honor code.

Requirements

The Master of Accountancy requires 30 s.h. beyond the B.B.A. The program permits students to specialize in accounting areas according to their interests and objectives. It builds on the technical skills acquired in the undergraduate program, broadens students' perspectives on the role of accounting in organizations and decision making, and further develops written and oral communication skills.

Students from a variety of academic backgrounds enter the M.Ac. program. Those who enter with an undergraduate degree in accounting can expect to complete the degree in 12 months. Those who enter with a non-accounting undergraduate degree typically require four semesters to complete the M.Ac. Study plans are adjusted to reflect each student's particular academic background; see "Students Without Undergraduate Accounting Degrees" below.

The 30 s.h. required for the M.Ac. must include at least 12 s.h. in graduate-level accounting courses and at least 21 s.h. in courses numbered 5000 or above. Some work for the specialization areas is cross-disciplinary, with courses from other departments as well as accounting.

The Master of Accountancy requires the following course work. Students complete the requirements for their chosen specialization or for the core program.

Specialization in Financial Accounting/Auditing

Code	Title	Hours
Accounting Courses		
Total of 12 s.h.		
All of these:		
ACCT:9040	Financial Statement Analysis	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
One of these:		
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
Business Analytics Courses		
Two business analytics courses (prefix CS or MSCI) numbered above 5000		6
Finance Courses		
Total of 6 s.h.		

MBA:8180	Managerial Finance (requires consent of M.B.A. office)	3
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One additional finance course numbered above 5000	3
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General Electives

Total of 6 s.h.	6
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Specialization in Business Analytics

Code	Title	Hours
Accounting Courses		
Total of 12 s.h.		
This course:		
ACCT:9140	Advanced Auditing	3
Three of these:		
ACCT:9040	Financial Statement Analysis	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
Business Analytics Courses		
Four business analytics courses (prefix CS or MSCI) numbered above 5000		12
General Electives		
Total of 6 s.h.		6

Specialization in Taxation

Code	Title	Hours
Accounting Courses		
Total of 9 s.h.		
Three of these:		
ACCT:9040	Financial Statement Analysis	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
Taxation Courses		
Total of 9 s.h.		
ACCT:9050	Taxes and Business Strategy	3
College of Law tax courses (may follow a different academic calendar schedule than business courses, some courses may require consent of instructor)		6
Business Analytics Courses		
Two business analytics courses (prefix CS or MSCI) numbered above 5000		6
General Electives		
Total of 6 s.h.		6

Specialization in Managerial Accounting

Code	Title	Hours
Accounting Courses		
Total of 12 s.h.		
This course:		

ACCT:9120	Design and Use of Cost Management Systems	3
Three of these:		
ACCT:9040	Financial Statement Analysis	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
Business Analytics Courses		
Two business analytics courses (prefix CS or MSCI) numbered above 5000		6
Business Electives Outside Accounting		
Two business electives numbered above 5000		6
General Electives		
Total of 6 s.h.		6

Core Program

Students who do not wish to pursue a specialization area must complete 30 s.h. beyond the B.B.A. At least 15 s.h. must be earned in graduate-level accounting courses and at least 21 s.h. must be earned in courses numbered 5000 or above. The following courses are required.

Code	Title	Hours
Accounting Courses		
Total of 15 s.h.		
ACCT:9040	Financial Statement Analysis	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
Business Analytics Courses		
Two business analytics courses (prefix CS or MSCI) numbered above 5000		6
General Electives		
Total of 9 s.h.		9

Students Without Undergraduate Accounting Degrees

Course work for students who enter the program with a non-accounting bachelor's degree is determined by each student's background and interest area. In addition to meeting the core program requirements for the M.Ac., students typically take a combination of undergraduate and M.B.A. courses to remove academic deficiencies in quantitative methods, business, and accounting. Students with a bachelor's degree in another area of business typically are required to take 45-51 s.h. in order to complete the M.Ac. program. Those with degrees outside of business and with no accounting courses typically are required to take 57-60 s.h.

CPA Examination and the Iowa Accountancy Act

The Iowa Accountancy Act requires individuals who wish to take the CPA examination to have a bachelor's degree, 24 s.h. of business course work, and 24 s.h. of accounting course work beyond ACCT:2100 Introduction to Financial Accounting.

Combined Programs

M.Ac./J.D.

The Department of Accounting and the College of Law offer the combined Master of Accountancy/Juris Doctor program. The combined M.Ac./J.D. requires a minimum of 18 s.h. of graduate course work in accounting. Students in the program may count up to 12 s.h. of College of Law courses as electives for the M.Ac. and up to 12 s.h. of graduate accounting courses as electives for the J.D.

Separate application to each degree program is required. Applicants must be admitted to each program before they may be admitted to the combined program.

For information about the J.D. degree, see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Admission to the M.Ac. program is competitive. The admissions committee reviews applications individually, considering quantitative aspects (grade-point average and GMAT scores) and qualitative aspects of each applicant's background and professional experience (if applicable) to assess an applicant's potential for academic success and professional growth.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Application materials must include the following:

- an application for graduate admission;
- official transcripts of all undergraduate and graduate course work submitted by each institution an applicant has attended;
- official scores on the Graduate Management Admission Test (GMAT);
- a supplemental application form with essay responses;
- a résumé and cover letter; and
- at least three letters of reference from former instructors or employers unless the student is a B.B.A. major in accounting at the University of Iowa.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL).

University of Iowa undergraduate accounting students are encouraged to take the Graduate Management Admission Test (GMAT) the summer before their senior year. They may apply to the M.Ac. after December 1 of their fourth year. See "Application Deadlines" below.

For complete information about application procedures, contact the Department of Accounting.

Application Deadlines

The Department of Accounting admissions committee reviews completed M.Ac. application files (which must include official GMAT scores) on five dates: March 1, April 15, July 15, October 1, and December 1. Applications are reviewed on these dates regardless of whether the applicant plans to begin the M.Ac. program in the fall semester (August), spring semester

(January), or summer session (June). Final Graduate College application deadlines are as follows.

Fall semester entry: July 15 (April 15 for international students)

Spring semester entry: December 1 (October 1 for international students)

Summer session entry: April 15 (March 1 for international students)

Students who wish to apply for a teaching assistantship must apply to the M.Ac. program no later than March 1.

Career Advancement

Over 95 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit Accounting on the Pomerantz Career Center website.

Doctor of Philosophy

Graduate students in accounting may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in Business Administration [p. 1058] in the Catalog and visit the Department of Accounting website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Application materials must include the applicant's score on the Graduate Management Admission Test (GMAT).

Bachelor of Business Administration

Undergraduate major: B.B.A.
Website: <https://tippie.uiowa.edu/>

The Bachelor of Business Administration is offered with majors in accounting, business analytics and information systems, economics, finance, management, and marketing. The major in management with the entrepreneurial management track includes a distance education option.

This Catalog section provides information about requirements that all B.B.A. students must fulfill, regardless of their major, as well as admission information and academic rules and procedures for the B.B.A. For information about the individual majors, see Accounting [p. 1036], Economics [p. 1059], Finance [p. 1083], Management and Organizations [p. 1101], Management Sciences [p. 1110], and Marketing [p. 1122] in the Catalog.

Students may earn double majors in the B.B.A.; they also may earn combined degrees in the College of Engineering or the College of Liberal Arts and Sciences. See "Double Majors in Business" under Requirements [p. 1049] and see Combined Programs [p. 1051] in the Bachelor of Business Administration section. Many business students earn one or more certificates and minors offered in disciplines across the University; see "Minors" and "Certificates" below.

The Tippie College of Business's undergraduate and graduate programs are accredited by AACSB International—the Association to Advance Collegiate Schools of Business.

Undergraduate Advising

All business students are advised at the business college's Undergraduate Program Office. Pre-business students are advised at the University's Academic Advising Center or the college's Undergraduate Program Office. Assignment to the Undergraduate Program Office for advising depends on a student's grade-point average and completion of calculus and statistics. Drop-in hours and scheduled appointments are available at both offices. For more information on advising, contact the college's Undergraduate Program Office or the University's Academic Advising Center.

Honor Code

Integrity and honesty are essential to success in all facets of life. The purpose of the Tippie Honor Code is to promote honorable and ethical behavior. Students admitted to the college or enrolled in courses offered by the college are required to uphold the honor code.

Minors

Bachelor of Business Administration students may earn minors in a number of disciplines. For example, students interested in international business might choose to earn a minor in a second language. For a list of minors and links to the departments and programs that offer them, see Find Your Program on the General Catalog website and select undergraduate minors.

Students may declare a minor on MyUI. To have the minor recorded on their transcripts, they must complete the "minor" section on their Application for Degree they submit through MyUI before the session they intend to graduate.

Certificates

Bachelor of Business Administration students may earn certificates offered by the Tippie College of Business as well as by other colleges at the University of Iowa. Tippie College of Business offers the Certificate in Entrepreneurial Management [p. 1082] and the Certificate in Risk Management and Insurance [p. 1082]. In addition, it partners with the College of Engineering to offer the Certificate in Technological Entrepreneurship [p. 1413] and with the College of Liberal Arts and Sciences to offer the Certificates in International Business [p. 1092] and in Arts Entrepreneurship [p. 117].

The College of Liberal Arts and Sciences, the College of Public Health, and University College offer a wide range of certificates open to all undergraduates. Many pair exceptionally well with a business major. See Find Your Program on the General Catalog website and select undergraduate certificates for a complete list of certificates and links to their Catalog sections.

Tippie RISE

RISE is an acronym for hands-on experiential learning in the form of Research with Faculty, Internship Course, Study Abroad, and Experiential Course. By completing at least one Tippie RISE experience as part of the undergraduate degree, Tippie College of Business students will bridge the classroom with the real world to better prepare them for future career or graduate studies.

All Tippie College of Business students must successfully complete at least one of the following Tippie RISE experiences to graduate. Each experience is tied to an academic course for which students must register. See Tippie RISE in the Bachelor of Business Administration Requirements [p. 1049] section for the full list of qualifying courses.

Research with Faculty

Working closely with a faculty mentor, students explore a research question of interest for a semester or more. By conducting academic research, students enhance their critical thinking skills, learn techniques to collect and analyze data, and apply their findings to business practices. These skills are highly useful for a variety of businesses and graduate programs.

Internship Course

As students gain valuable hands-on work experience in a professional internship, they complete one of the approved internship courses to assist them in having a meaningful learning experience. The internship courses encourage students to take on relevant job responsibilities, outline strategies to meet internship goals, regularly communicate with their supervisors, explore the career field, and reflect on their growth throughout the experience.

Study Abroad

By taking advantage of short-term, summer, semester, or academic year programs, students can expand their worldview and learn alternative business and cultural practices outside of the United States. Students can participate in Tippie international programs such as London Winter, China May, CIMBA Italy, and Global Internships, or any of the many UI study abroad programs in over 40 countries.

Experiential Course

In approved experiential courses, students improve their understanding of academic concepts by applying them to a class project with a company or nonprofit organization. Using real circumstances and issues, students engage with the organization to make a lasting impact. Students have support from classmates and guidance from their instructor throughout the duration of the project. Experiential courses are offered in many Tippie majors and as business and non-business electives.

Programs

Undergraduate Program of Study

- Bachelor of Business Administration [p. 1049]

Academic Rules and Procedures

Academic Recognition

Dean's List

Undergraduate students in the Tippie College of Business who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

President's List

Undergraduate students in the Tippie College of Business who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

Graduation with Honors in the Major

Graduation with honors in the major recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of a student's major. To graduate with honors in the major, students must maintain a cumulative, University of Iowa, business, and UI business g.p.a. of at least 3.50 and must successfully complete an honors project under the supervision of a faculty member. To learn more, see Honors at Tippie on the Tippie College of Business website.

Graduation with Distinction

Graduation with distinction recognizes high scholastic achievement based on grades. The Office of the Registrar certifies to the Tippie College of Business associate dean the names of students eligible to graduate with distinction. The college awards degrees "with highest distinction" to students in the highest two percent of the graduating class, "with high distinction" to students in the next highest three percent, and "with distinction" to the next highest five percent. Ranking is based on students' grade-point averages for all college-level study undertaken before their final registration.

To be eligible to be considered for graduation with distinction, a student must complete 60 s.h. in residence as an undergraduate at the University of Iowa; 45 s.h. of that must be completed before the final registration.

Credit and Grading

Credit by Examination

Students may earn up to 30 s.h. of credit by examination by taking selected tests from the College-Level Examination Program (CLEP) and the Advanced Placement (AP) program of the College Board or the International Baccalaureate Program (IB). For information about when and how to take the CLEP and AP examinations, contact the University's Evaluation and Exam Service. The Tippie College of Business Undergraduate Program Office has information on scores, credit, and course duplicates for all CLEP, Advanced Placement, and IB tests accepted by the college.

Maximum Schedule

Students may register for a maximum of 18 s.h. Course schedules of more than 18 s.h. for a fall or spring semester, or more than 12 s.h. for the summer session, require approval from the Undergraduate Program Office.

Adding and Dropping Courses

Students may add or drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for regular and off-cycle courses. See Academic Calendar for the University of Iowa on the Office of the Registrar website. See Course Deadlines for course-specific deadlines. Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

To request a late add, students must obtain the authorization of the instructor followed by authorization of the Undergraduate Program Office.

To request a late drop, students should meet with an advisor in the Undergraduate Program Office to discuss their request to drop a Tippie College of Business course. To request permission, students must submit a written petition. The petition may be granted only with documentation of extenuating circumstances beyond the student's control.

Prerequisites

Undergraduate students must complete a course's prerequisites. When a student registers, the system reads a student's record, and if there is no evidence that a prerequisite has been completed or is in progress, enrollment for the course will be blocked. See the Tippie College of Business Undergraduate Student Prerequisites web page for more information about prerequisite policies and procedures.

Administrative Drops for Nonattendance

Instructors have the option to drop a student who has missed the first two class periods of a course, unless the student has offered an acceptable reason for beginning the course late. Administrative drops must be processed by the first eight calendar days of the semester or the first two calendar days of the winter session, each summer session, or the start of an off-cycle course. Administrative drops are made without assignment of a W (withdrawn). Students who are dropped from a course are notified. Students should not assume that they have been dropped from a course because they have not attended.

Pass/Nonpass

Up to 15 s.h. of course work required for the B.B.A. may be taken pass/nonpass with the consent of an advisor and the instructor. Students must be in good academic standing to be eligible for the pass/nonpass option. A maximum of two pass/nonpass courses may be taken in one semester or session. Courses taken pass/nonpass may not be used to satisfy general education, prerequisite, core, or major business requirements; major business requirements include any course that fulfills a major course requirement or is offered by the major department. Pass/nonpass registration must be completed during the first 10 days of a fall or spring semester or the first one-and-one-half weeks of a summer session, and it requires the approval of the advisor and the instructor. For courses taken pass/nonpass, an earned grade of C-minus or higher is recorded as a P; an earned grade of D-plus or lower is recorded as an N. Pass/nonpass credit is not included in grade-point-average calculations.

Satisfactory/Fail, Satisfactory/Unsatisfactory

Certain courses are offered satisfactory/fail (S/F) or satisfactory/unsatisfactory (S/U). All students registered for these courses receive one of these marks.

Special forms are not necessary to register for S/F or S/U courses, since all students enrolled in such courses automatically receive an S, an F, or a U.

Semester hours of S or U graded course work are not used in computing grade-point averages, but hours of F graded course work are used.

Semester hours of S graded course work are counted as semester hours earned toward graduation; semester hours of F or U graded course work do not count as semester hours earned toward graduation.

A maximum of 15 s.h. of S credit from the University of Iowa is accepted toward a bachelor's degree.

Second-Grade-Only Option for Pre-Business Students

Pre-business students must follow the rules established by the College of Liberal Arts and Sciences (CLAS). Contact the CLAS Academic Programs & Student Development office or consult the CLAS Academic Policies Handbook for more information.

Second-Grade-Only Option for Students Admitted to Business

Students admitted to the Tippie College of Business may use the second-grade-only option on any course except business courses numbered above 3005 with the prefix ACCT, BUS, ECON, FIN, MSCI, MGMT, MKTG, or ENTR.

Policies

- Students may apply the second-grade-only option to a maximum of three different courses while they are enrolled at the University of Iowa; any second-grade-only options used before entry to the Tippie College of Business counts toward the maximum of three second-grade-only options allowed.
- Students in combined degree programs are allowed a combined maximum of three second-grade-only options.

- The second-grade-only option may be used only once per course. Once placed on the record, the option may not be retracted.
- A course taken at another college or university may not be repeated at the University of Iowa under the second-grade-only option.
- A University of Iowa course may not be repeated at another institution under the UI second-grade-only option.
- If the course was taken for a grade the first time, it must be taken for a grade the second time.
- If the course was taken pass/nonpass the first time, a student may choose to take the course for a grade or as pass/nonpass the second time.
- Any University of Iowa course taken in any mode of delivery—during a regular semester, a summer session, an intensive session, or through distance learning and Distance and Online Education [p. 1818]—may be repeated in the same mode of delivery or in any other mode of delivery.
- Students who have been awarded a degree from the University of Iowa may not use the second-grade-only option on a course taken before the degree was awarded.
- Graduate or professional colleges may recalculate grade-point averages using all grades visible on the permanent record.

Procedures

- Students must register as usual for the course that is to be repeated.
- After the session in which the course is being repeated has begun, students must request the second-grade-only option by completing the Request a Second-Grade-Only Option form.
- The permanent record is adjusted by placing a pound symbol (#) next to the first grade to indicate that it is no longer being included in the grade-point-average calculation, and only the semester hours from the second registration have been counted as semester hours earned.

Incomplete Grades

Instructors may report a mark of I (incomplete) only if the unfinished part of a student's work in a course other than research, thesis, or independent study is small; if the work is unfinished for reasons acceptable to the instructor; and if a student's standing in the course is satisfactory.

Students should not re-enroll in a course for which they have an incomplete. Incomplete grades must be removed by completing the unfinished part of the work. Faculty and students are encouraged to state clearly in a written agreement how the incomplete is to be completed. Both the faculty member and the student should keep a record of the written agreement.

Failure to remove the incomplete before the end of the next full semester, excluding summer and winter sessions, results in replacement of the I with a grade of F, regardless of whether a student is enrolled during that semester. A grade change may be submitted to convert a grade of F to another letter grade, with the instructor's approval.

Probation and Dismissal

Students are placed on academic probation when their grade-point average in any of the following categories falls below 2.00:

- all course work taken,
- all course work taken at the University of Iowa,
- all business course work taken,
- all business course work taken at the University of Iowa,
- all course work taken to satisfy requirements for the major(s), or
- all course work taken at the University of Iowa to satisfy requirements for the major(s).

In probation decisions, a 3 s.h. minimum is used to calculate the grade-point average for all course work taken to satisfy requirements for the major(s), and all course work taken at the University of Iowa to satisfy requirements for the major(s).

When all of the above grade-point averages equal or surpass 2.00, students are removed from probation. Students usually are allowed only one session to return to good academic standing. They are required to meet with an academic advisor. Students on academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

Students may be dismissed from the college at any time for unsatisfactory scholarship. While some probationary period usually precedes a dismissal, students in good academic standing who complete a term with extremely unsatisfactory grades may be placed on academic probation or dismissed immediately. Students dropped from the college for poor scholarship may petition for permission to reregister, but usually only after one year following the end of the term in which they were dismissed.

Reinstatement

Students dismissed for unsatisfactory scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Requests for reinstatement must be made in writing and should be addressed to the Associate Dean, Undergraduate Program Office. Arrangements for a reinstatement interview must be made with the Undergraduate Program Office in the Tippie College of Business. The interview must take place between March 1 and July 1 for reinstatement for fall semester, or between October 1 and December 1 for reinstatement to spring semester. Late requests are deferred to the following semester. Students who are permitted to register following dismissal are registered on academic probation and ordinarily are allowed two semesters to achieve good standing. Most reinstatements include a limit on the number of semester hours the student may take upon reinstatement. Very poor academic work in the first semester of a reinstatement, however, may result in dismissal at the close of that semester.

Returning for Baccalaureate Degrees

Returning for a Second Business Major

Individuals who already hold a B.B.A. degree from the University of Iowa may complete the requirements for another business major, except accounting. Those interested in earning a degree in accounting must apply for admission to the Graduate College in order to earn the Master of Accountancy degree. Students who return to the University of Iowa to complete another business major must meet the requirements for that major; they do not have to meet the residence requirement. It is their responsibility to notify the Office of the Registrar once they complete the requirements

for the second major so that a notation can be placed on their permanent record. Returning students are held to the requirements that are published in the University of Iowa General Catalog for the session in which they reenter.

Returning for an Additional Bachelor's Degree

Individuals who hold a bachelor's degree from another college at the University of Iowa may return to earn the B.B.A. degree from the Tippie College of Business. They must satisfy all requirements for undergraduate admission to the business college. Once admitted, they must satisfy all requirements for the B.B.A. in their chosen major. Returning students are held to the requirements that are published in the University of Iowa General Catalog for the session in which they reenter.

Returning for an Additional Bachelor's Degree in Accounting

Individuals who hold a bachelor's degree in a nonbusiness discipline from the University of Iowa or from another college or university may be considered for admission to the Tippie College of Business to earn the B.B.A. with a major in accounting. Individuals interested in this option should consult with the Department of Accounting about the B.B.A. program in accounting (undergraduate) and the Master of Accountancy graduate program. Those who already hold a B.B.A. from the University of Iowa or any business degree from another institution may not earn a major in accounting at Iowa.

Business Administration, B.B.A.

Requirements

The Bachelor of Business Administration requires a minimum of 120 s.h. of credit, including at least 48 s.h. earned in business courses and at least 60 s.h. earned in nonbusiness courses.

B.B.A. students must earn 30 s.h. in residence following admission to the Tippie College of Business. At least 24 s.h. in courses offered by the business college and at least two-thirds of the semester hours in the student's major must be earned at the University of Iowa. Nonresident instruction includes course work at colleges and universities other than the University of Iowa.

To graduate, B.B.A. students must have a cumulative g.p.a. of at least 2.00 in all college course work attempted, all college course work attempted in business, all college course work attempted in the major, all course work attempted at the University of Iowa, all business course work attempted at the University of Iowa, and all course work in the major attempted at the University of Iowa.

Code	Title	Hours
	General Education	22-32
	Prerequisites for Admission to the College	15
	Prerequisites for Declaring the Business Major	9
	Business Core	24
	Experiential Learning Requirement: Tippie RISE	
	Major Area of Study	18-25

Common B.B.A. Requirements

B.B.A. students must satisfy the following minimum common requirements or approved equivalents. For approved equivalents, consult the college's Undergraduate Program Office.

General Education

Code	Title	Hours
RHET:1030	Rhetoric	4
ENGL:1200	The Interpretation of Literature	3
	World Languages	0-10
	Natural Sciences	3
	Social Sciences (excluding ECON:1100 and ECON:1200)	3
	Historical Perspectives	3
	Diversity and Inclusion, or Values and Culture	3
	International and Global Issues	3

Tippie College of Business students may complete the World Languages requirement using one of two options. One year of high school language study is generally equivalent to one semester of college language study.

Option one: attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college course work; or pass an achievement test or evaluation at fourth-level proficiency.

Option two: attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college course work; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may not count courses taken to fulfill General Education Program requirements toward other requirements for the B.B.A.

Prerequisites for Admission to the College

Code	Title	Hours
MATH:1380	Calculus and Matrix Algebra for Business	4
STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
ACCT:2100	Introduction to Financial Accounting	3

Prerequisites for Declaring the Business Major

Code	Title	Hours
MSCI:1500	Business Computing Essentials	2
ECON:1200	Principles of Macroeconomics	4
ACCT:2200	Managerial Accounting	3

Business Core

Code	Title	Hours
MSCI:3005	Information Systems	3
ECON:2800	Statistics for Strategy Problems	3
	or MSCI:2800 Business Analytics	
MGMT:2000	Introduction to Law	3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3
MSCI:3000	Operations Management	3
BUS:3000	Business Communication and Protocol	3

Experiential Learning Requirement: Tippie RISE

All Tippie College of Business students must successfully complete at least one of these four experiences—Research with Faculty, Internship Course, Study Abroad, or Experiential Course. Courses that satisfy Tippie RISE are listed below.

Research with Faculty

Code	Title	Hours
ACCT:4999	Honors Thesis in Accounting	3
BUS:3600	Mentored Research	arr.

BUS:4999	Honors Thesis in Business	3
ECON:4999	Honors Thesis in Economics	3
FIN:4999	Honors Thesis in Finance	3
MGMT:4999	Honors Thesis in Management and Organizations	3
MKTG:4999	Honors Thesis in Marketing	3
MSCI:4999	Honors Thesis in Management Sciences	3
URES:3992	Undergraduate Research and Creative Projects	0
URES:3993	Undergraduate Research and Creative Projects	1-4
URES:3994	Undergraduate Research and Creative Projects	1-4
URES:3995	ICRU Research Fellow	0

Internship Course

Code	Title	Hours
BUS:3100	Academic Internship or Cooperative Education	0
BUS:3900	Business Communication Internship I	3
BUS:4900	Academic Internship	arr.
CCP:1201	Academic Internship	1-3
CCP:2020	Washington Center Internship Program	arr.
CCP:2202	International Student Full-Time Academic Internship	9
ENTR:4900	Academic Internship	arr.
EVNT:2110	Internship in Event Planning	3
LS:3011	Leadership Certificate Capstone	0,2

Study Abroad

Code	Title	Hours
BUS:2450	Business and Culture in China	3
	Any CIMBA Italy course	3
	Tippie's London Winter Program	3
	Any course with ABRD prefix (any study abroad program accepted for credit by UI)	3

Experiential Course

Code	Title	Hours
ACCT:3451	Tax Practicum (VITA) II (spring only)	2
ENTR:4100	International Entrepreneurship and Culture	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
FIN:4250	Applied Equity Valuation	3
FIN:4310	Advanced Corporate Finance	3
FIN:4410	Corporate and Financial Risk Management	3
FIN:4420	Property and Liability Insurance	3
LS:1024	Alternative Break Service Learning (spring only)	3

LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MKTG:3103	Advanced Marketing Research	3
MKTG:3701	Marketing Institute Field Studies	2
MSCI:4150	Business Analytics Capstone	3
MSCI:4350	Information Systems Capstone	3

Major Area of Study

All B.B.A. students must complete a major area of study. The college offers majors in accounting [p. 1036], business analytics and information systems [p. 1110], economics [p. 1059], finance [p. 1083], management [p. 1101], and marketing [p. 1122]. The requirements for each major are established by the department that offers the major.

Students with Associate of Arts Degrees

Students who have been granted an Associate of Arts (A.A.) from a community college participating in the Iowa and Illinois Community College/Regents Articulation Agreements are considered to have met all high school unit requirements for admission to the B.B.A. and all of the General Education Program requirements listed under "General Education Requirements" above, except the World Languages requirement. The program of study for which a student was awarded the A.A. must have included:

- a minimum of 60 s.h. (or 90 quarter hours) of credit acceptable toward graduation from the University of Iowa;
- mathematics courses comparable to MATH:0100 Basic Algebra I and MATH:0300 Basic Geometry are not accepted toward graduation;
- completion of the agreed-upon group of courses at the community college; and
- a g.p.a. of at least 2.00.

Completion of an Associate of Arts does not guarantee admission to the Tippie College of Business. See Admission [p. 1052] in this section of the Catalog for a complete list of requirements for admission to the B.B.A.

Students who use the provisions of the articulation agreement are granted a maximum of 60 s.h. of transferable credit from two-year colleges toward the 120 s.h. required for a B.B.A. Credit earned for the A.A. beyond the 60 s.h. transferable maximum is used in computing a student's grade-point average, and it may be used to satisfy course requirements, but it does not count toward the B.B.A. Transfer credit for business courses taken during the first and second years is counted toward the B.B.A. only if such courses are usually offered as lower-division courses at the University of Iowa.

Transfer Courses

Students who have taken courses at another institution that are similar to those approved for the common business requirements at Iowa may request that these courses be evaluated for transfer credit. Students who transfer fewer hours than needed to meet a common business requirement may use only approved courses to complete the remainder of the requirement. Only third- and fourth-year-level courses taken at accredited four-year institutions may be used to

satisfy common business course requirements numbered 3000 or above. Students must complete a minimum of 24 s.h. of business course work and at least two-thirds of the course work in the major at the University of Iowa. They also must meet the 30 s.h. residency requirement of the Tippie College of Business. Credit earned through online courses may be counted toward all requirements for graduation, subject to approval by a student's major department.

Honors in Business

Outstanding students in the college have an opportunity to undertake independent research under the supervision of a faculty member. To graduate with honors in business, students must complete an honors thesis in one of the college's departments. Students begin by completing BUS:1999 Introduction to Research in Business prior to the commencement of their thesis work. This course introduces students to research in the college and provides an opportunity to develop thesis questions and meet Tippie College of Business faculty members engaged in research.

Students then identify a faculty thesis advisor and complete their research and thesis writing over the course of two semesters, registering for the appropriate course from the following list in the second semester of thesis work.

Code	Title	Hours
ACCT:4999	Honors Thesis in Accounting	3
BUS:4999	Honors Thesis in Business	3
ECON:4999	Honors Thesis in Economics	3
FIN:4999	Honors Thesis in Finance	3
MGMT:4999	Honors Thesis in Management and Organizations	3
MKTG:4999	Honors Thesis in Marketing	3
MSCI:4999	Honors Thesis in Management Sciences	3

To earn the B.B.A. with honors in business, students must successfully complete all college requirements with a g.p.a. of at least 3.50 in all courses taken at Iowa, all business courses taken at Iowa, all courses taken (including transfer courses), and all business courses taken (including transfer courses). Students also must present their research in a poster format at the spring or fall Undergraduate Research Festival.

See Honors at Tippie on the Tippie College of Business website to learn more.

Completing the honors in business requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with university honors through the UI Honors Program, visit the Honors at Iowa website.

Pre-business students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the business college. Visit Honors at Iowa to learn about the University's honors program.

Double Majors in Business

Students may earn the B.B.A. degree with more than one major. Majors, minors, and certificates are considered programs. Additional programs must be declared in the Undergraduate Program Office by an advisor. The Four-Year Graduation Plan is not available to students earning more

than one major. Students have access to degree audits for all of the programs they have officially declared. They also have access to all program courses, with some limitations, during early registration. A student must be in good academic standing in order to declare more than one major. See Double Majors and Joint Degree Policies on the Tippie College of Business website.

Combined Programs

Undergraduate students may earn combined undergraduate degrees from the Tippie College of Business and the College of Liberal Arts and Sciences or the College of Engineering. The following rules apply to all students in combined degree programs.

- To enter a combined degree program, students must have approval from the Tippie College of Business and must be admitted to both colleges. Interested students should see an advisor in the college's Undergraduate Program Office.
- Students in combined degree programs are allowed a combined maximum of three second-grade-only options.
- All students in combined programs must meet all requirements for both degrees, including all General Education Program requirements.
- Students are assigned two advisors (one for each major).
- Students in combined degree programs are assessed tuition only for the primary (first) major.
- First-year students in combined degree programs who are direct admission students in the Tippie College of Business must enroll in BUS:1200 Tippie College Direct Admit Seminar during their first semester at the University.

B.B.A./Liberal Arts and Sciences Degree

The Tippie College of Business and the College of Liberal Arts and Sciences offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.) from the College of Liberal Arts and Sciences.

Students in the combined business/liberal arts and sciences degree program must declare the Tippie College of Business program of study as their primary (first) major.

To learn about liberal arts and sciences majors, see the College of Liberal Arts and Sciences [p. 17] section of the Catalog.

B.B.A./B.S.E.

The Tippie College of Business and the College of Engineering offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering. Students in the combined business/engineering degree program must declare the College of Engineering program of study as their primary (first) major.

Students in the combined business/engineering degree program must enroll in appropriate mathematics and engineering courses early during their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social

sciences count toward the B.B.A. and the B.S.E., students may be able to count certain courses toward both degrees.

B.B.A./B.S.E. students usually meet the degree requirements of both colleges in about five years; time required depends on a student's choice of major study areas.

For information about engineering majors, see Bachelor of Science in Engineering [p. 1304] (College of Engineering) in the Catalog. To learn more about requirements for the combined business/engineering degree, consult the Undergraduate Program Office in the Tippie College of Business and the Student Development Center in the College of Engineering.

B.B.A./M.S. in Finance

The combined Bachelor of Business Administration/Master of Science in finance allows undergraduate students majoring in business administration the opportunity to begin work toward the Master of Science degree while completing the Bachelor of Business Administration degree. The program provides students with the opportunity to complete both degrees in five years instead of six. For information about the finance major, see M.S. in finance [p. 1089] in the Catalog.

Admission

Students enter the Tippie College of Business in one of two ways: direct admission or standard admission. All students admitted to the Tippie College of Business must follow the Tippie Honor Code. Students who meet the admission requirements may be denied admission upon evidence of postsecondary academic misconduct or other violations of the honor code. Students are required to meet with the associate dean, undergraduate programs, to discuss incidents of academic misconduct.

Admission standards are set by the Undergraduate Program Committee. All admission appeals are reviewed by the Undergraduate Program Office. Prospective students must submit acceptance of admission offers and all transcripts showing course work that satisfies the Tippie College of Business admission requirements to the University's Office of Admissions by the appropriate deadline. Letters of recommendation are not accepted. For more information about application and admission, contact the Undergraduate Program Office.

Direct Admission

Direct admission is designed to enable highly qualified high school students to enter the college directly after high school. Applicants must have a composite ACT score of 26 or higher (or SAT equivalent) and a high school g.p.a. of 3.60 or higher (on a 4.00 scale) to qualify. Applicants who do not meet these criteria but who present a strong academic record are carefully considered through a petition process.

Incoming high school students who are admitted to the College of Liberal Arts and Sciences as pre-business students may inquire about their admission decision by contacting the associate director of admission in the Tippie College of Business Undergraduate Program Office. For more information about admission requirements, see Admissions on the Tippie College of Business website.

Additional requirements for declaring a major in accounting include a University of Iowa g.p.a. of at least 3.00 and a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 2.67 (B-minus average) in ACCT:2100 Introduction to Financial

Accounting and ACCT:2200 Managerial Accounting; and a passing score on the Department of Accounting writing assessment.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The application process is competitive and is based on high school record and an application essay.

Standard Admission

University of Iowa students are eligible to apply to the Tippie College of Business through standard admission if they have completed the four prerequisite courses for admission to the college listed under "Common B.B.A. Requirements" in the Bachelor of Business Administration Requirements [p. 1049] section with grades of C or higher and have a g.p.a. of at least 2.75 on the prerequisite courses, on all college course work completed, and on all University of Iowa course work. Transfer students who have completed the prerequisite courses and meet the grade-point average requirements also may apply through standard admission.

Requirements for declaring a major include completion of ACCT:2200 Managerial Accounting, ECON:1200 Principles of Macroeconomics, and MSCI:1500 Business Computing Essentials; see "Common B.B.A. Requirements" in the Bachelor of Business Administration Requirements [p. 1049] section. Additional requirements for declaring a major in accounting include a University of Iowa g.p.a. of at least 3.00 and a cumulative g.p.a. of at least 3.00, a g.p.a. of at least 2.67 (B-minus average) in ACCT:2100 Introduction to Financial Accounting and ACCT:2200 Managerial Accounting, and a passing score on the Department of Accounting writing assessment.

Applications for standard admission must be submitted online. Application deadlines are May 1 for fall admission and December 1 for spring admission; applicants should meet all admission requirements by the end of the semester in which they apply. Admission is not granted for the summer session or the three-week winter session. Applicants transferring from another college or university are held to the application deadlines. Grades from the three-week winter session do not count toward admission for the following spring semester, and grades from a summer session do not count toward admission for the following fall semester. Students who are denied admission may file an appeal for denial of admission to business if they can provide documentation of extenuating circumstances that affected their academic performance.

Nondegree Admission

Students visiting from another institution who wish to enroll in undergraduate courses in order to earn credit that they can transfer to their home institution may be granted admission as undergraduate nondegree students. Nondegree students are not guaranteed access to specific courses; they must have the approval of the department offering the course and may earn no more than 9 s.h. in nondegree status.

Reentry Policy

All students who have been enrolled in another college or university since leaving the University of Iowa are required to submit official transcripts along with an application for reentry. Completed application materials must be received at least two weeks before the opening of classes. Reentry students are held to the requirements that are published in

the University of Iowa General Catalog for the session in which they reenter.

Absent for 12 months or more—in good standing:

Students absent from the University of Iowa for 12 months or more who left in good standing must apply to the UI Office of Admissions as returning students and must contact the Tippie College of Business Undergraduate Program Office for advising before registration. Good standing is defined as not on probation and not dismissed for any reason.

Absent for 12 months or more—not in good standing:

Students absent from the University of Iowa for 12 months or more who were not in good standing when they left the University must file a petition with the Tippie College of Business Undergraduate Program Office to be reinstated. If the petition is approved, the student must apply to the UI Office of Admissions as a returning student; the Undergraduate Program Office notifies the Office of Admissions that a student's petition for reinstatement has been approved. The student also must schedule an appointment to see an advisor in the Tippie College of Business for advising before registration. Not in good standing is defined as being on probation or having been dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at the University of Iowa or at another institution, or a violation of the Tippie College Undergraduate Honor Code. Students who have been officially dismissed follow the procedures for reinstatement.

Absent for less than 12 months—in good standing:

Students absent for less than 12 months are not required to file an application for reentry. Students who were in good standing when they left the University should contact the Tippie College of Business Undergraduate Program Office for advising before registration. Reentry is approved regardless of any admission requirement changes.

Absent for less than 12 months—not in good standing:

Students absent for less than 12 months are not required to file an application for reentry. Students who were not in good standing when they left the University must consult with an advisor in the Tippie College of Business; the student may be readmitted on probation. Readmitted students should contact the Tippie College of Business Undergraduate Program Office for advising before registration. Reentry is approved regardless of any admission requirement changes. Not in good standing is defined as being on probation or having been dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at the University of Iowa or at another institution, or a violation of the Tippie College Undergraduate Honor Code. Students who have been officially dismissed follow the procedures for reinstatement.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

The following checkpoints are designed for students who enter the University as direct admission or pre-business students. In order to stay on the plan, pre-business students must maintain the grade-point averages required for admission to the Tippie College of Business and must apply for admission to the college the semester that the four prerequisite courses will be completed, but no later than before the fifth semester

begins. The Four-Year Graduation Plan is not available to students who choose to pursue a double major in the college or to those enrolled in a combined degree program.

Students must take BUS:3000 Business Communication and Protocol during their first year after admission to the Tippie College of Business, except direct admission students, who take the course during their second year.

Before the third semester begins: ECON:1100 Principles of Microeconomics, MATH:1380 Calculus and Matrix Algebra for Business, and STAT:1030 Statistics for Business, or equivalents; and at least one-quarter of the semester hours required for graduation

Before the fifth semester begins: ACCT:2100 Introduction to Financial Accounting, ACCT:2200 Managerial Accounting, and ECON:1200 Principles of Macroeconomics, or equivalents; all General Education requirements; and at least half of the semester hours required for graduation

Before the seventh semester begins: business core requirements, approximately half of the course work in the major (varies by major), and three-quarters of the semester hours required for graduation

Before the eighth semester begins: approximately three-quarters of course work in the major (varies by major)

During the eighth semester: all remaining course work in the major and a sufficient number of semester hours to graduate

Iowa Degree in Three

Iowa Degree in Three is designed for students who are academically prepared to complete more semester hours per term than average or who come to the university with completed college credits. It is a flexible, affordable option developed to meet the needs of highly motivated students.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

The Tippie College makes several assumptions about candidates for the Iowa Degree in Three:

- students are prepared to enroll in MATH:1380 Calculus and Matrix Algebra for Business during their first enrollment at the University of Iowa;
- students have fulfilled the General Education World Language requirement before matriculation;
- students are direct admits to the Tippie College of Business;
- students have earned at least 15 s.h. of college credit before matriculation; and
- students are not held for more than two English as a Second Language classes.

The Iowa Degree in Three is available for any of the majors offered by the Tippie College of Business.

Career Advancement

Tippie College of Business graduates enjoy a high placement rate. Over 90 percent of students reported that they found permanent employment, were pursuing graduate degrees, or were not seeking employment six months after graduation.

Visit the Pomerantz Career Center website for more information.

Business Administration

Undergraduate minor: business administration

Website: <https://tippie.uiowa.edu/>

The Tippie College of Business offers a minor in business administration for non-business students. The minor is open to all University of Iowa undergraduates except those majoring in business (Tippie College of Business) and interdepartmental studies majors in the business studies track (College of Liberal Arts and Sciences).

Programs

Undergraduate Program of Study

Minor

- Minor in Business Administration [p. 1056]

Business Administration, Minor

The undergraduate minor in business administration requires 36 s.h., including at least 12 s.h. taken in the Tippie College of Business. Students must maintain a g.p.a. of at least 2.00 in the minor overall and in all courses in the minor taken at the University of Iowa. Course work in the minor may not be taken pass/nonpass.

The minor can be earned by any University of Iowa undergraduate student except those majoring in business (Tippie College of Business) and interdepartmental studies majors in the business studies track (College of Liberal Arts and Sciences).

The minor in business administration requires the following courses, or the equivalents. Some of these courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and meet its registration requirements before they may register for the course; for more information, visit the minor in business administration on the Tippie College of Business website.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
FIN:3000	Introductory Financial Management	3
MATH:1380	Calculus and Matrix Algebra for Business	4
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3
MSCI:1500	Business Computing Essentials	2
STAT:1030	Statistics for Business	4
Total Hours		36

Students who will have completed all requirements for the minor when they graduate should indicate a business administration minor on their Application for Degree. Contact the Undergraduate Program Office for more information about the minor in business administration.

Doctor of Philosophy

Graduate degrees: M.A. in business administration; Ph.D. in business administration

Website: <https://tippie.uiowa.edu/future-graduate-students/phd-programs>

The Doctor of Philosophy program in business administration is an interdepartmental degree open to students in several Tippie College of Business departments. Basic requirements for the degree are detailed under Requirements [p. 1058] in this section of the Catalog. For additional information, see graduate programs in the accounting [p. 1036], finance [p. 1083], management and organizations [p. 1101], management sciences [p. 1110], and marketing [p. 1122] sections in the Catalog.

The Tippie College of Business also offers a Doctor of Philosophy in economics; see Economics [p. 1059] in the Catalog.

Programs

Graduate Programs of Study

- Master of Arts in Business Administration

The M.A. in business administration is a terminal degree; students are admitted into the Ph.D. in business administration degree program.

- Doctor of Philosophy in Business Administration [p. 1058]

Business Administration, Ph.D.

Requirements

The Doctor of Philosophy program in business administration requires a minimum of 72 s.h., including approved transfer credit. The program is flexible, permitting students to choose a specialization area according to their interests. Course work and related experience enable students to achieve competence in economic theory, statistical methods, and behavioral science as well as expertise in a major and minor study area. Students also have opportunities to develop research and teaching skills.

Ph.D. course work consists of prerequisites (as necessary), the Ph.D. core, major and minor study areas, and dissertation research, described in brief below. For more detailed information about Ph.D. requirements, contact the individual Tippie College of Business departments or visit their websites.

Core Courses

Core courses develop research competence and provide background for specialized study. Doctoral students consult with their advisors to develop a study plan that reflects the individual student's background and interests and satisfies core requirements.

Major Study Area

At least 12 s.h. of approved doctoral-level courses must be completed in one of the following areas: accounting, finance, human resource management, management information systems, marketing, operations management, organizational behavior, or quantitative methods.

Minor Study Area

Students must complete a minimum of 9 s.h. of doctoral-level courses beyond the Ph.D. core course requirements in one of the major study areas listed above or in a concentration outside the Tippie College of Business.

Comprehensive Examinations

Students must satisfactorily complete a comprehensive examination, consisting of written or oral parts or both, at the discretion of their major department.

Dissertation

Students must present a dissertation proposal at a forum attended by dissertation committee members and open to interested faculty members and graduate students, as established by the student's major department. Researching and writing the dissertation typically require two years of full-time effort.

Final Examination

Ph.D. candidates defend the dissertation in an oral examination attended by dissertation committee members and open to interested faculty members and graduate students.

Admission

Applicants to the Ph.D. program in business administration must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must take the Graduate Record Examination (GRE) General Test or the Graduate Management Admission Test (GMAT) and have their scores sent to the University in order to be considered for admission. The Departments of Finance, Management and Organizations, Management Sciences, and Marketing accept test scores for either the GRE or GMAT. The Department of Accounting accepts only GMAT scores. Required scores on these tests and their weight in admission decisions vary by department.

International applicants who do not hold a baccalaureate or a more advanced degree from an accredited university in the United States, the United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must take the internet-based Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS) test and have their scores sent to the University of Iowa. An IELTS total score of at least 7.0 with no subscore below 6.0 satisfies the English language requirement. Applicants who use the IELTS test are required to take the on-campus English Proficiency Evaluation.

Admission is for fall entry. Completed applications should be submitted as early as possible and no later than the following deadlines.

Accounting: January 15

Finance: January 15

Management and Organizations: January 15

Management Sciences: January 15

Marketing: January 15

Visit Ph.D. Programs on the Tippie College of Business website to learn more.

Career Advancement

The Doctor of Philosophy program prepares students for research positions in business and government or for research and teaching positions at academic institutions.

Economics

Chair

- John L. Solow

Undergraduate major: economics (B.A., B.S., B.B.A.)

Undergraduate minor: economics

Graduate degrees: M.A. in economics; Ph.D. in economics

Faculty: <https://tippie.uiowa.edu/people?departments=169>

Website: <https://tippie.uiowa.edu/economics>

Economics is the study of how societies allocate limited resources to achieve competing ends. Using both empirical and deductive methods, economists analyze incentives, constraints, organizational forms, and market forces to understand patterns of production, exchange, and consumption of goods and services. Economics treats diverse issues such as wealth and poverty, government expenditures and taxation, prosperity and depression, inflation and unemployment, relations between management and labor, economic growth, environmental protection, health care delivery, the war on drug abuse, free trade versus protectionism, U.S. competitiveness in international markets, and the quality of American education.

The Department of Economics offers degree programs for undergraduates and for graduate students. It also partners with the Departments of Philosophy, Political Science, and Sociology to offer the undergraduate major in ethics and public policy, an interdisciplinary program administered by the Department of Philosophy (College of Liberal Arts and Sciences); see Ethics and Public Policy [p. 431] in the Catalog.

Undergraduate Economics Forum

Students are invited to join the undergraduate economics forum. The group sponsors programs to help students plan for careers or graduate study and holds social events, special lectures, and round-table discussions. It provides opportunities for students to meet other economics majors and department faculty members.

Special Seminar

Each year, the Department of Economics offers a seminar program that brings eminent economists from other universities and from government agencies to the University of Iowa campus. Presentations by department faculty members and students also are featured.

Courses for Nonmajors

Students in the College of Liberal Arts and Sciences may wish to use economics courses as part of other majors or the GE CLAS Core [p. 459]. The introductory courses ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics are approved for the Social Sciences area of the GE CLAS Core; they introduce the field of economics and the specialized topics of upper-division courses. The intermediate theory courses ECON:3100 Intermediate Microeconomics and ECON:3150 Intermediate Macroeconomics provide a deeper foundation in the core theories and methods of the discipline. They serve as preparation for upper-division field courses or as terminal courses in an economics plan of study.

Course work in economics relates to majors in many other fields. For example, political science majors could select ECON:3650 Policy Analysis; international studies majors, ECON:3345 Global Economics and Business;

environmental policy and planning majors, ECON:3625 Environmental and Natural Resource Economics; pre-law students, ECON:3800 Law and Economics; mathematics and engineering majors, ECON:4190 Mathematical Economics; and statistics majors, ECON:4800 Econometric Analysis.

Related Certificate

Transportation Studies

The Transportation Studies Program offers the Certificate in Transportation Studies. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Mechanical and Industrial Engineering, Economics, and Geographical and Sustainability Sciences and the School of Urban and Regional Planning participate in the program.

The certificate is coordinated by the School of Urban and Regional Planning. See the Certificate in Transportation Studies [p. 1491] (Graduate College) in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Economics (Bachelor of Arts) [p. 1063]
- Major in Economics (Bachelor of Science) [p. 1067]
- Major in Economics (Bachelor of Business Administration) [p. 1072]

Minor

- Minor in Economics [p. 1076]

Graduate Programs of Study

Majors

- Master of Arts in Economics [p. 1077]
- Doctor of Philosophy in Economics [p. 1078]

Courses

Students may take ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics in either order or simultaneously. They are approved for the Social Sciences area of the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Qualified undergraduates may enroll in graduate-level courses with consent of the department chair.

Economics Courses

ECON:1100 Principles of Microeconomics 4 s.h.

Organization, workings of modern economic systems; role of markets, prices, competition in efficient allocation of resources and promotion of economic welfare; international trade. Requirements: B.B.A. students cannot use this course for GE CLAS Core Social Sciences. GE: Social Sciences.

ECON:1200 Principles of Macroeconomics 4 s.h.

National income and output, unemployment, and inflation; economic growth and development; money and credit; monetary and fiscal policy; government finance; international finance. Requirements: B.B.A. students cannot use this course for GE CLAS Core Social Sciences. GE: Social Sciences.

ECON:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

ECON:2800 Statistics for Strategy Problems 3 s.h.

Continuation of STAT:1030; inferential statistics; simple and multiple linear regression; time series regression; use of statistical models to solve problems in business and economics. Prerequisites: (STAT:1030 or STAT:2010 or STAT:2020 with a minimum grade of B or STAT:3100 or STAT:3101 or STAT:3120 or STAT:3510 with a minimum grade of B or STAT:4100 or BIOS:4120 or PSQF:4143 with a minimum grade of B) and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

ECON:3100 Intermediate Microeconomics 3 s.h.

Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity; effects of government policies on market outcomes; conditions that markets require for efficient allocation of resources; market imperfections; strategic behavior of economic actors. Prerequisites: ECON:1100 and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

ECON:3150 Intermediate Macroeconomics 3 s.h.

Measurement of macroeconomic indicators; economic growth and business cycles; use of macroeconomic models to study the role of government fiscal and monetary policies. Prerequisites: ECON:1200 and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

ECON:3250 American Economic History 3 s.h.

Prerequisites: (ECON:1100 and ECON:1200) or (ECON:1100 and HIST:1261). Same as HIST:3360.

ECON:3300 Introduction to Econometrics 3 s.h.

Statistical tools used in economic analysis; regression models; estimation and hypothesis testing; causal effects; application to economic data and questions; use of statistical software. Prerequisites: STAT:1030 and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

ECON:3325 Personnel Economics 3 s.h.

Microeconomic analysis of labor markets with special emphasis on strategic personnel choices of the firm; labor supply decisions made by workers; labor demand decisions made by firms; labor market equilibrium; returns to education; hiring, job design, evaluation, and compensation. Prerequisites: ECON:1100.

ECON:3335 Money, Banking, and Financial Markets 3 s.h.

Role of money and financial institutions in determining domestic and international income, employment, and prices. Prerequisites: ECON:1100 and ECON:1200.

ECON:3345 Global Economics and Business 3 s.h.

Modern theories of international trade and investment; impact of tariffs and other restrictions on international trade; effects of export and production subsidies; free trade agreements; exchange rates and foreign exchange markets; international monetary arrangements; balance of payments; international economic policy. Prerequisites: ECON:1100 and ECON:1200.

ECON:3350 Industry Analysis 3 s.h.

Structural evolution; imperfect competition; resource allocation; development of public policy on monopoly; selected industries. Prerequisites: ECON:1100.

ECON:3355 Economic and Business Forecasting 3 s.h.

Development and utilization of forecasts of business and economic variables; application of modern statistical methods and software to quantitative forecasting problems. Prerequisites: ECON:1100 and ECON:1200 and (ECON:2800 or ECON:3300 or ECON:4800 or MSCI:2800 or STAT:3200).

ECON:3370 Household Finance 3 s.h.

Application of micro- and macro-economic theory to economic decisions of families and households; practical and theoretical issues in income generation, spending and saving decisions, risk management, and asset allocation. Prerequisites: ECON:1100 and ECON:1200.

ECON:3620 Economic Growth and Development 3 s.h.

Determinants of rising living standards; accumulation of physical and human capital; predictions of economic growth models compared to observed changes in living standards. Prerequisites: ECON:1100 and ECON:1200.

ECON:3625 Environmental and Natural Resource Economics 3 s.h.

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: ECON:1100. Same as URP:3135.

ECON:3640 Regional and Urban Economics 3 s.h.

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: ECON:1100. Same as URP:3134.

ECON:3650 Policy Analysis 3 s.h.

Economic functions of government in modern economies; effects of government expenditures and taxation on allocation of resources. Prerequisites: ECON:1100.

ECON:3690 Sports Economics 3 s.h.

Theory and literature of economic issues in professional sports; issues such as relative advantages of large-and small-market teams, city subsidies for baseball and football stadiums, star players' true value to their teams; ideas from introductory economics (such as demand and cost curves) combined with additional economic theory, statistical evidence, and information about particular sports. Prerequisites: ECON:1100.

ECON:3750 Transportation Economics 3 s.h.

Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as GEOG:3940, URP:3350.

ECON:3760 Health Economics 3 s.h.

Externalities and health behaviors; government influence on health behaviors; overview of health insurance and health insurance markets; health care costs; public health insurance; health insurance reforms. Prerequisites: ECON:1100.

- ECON:3770 Urban Transportation** arr. 3 s.h.
Transportation in the urban market; urban transport modes, technologies, costs, pricing, and ways to develop and analyze urban policy in order to promote city livability and sustainability; development of urban transportation and transport operations in the U.S. and worldwide; urban transport policies, plans, and policy development processes; major urban transportation issues, investigation of possible means of attacking urban transportation issues. Prerequisites: ECON:1100. Same as URP:3360.
- ECON:3790 Antitrust Economics** 3 s.h.
Topics in federal antitrust policy; merger policy; monopolization, predatory pricing, collusion, vertical restrictions, resale price maintenance, enforcement; case law, economics literature. Prerequisites: ECON:3100 or LAW:8146.
- ECON:3800 Law and Economics** 3 s.h.
Law examined through analytic tools of microeconomics; impact of legal rules on resource allocation, risk bearing, distribution of economic well-being. Prerequisites: ECON:1100.
- ECON:3850 Behavioral Economics** 3 s.h.
Behavioral economics is a relatively new field that applies insights gleaned from psychology to economics; standard economic theory assumes people are all *homo economicus*: we know exactly how to maximize our own utility, and we do it well; behavioral economists seek to improve microeconomic theory with more realistic assumptions about human behavior. Prerequisites: ECON:1100.
- ECON:3870 Federal Reserve Challenge** 1 s.h.
Experience what Federal Reserve economists do every day: study the real U.S. economy, make forecasts and policy recommendations, defend their views to academic and professional economists; development of analytical skills, teamwork, how to build presentations. Prerequisites: ECON:3100 and ECON:3150.
- ECON:3875 Topics in Policy Economics** 3 s.h.
Topics vary. Prerequisites: ECON:1100 and ECON:1200.
- ECON:4050 Readings and Independent Study in Economics** arr.
- ECON:4090 Natural Resource Economics** 3 s.h.
Economics of natural resources; interaction between economic theory, empirical evidence, and public policy; land, water, fish, trees, minerals; externalities. Prerequisites: ECON:3100.
- ECON:4110 International Economics** 3 s.h.
Neoclassical model of international trade; imperfect competition and international trade and investment; role of trade barriers; regional trade agreements and the World Trade Organization. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4140 Labor Economics** 3 s.h.
Labor supply and demand; investments in human capital; compensating wage differentials; discrimination; long-term contracts; occupational choice; family decisions; unions; immigration. Prerequisites: ECON:3100.
- ECON:4160 Public Sector Economics** 3 s.h.
Economic functions of government; social welfare programs; income distribution; policies that address market failures; budgetary processes; effects of government expenditures; taxation. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4170 Monetary Economics** 3 s.h.
Demand for and supply of money; money's role in economy; empirical studies of money's impact; problems with monetary control. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4180 Industrial Organization** 3 s.h.
Market structure; effects of business practices, informational problems on market structure; appraisal of antitrust policies, government regulation of business. Prerequisites: ECON:3100.
- ECON:4190 Mathematical Economics** 3 s.h.
Mathematical structure of economic principles, problems, systems; may include constrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4200 Game Theory** 3 s.h.
Basic concepts of game theory including dominance, backward induction, Nash equilibrium, evolutionary stability, commitment, credibility, asymmetric information, adverse selection, signaling; provides students with a working understanding of game theory; examples drawn from economics and politics. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4700 Topics in Analytical Economics** 3 s.h.
Topics vary. Prerequisites: ECON:3150 and ECON:3100.
- ECON:4800 Econometric Analysis** 3 s.h.
Linear regression models; causal effects; estimation and hypothesis testing; errors in variables; simultaneous equations; panel data; instrumental variables; limited dependent variables; emphasis on interpretation, methods, application of econometric modelling, and use of statistical software. Prerequisites: STAT:3101 or STAT:3120.
- ECON:4900 Academic Internship** arr.
Participation in approved internship program (e.g., Washington Center Internships).
- ECON:4999 Honors Thesis in Economics** 3 s.h.
Independent research project supervised by economics faculty member; culminates in thesis required for honors in the major. Prerequisites: ECON:3100 and ECON:3150 and (ECON:3300 or ECON:4800). Recommendations: completion of BUS:1999.
- ECON:5000 Economic Analysis I** 3 s.h.
Basic metric topology, convex analysis, function spaces, measure theory and integration.
- ECON:5005 Real Analysis for Economics** 2 s.h.
Basic metric topology, convex analysis, function spaces, measure theory, and integration.
- ECON:5010 Economic Analysis II** 3 s.h.
Behavior under uncertainty, macroeconomic models; dynamic programming, asset pricing, saving, consumption.
- ECON:5015 Dynamic Programming** 2 s.h.
Finite- and infinite-horizon, discrete-time dynamic programming; discrete-time stochastic dynamic programming, including computational methods and some economic applications; continuous-time control theory.
- ECON:5100 Microeconomics I** 3 s.h.
Consumer choice theory, producer theory, choice under uncertainty, basic game theory. Offered fall semesters.
- ECON:5110 Microeconomics II** 3 s.h.
General equilibrium and welfare analysis, adverse selection, the principal-agent problem, social choice, mechanism design. Offered spring semesters. Prerequisites: ECON:5100.
- ECON:5115 Fundamentals of Microeconomics** 3 s.h.
Consumer theory, producer theory, partial equilibrium models, expected and nonexpected utility theory.
- ECON:5125 Game Theory** 2 s.h.
Noncooperative and cooperative games, games of perfect and imperfect information, matching games.

- ECON:5135 General Equilibrium** 2 s.h.
Walrasian equilibrium and its properties, welfare economics, general equilibrium and perfect competition, general equilibrium with externalities, general equilibrium under asymmetric information.
- ECON:5145 Information Economics** 2 s.h.
Markets with asymmetric information, allocation mechanisms, mechanism design.
- ECON:5200 Macroeconomics I** 3 s.h.
Economic growth, business cycles, money and inflation. Offered fall semesters.
- ECON:5210 Macroeconomics II** 3 s.h.
Dynamic macroeconomic models; stochastic macroeconomics; time consistency equilibrium business cycle theory. Offered spring semesters. Prerequisites: ECON:5200.
- ECON:5215 Fundamentals of Macroeconomics I** 2 s.h.
Infinite horizon endowment economies; neoclassical growth models and dynamic general equilibrium.
- ECON:5225 Fundamentals of Macroeconomics II** 2 s.h.
Real business cycle models; overlapping generations models.
- ECON:5235 Fiscal Policy and Insurance in Macroeconomics** 2 s.h.
Fiscal policies, optimal taxation, and endogenous growth; uncertainty and incomplete markets, limited commitment, private information.
- ECON:5245 Monetary Economics and Search Theory** 2 s.h.
Introduction to monetary and financial economics; search theory and applications to labor and money markets.
- ECON:5800 Econometrics** 3 s.h.
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests. Prerequisites: STAT:4101.
- ECON:5805 Statistics for Economics** 3 s.h.
Probability theory, transformations and expectations, common families of distributions, multiple random variables, properties of a random sample, point estimation, hypothesis testing.
- ECON:5810 Applied Econometrics** 3 s.h.
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms. Prerequisites: ECON:5800.
- ECON:5815 Theoretical Econometrics I** 2 s.h.
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests.
- ECON:5825 Theoretical Econometrics II** 2 s.h.
Continuation of ECON:5815.
- ECON:5855 Applied Econometrics I** 2 s.h.
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms.
- ECON:5865 Applied Econometrics II** 2 s.h.
Continuation of ECON:5855.
- ECON:6310 Industrial Organization** 3 s.h.
The firm, monopolistic competition, oligopoly and workable competition; industrial organization, nature of equilibrium under uncertainty. Prerequisites: ECON:5110.
- ECON:6320 Labor Economics** 3 s.h.
Problems and models, including intertemporal models of labor markets; uncertainty and labor market activity; retirement decisions, economic theories of fertility; economics of discrimination; job search models; economic models of unions; bargaining and strikes, public sector labor markets; determinants of income distribution; emphasis on empirical verification of theory. Prerequisites: ECON:5110 and (ECON:4800 or ECON:5800).
- ECON:6350 Structural Methods in Econometrics** 2 s.h.
Introduction to structural econometric approaches which can be applied in labor economics, industrial organization, and elsewhere; theoretical frameworks used in this literature; identifying assumptions needed for model estimation and validation techniques; methods used for the estimation of structural models, including Maximum Likelihood, Method of Moments and simulation-based methods.
- ECON:6420 Macroeconomics III** 3 s.h.
Current research in macroeconomics; development of research topics with emphasis on theoretical and empirical analysis. Prerequisites: ECON:5110 and ECON:5800.
- ECON:6500 International Trade Theory** 3 s.h.
The theory of international trade, including basic models of international trade; capital and labor mobility and trade; protection of international trade; the political economy of international trade; empirical applications of international trade.
- ECON:6900 Contemporary Topics in Economics** 3 s.h.
Topics not offered in other courses.
- ECON:7000 Seminar in Economic Theory** arr.
- ECON:7010 Seminar in Economic Theory II** arr.
- ECON:7020 Seminar in Economics I** 2 s.h.
- ECON:7030 Seminar in Economics II** 2 s.h.
- ECON:7040 Seminar in Economics III** 2 s.h.
- ECON:7050 Seminar in Economics IV** 2 s.h.
- ECON:7870 Workshop in Microeconomics** 1 s.h.
- ECON:7880 Workshop in Macro and Monetary Economics** 1 s.h.
- ECON:7950 Readings in Economics** arr.
- ECON:7975 Thesis in Economics** arr.

Economics, B.A.

The B.A. in economics incorporates a balance of economic theory, mathematical tools, and field applications.

Students majoring in economics choose one of two tracks: business or policy. They complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on a student's choice of track.

The Bachelor of Arts degree is awarded by the College of Liberal Arts and Sciences.

Requirements

The Bachelor of Arts with a major in economics requires a minimum of 120 s.h. of course work, including 32 s.h. of course work for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college course work attempted, all course work attempted at the University of Iowa, all college economics course work attempted, and all economics course work attempted at the University of Iowa. Course work in the major may not be taken pass/nonpass. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major requires a set of courses in mathematics and statistics (11 s.h.) and a set of courses in economic theory (6 s.h.). It also requires applied field courses (15 s.h.) in one of two tracks: business or policy.

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and three of the applied field courses required for their track.

The B.A. program incorporates a balance of economic theory, mathematical tools, and field applications. The program provides an excellent educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The business track is designed for students who seek employment in the private sector or who plan to earn the M.B.A. degree after gaining necessary experience. The policy track is designed for students interested in a decision-making or advocacy position in the public or private sector or who plan to earn a law degree or a graduate degree in a discipline that is not highly quantitative. Students are required to select one of the two tracks when they declare the economics major.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

The B.A. with a major in economics requires the following course work.

Code	Title	Hours
	Mathematics and Statistics Courses	11
	Economic Theory Courses	6
	Applied Field Courses (Business or Policy Track)	15
	Total Hours	32

Mathematics and Statistics Courses

Code	Title	Hours
All of these:		
ECON:3300	Introduction to Econometrics	3
MATH:1380	Calculus and Matrix Algebra for Business	4
STAT:1030	Statistics for Business	4

Economic Theory Courses

Code	Title	Hours
Both of these (must be taken at the University of Iowa):		
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3

Applied Field Courses

Students complete a total of five applied field courses (15 s.h.); three of the applied field courses must be taken at the University of Iowa.

Business Track

Code	Title	Hours
Five of these:		
ECON:3325	Personnel Economics	3
ECON:3335	Money, Banking, and Financial Markets	3
ECON:3345	Global Economics and Business	3
ECON:3350	Industry Analysis	3
ECON:3355	Economic and Business Forecasting	3
ECON:3370	Household Finance	3
ACCT:2200	Managerial Accounting	3
MGMT:2100	Introduction to Management	3

Policy Track

Code	Title	Hours
Four of these:		
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625	Environmental and Natural Resource Economics	3
ECON:3640	Regional and Urban Economics	3
ECON:3650	Policy Analysis	3
ECON:3690	Sports Economics	3
ECON:3750	Transportation Economics	3
ECON:3760	Health Economics	3
ECON:3770	Urban Transportation	3
ECON:3790	Antitrust Economics	3
ECON:3800	Law and Economics	3
ECON:3850	Behavioral Economics	3
ECON:3875	Topics in Policy Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these three courses: ECON:3300, ECON:3870, and ECON:4050

Analytical Track

The Department of Economics is not admitting students to the analytical track at this time.

The department recommends that students complete MATH:1850 Calculus I rather than MATH:1380 Calculus and Matrix Algebra for Business before they enroll in analytical track courses.

Code	Title	Hours
Four of these:		
ECON:3850	Behavioral Economics	3
ECON:4090	Natural Resource Economics	3
ECON:4110	International Economics	3
ECON:4140	Labor Economics	3
ECON:4160	Public Sector Economics	3
ECON:4170	Monetary Economics	3
ECON:4180	Industrial Organization	3
ECON:4190	Mathematical Economics	3
ECON:4200	Game Theory	3
ECON:4700	Topics in Analytical Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these three courses: ECON:3300, ECON:3870, and ECON:4050

Teacher Licensure

Economics majors in the College of Liberal Arts and Sciences who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.A./M.S. in Finance

The Department of Economics and the Department of Finance offer a combined Bachelor of Arts in economics/Master of Arts in finance program. The combined program permits students to count some credit toward both degrees, allowing them to begin graduate study before they complete their bachelor's degree.

Separate application to each program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the M.S. degree, see the M.S. in finance [p. 1089] in the Catalog.

Honors

Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college course work attempted, all course work attempted at the University of Iowa, all college economics course work attempted, and all economics course work attempted at the University of Iowa. They also must successfully complete an honors project under the supervision of a faculty member.

Students interested in graduating with honors in economics should consult the department's director of undergraduate studies before the second semester of their junior year. In the second semester of their junior year, students register for BUS:1999 Introduction to Research in Business, a seminar course in which they identify a topic of interest and arrange for a faculty member to guide and supervise their research project. Students must complete ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and ECON:3300 Introduction to Econometrics before their senior year. In the first semester of their senior year, students begin their research. In the second semester of their senior year, students register for ECON:4999 Honors Thesis in Economics, complete their research, write their thesis, and present their research in a poster format at the Undergraduate Research Festival.

University of Iowa Honors Program

Completing the economics honors requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website. Membership in the UI Honors Program is not required to earn honors in the economics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: at least one-quarter of the semester hours required for graduation

Before the fifth semester begins: at least half of the semester hours required for graduation

Before the seventh semester begins: ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, MATH:1380 Calculus and Matrix Algebra for Business, STAT:1030 Statistics for Business, ECON:3300 Introduction to Econometrics, and at least three-quarters of the semester hours required for graduation

Before the eighth semester begins: at least two major track courses

During the eighth semester: all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Economics, B.A.

- Business Track [p. 1065]
- Policy Track [p. 1065]

Business Track

Course	Title	Hours
First Year		
Fall		
ECON:1100	Principles of Microeconomics ^a	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency ^b		4 - 5
CSI:1600	Success at Iowa	2
Elective course ^c		3
Hours		16-18
Spring		
ECON:1200	Principles of Macroeconomics ^a	4
MATH:1380	Calculus and Matrix Algebra for Business ^{a, d}	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency ^b		4 - 5
Elective course ^c		1
Hours		16-18
Second Year		
Fall		
ECON:3150 or ECON:3100	Intermediate Macroeconomics or Intermediate Microeconomics	3
STAT:1030	Statistics for Business ^a	4
GE CLAS Core: World Languages Second Level Proficiency ^b		4 - 5
GE CLAS Core: Diversity and Inclusion ^f		3
Elective course ^c		2
Hours		16-17
Spring		
ECON:3100 or ECON:3150	Intermediate Microeconomics or Intermediate Macroeconomics	3
ECON:3300	Introduction to Econometrics	3
GE CLAS Core: World Languages Fourth Level Proficiency ^b		4 - 5
GE CLAS Core: Natural Sciences with Lab ^f		4
Elective course ^c		2
Hours		16-17

Third Year

Fall

Major: required track course ^g	3
Major: required track course ^g	3
GE CLAS Core: Historical Perspectives ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

Major: required track course ^g	3
GE CLAS Core: Natural Sciences without Lab ^f	3
GE CLAS Core: International and Global Issues ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Fourth Year

Fall

Major: required track course ^g	3
GE CLAS Core: Values and Culture ^f	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15

Spring

Major: required track course ^g	3
GE CLAS Core: Literary, Visual, and Performing Arts ^f	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	124-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Enrollment in math courses requires completion of a placement exam.
- e Both ECON:3100 and ECON:3150 must be completed at the University of Iowa.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g At least three of the five required track courses must be completed at the University of Iowa.

Policy Track

Course	Title	Hours
First Year		
Fall		
ECON:1100	Principles of Microeconomics ^a	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency ^b		4 - 5
CSI:1600	Success at Iowa	2

Elective course ^c	3
Hours	16-18
Spring	
ECON:1200 Principles of Macroeconomics ^a	4
MATH:1380 Calculus and Matrix Algebra for Business ^{a, d}	4
RHET:1030 Rhetoric 3 - 4	
or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: World Languages Second Level Proficiency ^b	4 - 5
Elective course ^c	1
Hours	16-18
Second Year	
Fall	
ECON:3150 Intermediate Macroeconomics 3	
or ECON:3100 or Intermediate Microeconomics	
STAT:1030 Statistics for Business ^a	4
GE CLAS Core: World Languages Second Level Proficiency ^b	4 - 5
GE CLAS Core: Diversity and Inclusion ^f	3
Elective course ^c	2
Hours	16-17
Spring	
ECON:3100 Intermediate Microeconomics 3	
or ECON:3150 or Intermediate Macroeconomics	
ECON:3300 Introduction to Econometrics	3
GE CLAS Core: World Languages Fourth Level Proficiency ^b	4 - 5
GE CLAS Core: Natural Sciences with Lab ^f	4
Elective course ^c	2
Hours	16-17
Third Year	
Fall	
Major: required track course ^g	3
Major: required track course ^g	3
GE CLAS Core: Historical Perspectives ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Spring	
Major: required track course ^g	3
GE CLAS Core: Natural Sciences without Lab ^f	3
GE CLAS Core: International and Global Issues ^f	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Fourth Year	
Fall	
Major: required track course ^g	3
GE CLAS Core: Values and Culture ^f	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Spring	
Major: required track course ^g	3

GE CLAS Core: Literary, Visual, and Performing Arts ^f	3
Elective course ^c	3
Elective course ^c	3
Elective course ^c	3
Hours	15
Total Hours	124-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Enrollment in math courses requires completion of a placement exam.
- e Both ECON:3100 and ECON:3150 must be completed at the University of Iowa.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g At least three of the five required track courses must be completed at the University of Iowa.

Career Advancement

The Bachelor of Arts degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit What Can I Do with a Major in Economics on the Pomerantz Career Center website.

Economics, B.S.

The B.S. in economics incorporates a balance of economic theory, mathematical tools, and field applications while emphasizing the development of analytical skills.

Students majoring in economics choose one of two tracks: business or policy. They complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on a student's choice of track.

The Bachelor of Science degree is awarded by the College of Liberal Arts and Sciences.

Requirements

The Bachelor of Science with a major in economics requires a minimum of 120 s.h. of course work, including 33-35 s.h. of course work for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college course work attempted, all course work attempted at the University of Iowa, all college economics course work attempted, and all economics course work attempted at the University of Iowa. Course work in the major may not be taken pass/nonpass. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major requires a set of courses in mathematics and statistics (15-17 s.h.) and a set of courses in economic theory (6 s.h.). It also requires applied field courses (12 s.h.) in one of two tracks: business or policy.

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and three of the applied field courses required for their track.

The B.S. program incorporates a balance of economic theory, mathematical tools, and field applications while emphasizing the development of analytical skills. The program provides an excellent educational background for a variety of positions in business and government as well as for the study of law and for graduate study. The B.S. program is ideal for students planning to pursue a graduate degree in economics.

The business track is designed for students who seek employment in the private sector or who plan to earn the M.B.A. degree after gaining necessary experience. The policy track is designed for students interested in a decision making or advocacy position in the public or private sector or who plan to earn a law degree or a graduate degree in a discipline that is not highly quantitative. Students are required to select one of the two tracks when they declare the economics major.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

The B.S. with a major in economics requires the following course work.

Code	Title	Hours
	Mathematics and Statistics Courses	15-17
	Economic Theory Courses	6

Applied Field Courses (Business or Policy Track)	12
Total Hours	33-35

Mathematics and Statistics Courses

The department recommends that students planning to pursue a graduate degree in economics take STAT:3100 Introduction to Mathematical Statistics I and STAT:3101 Introduction to Mathematical Statistics II rather than STAT:3120 Probability and Statistics. It also recommends that they complete additional course work in mathematics, including MATH:2700 Introduction to Linear Algebra, MATH:2850 Calculus III, and MATH:3770 Fundamental Properties of Spaces and Functions I.

Code	Title	Hours
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
ECON:4800	Econometric Analysis	3
One of these:		
STAT:3100-STAT:3101	Introduction to Mathematical Statistics I-II	6
STAT:3120	Probability and Statistics	4

Economic Theory Courses

Code	Title	Hours
Both of these (must be taken at the University of Iowa):		
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3

Applied Field Courses

Students complete a total of four applied field courses (12 s.h.); three of the applied field courses must be taken at the University of Iowa.

Business Track

Code	Title	Hours
Four of these:		
ECON:3325	Personnel Economics	3
ECON:3335	Money, Banking, and Financial Markets	3
ECON:3345	Global Economics and Business	3
ECON:3350	Industry Analysis	3
ECON:3355	Economic and Business Forecasting	3
ECON:3370	Household Finance	3
ACCT:2200	Managerial Accounting	3
MGMT:2100	Introduction to Management	3

Policy Track

Code	Title	Hours
Three of these:		
ECON:3345	Global Economics and Business	3

ECON:3620	Economic Growth and Development	3
ECON:3625	Environmental and Natural Resource Economics	3
ECON:3640	Regional and Urban Economics	3
ECON:3650	Policy Analysis	3
ECON:3690	Sports Economics	3
ECON:3750	Transportation Economics	3
ECON:3760	Health Economics	3
ECON:3770	Urban Transportation	3
ECON:3790	Antitrust Economics	3
ECON:3800	Law and Economics	3
ECON:3850	Behavioral Economics	3
ECON:3875	Topics in Policy Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these three courses: ECON:3300, ECON:3870, and ECON:4050

Analytical Track

The Department of Economics is not admitting students to the analytical track at this time.

The department recommends that students complete MATH:1850 Calculus I rather than MATH:1380 Calculus and Matrix Algebra for Business before they enroll in analytical track courses.

Code	Title	Hours
Three of these:		
ECON:3850	Behavioral Economics	3
ECON:4090	Natural Resource Economics	3
ECON:4110	International Economics	3
ECON:4140	Labor Economics	3
ECON:4160	Public Sector Economics	3
ECON:4170	Monetary Economics	3
ECON:4180	Industrial Organization	3
ECON:4190	Mathematical Economics	3
ECON:4200	Game Theory	3
ECON:4700	Topics in Analytical Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these three courses: ECON:3300, ECON:3870, and ECON:4050

Teacher Licensure

Economics majors in the College of Liberal Arts and Sciences who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.S./M.S. in Finance

The Department of Economics and the Department of Finance offer a combined Bachelor of Science in economics/Master of Arts in finance program. The combined program permits students to count some credit toward both degrees, allowing them to begin graduate study before they complete their bachelor's degree.

Separate application to each program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the M.S. degree, see the M.S. in finance [p. 1089] in the Catalog.

Honors

Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college course work attempted, all course work attempted at the University of Iowa, all college economics course work attempted, and all economics course work attempted at the University of Iowa. They also must successfully complete an honors project under the supervision of a faculty member.

Students interested in graduating with honors in economics should consult the department's director of undergraduate studies before the second semester of their junior year. In the second semester of their junior year, students register for BUS:1999 Introduction to Research in Business, a seminar course in which they identify a topic of interest and arrange for a faculty member to guide and supervise their research project. Students must complete ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and ECON:4800 Econometric Analysis before their senior year. In the first semester of their senior year, students begin their research. In the second semester of their senior year, students register for ECON:4999 Honors Thesis in Economics, complete their research, write their thesis, and present their research in a poster format at the Undergraduate Research Festival.

University of Iowa Honors Program

Completing the economics honors requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website. Membership in the UI Honors Program is not required to earn honors in the economics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Before the third semester begins: at least one-quarter of the semester hours required for graduation

Before the fourth semester begins: MATH:1850 Calculus I

Before the fifth semester begins: MATH:1860 Calculus II and at least half of the semester hours required for graduation

Before the sixth semester begins: STAT:3100 Introduction to Mathematical Statistics I (if chosen statistics course)

Before the seventh semester begins: ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, STAT:3101 Introduction to Mathematical Statistics II (if chosen statistics course), and at least three-quarters of the semester hours required for graduation

Before the eighth semester begins: STAT:3120 Probability and Statistics (if chosen statistics course) and at least two major track courses

During the eighth semester: ECON:4800 Econometric Analysis, all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Economics, B.S.

- Business Track [p. 1069]
- Policy Track [p. 1070]

Business Track

Course	Title	Hours
First Year		
Fall		
ECON:1100	Principles of Microeconomics ^a	4
MATH:1850	Calculus I ^{a, b}	4
GE CLAS Core: World Languages First Level Proficiency ^c		4 - 5
CSI:1600	Success at Iowa	2
Elective course ^d		2
Hours		16-17
Spring		
ECON:1200	Principles of Macroeconomics ^a	4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Second Level Proficiency ^c		4 - 5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^d		1
Hours		16-18

Second Year

Fall		
ECON:3150 or ECON:3100	Intermediate Macroeconomics or Intermediate Microeconomics	3
STAT:3100	Introduction to Mathematical Statistics I ^{f, g}	3

GE CLAS Core: World Languages Second Level Proficiency ^c		4 - 5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^d		3
Hours		16-18

Spring

ECON:3100 or ECON:3150	Intermediate Microeconomics or Intermediate Macroeconomics	3
STAT:3101	Introduction to Mathematical Statistics II ^{f, h}	3
GE CLAS Core: World Languages Fourth Level Proficiency ^c		4 - 5
GE CLAS Core: Natural Sciences with Lab ⁱ		4
Elective course ^d		2
Hours		16-17

Third Year

Fall

Major: required track course ^j		3
STAT:3120	Probability and Statistics ^f	4
GE CLAS Core: Historical Perspectives ⁱ		3
GE CLAS Core: Diversity and Inclusion ⁱ		3
Elective course ^d		2
Hours		15

Spring

ECON:4800	Econometric Analysis	3
Major: required track course ^j		3
GE CLAS Core: Natural Sciences without Lab ⁱ		3
GE CLAS Core: International and Global Issues ⁱ		3
Elective course ^d		3
Hours		15

Fourth Year

Fall

Major: required track course ^j		3
GE CLAS Core: Values and Culture ⁱ		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: required track course ^j		3
GE CLAS Core: Literary, Visual, and Performing Arts ⁱ		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Total Hours 124-130

- Fulfills a major requirement and may fulfill a GE requirement.
- Enrollment in math courses requires completion of a placement exam.
- Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- Both ECON:3100 and ECON:3150 must be completed at the University of Iowa.

- f Students may choose to complete either STAT:3100-3101 or STAT:3120.
- g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- j At least three of the four required track courses must be completed at the University of Iowa.

Policy Track

Course	Title	Hours
First Year		
Fall		
ECON:1100	Principles of Microeconomics ^a	4
MATH:1850	Calculus I ^{a, b}	4
GE CLAS Core: World Languages First Level Proficiency ^c		4 - 5
CSI:1600	Success at Iowa	2
Elective course ^d		2
Hours		16-17
Spring		
ECON:1200	Principles of Macroeconomics ^a	4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Second Level Proficiency ^c		4 - 5
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
Elective course ^d		1
Hours		16-18
Second Year		
Fall		
ECON:3150	Intermediate Macroeconomics	3
or ECON:3100	or Intermediate Microeconomics	
STAT:3100	Introduction to Mathematical Statistics I ^{f, g}	3
GE CLAS Core: World Languages Second Level Proficiency ^c		4 - 5
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
Elective course ^d		3
Hours		16-18
Spring		
ECON:3150	Intermediate Macroeconomics	3
or ECON:3100	or Intermediate Microeconomics	
STAT:3101	Introduction to Mathematical Statistics II ^{f, h}	3
GE CLAS Core: World Languages Fourth Level Proficiency ^c		4 - 5
GE CLAS Core: Natural Sciences with Lab ⁱ		4
Elective course ^d		2
Hours		16-17
Third Year		
Fall		
Major: required track course ^j		3
STAT:3120	Probability and Statistics ^f	4
GE CLAS Core: Historical Perspectives ⁱ		3
GE CLAS Core: Diversity and Inclusion ⁱ		3

Elective course ^d	2
Hours	15

Spring

ECON:4800	Econometric Analysis	3
Major: required track course ^j		3
GE CLAS Core: Natural Sciences without Lab ⁱ		3
GE CLAS Core: International and Global Issues ⁱ		3
Elective course ^d		3
Hours		15

Fourth Year

Fall

Major: required track course ^j		3
GE CLAS Core: Values and Culture ⁱ		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Spring

Major: required track course ^j		3
GE CLAS Core: Literary, Visual, and Performing Arts ⁱ		3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15

Total Hours 124-130

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in math courses requires completion of a placement exam.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Both ECON:3100 and ECON:3150 must be completed at the University of Iowa.
- f Students may choose to complete either STAT:3100-3101 or STAT:3120.
- g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- j At least three of the four required track courses must be completed at the University of Iowa.

Career Advancement

The Bachelor of Science degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit [What Can I Do with a Major in Economics](#) on the Pomerantz Career Center website.

Economics, B.B.A.

The B.B.A. in economics emphasizes the economic foundations of business fields—accounting, finance, marketing, business law, and management. Students majoring in economics choose one of two tracks: business or policy. In addition to the common B.B.A. requirements, students complete two sets of requirements for the major: economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on a student's choice of track.

The Bachelor of Business Administration degree is awarded by the Tippie College of Business.

Requirements

The Bachelor of Business Administration with a major in economics requires a minimum of 120 s.h. of course work, including 18 s.h. of course work for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college course work attempted, all course work attempted at the University of Iowa, all college business course work attempted, all business course work attempted at the University of Iowa, all college economics course work attempted, and all economics course work attempted at the University of Iowa. Course work in the major may not be taken pass/nonpass. They also must complete all Tippie College of Business requirements for the Bachelor of Business Administration.

The major requires a set of courses in economic theory (6 s.h.). It also requires applied field courses (12 s.h.) in one of two tracks: business or policy.

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and three of the applied field courses required for their track.

The program provides an excellent educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The business track is designed for students who seek employment in the private sector or who plan to earn the M.B.A. degree after gaining necessary experience. The policy track is designed for students interested in a decision-making or advocacy position in the public or private sector or who plan to earn a law degree or a graduate degree in a discipline that is not highly quantitative. Students are required to select one of the two tracks upon declaration of the economics major.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

The B.B.A. with a major in economics requires the following course work.

Code	Title	Hours
	Economic Theory Courses	6
	Applied Field Courses (Business or Policy Track)	12
	Total Hours	18

Economic Theory Courses

Code	Title	Hours
Both of these (must be taken at the University of Iowa):		
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3

Applied Field Courses

Students complete a total of four applied field courses (12 s.h.); three of the applied field courses must be taken at the University of Iowa.

Business Track

Code	Title	Hours
Four of these:		
ECON:3300	Introduction to Econometrics	3
ECON:3325	Personnel Economics	3
ECON:3335	Money, Banking, and Financial Markets	3
ECON:3345	Global Economics and Business	3
ECON:3350	Industry Analysis	3
ECON:3355	Economic and Business Forecasting	3
ECON:3370	Household Finance	3

Policy Track

Code	Title	Hours
Three of these:		
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625	Environmental and Natural Resource Economics	3
ECON:3640	Regional and Urban Economics	3
ECON:3650	Policy Analysis	3
ECON:3690	Sports Economics	3
ECON:3750	Transportation Economics	3
ECON:3760	Health Economics	3
ECON:3770	Urban Transportation	3
ECON:3790	Antitrust Economics	3
ECON:3800	Law and Economics	3
ECON:3850	Behavioral Economics	3
ECON:3875	Topics in Policy Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these two courses: ECON:3870 and ECON:4050

Analytical Track

The Department of Economics is not admitting students to the analytical track at this time.

The department recommends that students complete MATH:1850 Calculus I rather than MATH:1380 Calculus and

Matrix Algebra for Business before they enroll in analytical track courses.

Code	Title	Hours
Three of these:		
ECON:3850	Behavioral Economics	3
ECON:4090	Natural Resource Economics	3
ECON:4110	International Economics	3
ECON:4140	Labor Economics	3
ECON:4160	Public Sector Economics	3
ECON:4170	Monetary Economics	3
ECON:4180	Industrial Organization	3
ECON:4190	Mathematical Economics	3
ECON:4200	Game Theory	3
ECON:4700	Topics in Analytical Economics	3

And:

One additional economics course numbered from ECON:3250 through ECON:4700, excluding these two courses: ECON:3870 and ECON:4050

Honors

Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college course work attempted, all course work attempted at the University of Iowa, all college business course work attempted, and all business course work attempted at the University of Iowa. They also must successfully complete an honors project under the supervision of a faculty member.

Students interested in graduating with honors in economics should see Honors at Tippie on the Tippie College of Business website. In the second semester of their junior year, students register for BUS:1999 Introduction to Research in Business, a seminar course in which they identify a topic of interest and arrange for a faculty member to guide and supervise their research project. Students must complete ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and ECON:3300 Introduction to Econometrics before their senior year. In the first semester of their senior year, students begin their research. In the second semester of their senior year, students register for ECON:4999 Honors Thesis in Economics, complete their research, write their thesis, and present their research in a poster format at the Undergraduate Research Festival.

University of Iowa Honors Program

Completing the honors in economics requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website. Membership in the UI Honors Program is not required to earn honors in the economics major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

The following checkpoints are designed for students who enter the University as direct admission or pre-business students. In order to stay on the plan, pre-business students must maintain the grade-point averages required for admission to the Tippie College of Business and must apply for admission to the college the semester the four prerequisite courses will be completed, but no later than before the fifth semester begins. The Four-Year Graduation Plan is not available to students who choose to pursue a double major in the college or to those enrolled in a combined degree program.

Students must take BUS:3000 Business Communication and Protocol during their first year after admission to the Tippie College of Business, except direct admission students, who take the course during their second year.

Before the third semester begins: ECON:1100 Principles of Microeconomics, MATH:1380 Calculus and Matrix Algebra for Business, STAT:1030 Statistics for Business, and at least one-quarter of the semester hours required for graduation

Before the fifth semester begins: ACCT:2100 Introduction to Financial Accounting, ACCT:2200 Managerial Accounting, ECON:1200 Principles of Macroeconomics, all General Education requirements, and at least half of the semester hours required for graduation

Before the seventh semester begins: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, at least one major track course, all business core requirements, and at least three-quarters of the semester hours required for graduation

Before the eighth semester begins: at least two major track courses

During the eighth semester: all remaining course work in the major and a sufficient number of semester hours to graduate

Iowa Degree in Three

Iowa Degree in Three is designed for students who are academically prepared to complete more semester hours per term than average or who come to the university with completed college credits. It is a flexible, affordable option developed to meet the needs of highly motivated students.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

The Tippie College of Business makes several assumptions about candidates for the Iowa Degree in Three:

- students are prepared to enroll in MATH:1380 Calculus and Matrix Algebra for Business during their first enrollment at the University of Iowa,
- students have fulfilled the General Education World Language requirement before matriculation,
- students are direct admits to the Tippie College of Business,

- students have earned at least 15 s.h. of college credit before matriculation, and
- students are not held for more than two English as a Second Language classes.

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Economics, B.B.A.

- Business Track [p. 1074]
- Policy Track [p. 1074]

Business Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
ECON:1100	Principles of Microeconomics	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
CSI:1600	Success at Iowa	2
Hours		17
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1200	Principles of Macroeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Natural Sciences without Lab ^d		3
Hours		16
Second Year		
Fall		
ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		2
Hours		15
Spring		
ACCT:2200	Managerial Accounting	3
ECON:3100	Intermediate Microeconomics	3
MSCI:2800	Business Analytics	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3

Non-business elective course		3
Hours		15
Third Year		
Fall		
ECON:3150	Intermediate Macroeconomics	3
BUS:3000	Business Communication and Protocol	3
MSCI:3005	Information Systems	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		15
Spring		
Major: Business track course		3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Non-business elective course		3
Hours		15
Fourth Year		
Fall		
Major: Business track course		3
Major: Business track course		3
MKTG:3000	Introduction to Marketing Strategy	3
Elective course		3
Non-business elective course		2
Hours		14
Spring		
Major: Business track course		3
MSCI:3000	Operations Management	3
Elective course		3
Elective course		3
Elective course		1
Hours		13
Total Hours		120-123

a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.

b See degree audit for course options.

c Enrollment in math courses requires completion of a placement exam.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Policy Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3

First Year**Fall**

MATH:1340	Mathematics for Business ^c	4
ECON:1100	Principles of Microeconomics	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
CSI:1600	Success at Iowa	2
Hours		17

Spring

MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1200	Principles of Macroeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Natural Sciences without Lab ^d		3
Hours		16

Second Year**Fall**

ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		2
Hours		15

Spring

ACCT:2200	Managerial Accounting	3
ECON:3100	Intermediate Microeconomics	3
MSCI:2800	Business Analytics	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
Non-business elective course		3
Hours		15

Third Year**Fall**

ECON:3150	Intermediate Macroeconomics	3
BUS:3000	Business Communication and Protocol	3
MSCI:3005	Information Systems	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		15

Spring

Major: Policy track course		3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Non-business elective course		3
Hours		15

Fourth Year**Fall**

Major: Policy track course		3
Major: Policy track course		3
MKTG:3000	Introduction to Marketing Strategy	3

Elective course	3
Non-business elective course	2
Hours	14

Spring

Major: Policy track course		3
MSCI:3000	Operations Management	3
Elective course		3
Elective course		3
Elective course		1
Hours		13
Total Hours		120-123

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Career Advancement

The Bachelor of Business Administration degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit What Can I Do with a Major in Economics on the Pomerantz Career Center website.

Economics, Minor

The undergraduate minor in economics requires a minimum of 15 s.h. of economics course work, including 12 s.h. of course work completed at the University of Iowa in economics courses (prefix ECON) numbered 3000 or above. Students must have a cumulative g.p.a. of at least 2.00 in all college economics course work attempted and all economics course work attempted at the University of Iowa. Course work in the minor may not be taken pass/nonpass. A maximum of 6 s.h. of course work used to satisfy another major, minor, or certificate may be applied toward the economics minor.

Economics, M.A.

Requirements

The Master of Arts is offered only to students working toward a Ph.D. in economics.

The department participates in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English and who do not hold a baccalaureate or advanced degree from an accredited college or university in the United States must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions.

Application deadline for admission and financial support is January 15 for fall entry.

Career Advancement

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit What Can I Do with a Major in Economics on the Pomerantz Career Center website.

Economics, Ph.D.

Requirements

The Doctor of Philosophy program in economics requires a minimum of 72 s.h. of graduate credit. The program provides rigorous training in economic theory, econometrics, and applied economics. It has six components: a coordinated sequence of core courses, a qualifying examination, a research paper, a set of major field courses, a dissertation proposal and comprehensive examination, and a dissertation.

The department partners with the College of Law to offer a combined J.D./Ph.D. degree program; see Combined Programs [p. 1078] in this section of the Catalog. It also participates in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog.

Requirements for the Ph.D. program are as follows.

Core Sequence

Code	Title	Hours
First Semester		
ECON:5005	Real Analysis for Economics	2
ECON:5015	Dynamic Programming	2
ECON:5115	Fundamentals of Microeconomics	3
ECON:5135	General Equilibrium	2
ECON:5215	Fundamentals of Macroeconomics I	2
ECON:5225	Fundamentals of Macroeconomics II	2
ECON:5805	Statistics for Economics	3
Second Semester		
ECON:5125	Game Theory	2
ECON:5145	Information Economics	2
ECON:5235	Fiscal Policy and Insurance in Macroeconomics	2
ECON:5245	Monetary Economics and Search Theory	2
ECON:5815	Theoretical Econometrics I	2
ECON:5825	Theoretical Econometrics II	2
Third Semester		
ECON:5855	Applied Econometrics I	2
ECON:5865	Applied Econometrics II	2

Qualifying Examination

The qualifying examination is normally taken the summer after the first year.

Research Paper

The research paper is normally completed the summer after the second year.

Major Field Courses

Each student chooses a major study area in addition to the core courses. The requirement for the major area is a minimum of 24 s.h. of intensive study in a field and in courses that enable students to understand the relationship between their specialty and related fields.

Dissertation Proposal and Comprehensive Examination

Students must defend a dissertation proposal in a comprehensive examination within one year of completing the research paper requirement.

Dissertation

Submission of the completed dissertation and an oral defense of the dissertation research completes the Ph.D. program.

Combined Programs

J.D./Ph.D.

The Department of Economics and the College of Law offer a combined Juris Doctor/Doctor of Philosophy program. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English and who do not hold a baccalaureate or advanced degree from an accredited college or university in the United States must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions.

Application deadline for admission and financial support is January 15 for fall entry.

Career Advancement

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit What Can I Do with a Major in Economics on the Pomerantz Career Center website.

Entrepreneurial Management

Executive Director

- David K. Hensley

Director

- Lynn M. Allendorf

Undergraduate certificate: entrepreneurial management

Faculty: <https://www.iowajpec.org/people-directory>

Website: <https://www.iowajpec.org/>

The Tippie College of Business and the John Pappajohn Entrepreneurial Center (Iowa JPEC) offer the Certificate in Entrepreneurial Management. They also work with other units on campus to offer entrepreneurship programs. The college collaborates with the College of Engineering to offer the Certificate in Technological Entrepreneurship [p. 1413]. The center partners with the Department of Management and Organizations [p. 1101] to offer the entrepreneurial management track for Bachelor of Business Administration students majoring in management. It collaborates with the College of Liberal Arts and Sciences to offer the B.A. in Enterprise Leadership [p. 397], the Certificate in Arts Entrepreneurship [p. 118], and the Certificate in Media Entrepreneurialism [p. 742].

The John Pappajohn Entrepreneurial Center also offers a wide variety of professional experiences designed to foster the development of entrepreneurs and future organizational leaders.

Undergraduate entrepreneurship programs at the University of Iowa combine academic course work and experiential learning with a focus on teaching entrepreneurial leadership, innovation and creativity, opportunity recognition and assessment, and strategic business planning. Several of the programs are open to all University of Iowa undergraduates. To learn more, visit the John Pappajohn Entrepreneurial Center website.

Programs

Undergraduate Program of Study Certificate

- Certificate in Entrepreneurial Management [p. 1082]

Facilities

Entrepreneurial Management Institute

The Entrepreneurial Management Institute works with top entrepreneurship students in the B.B.A. in management (entrepreneurial management track), B.A. in enterprise leadership, and certificate programs in entrepreneurial management, technological entrepreneurship, and arts entrepreneurship. Experienced business professionals and entrepreneurial leaders work with students to complete advanced strategic business planning projects for entrepreneurial firms. Students network with successful Iowa CEOs and business leaders, and have opportunities to enhance their professional project management, presentation,

and business communication skills. Students also receive support for obtaining internships, career planning, and job placement.

Bedell Entrepreneurship Learning Laboratory

The Bedell Entrepreneurship Learning Laboratory is an applied learning environment for advanced entrepreneurship students creating a new business. The laboratory provides dedicated office space for individual students and teams, enabling them to concentrate on developing their business concepts. University of Iowa student entrepreneurs participate in the Founders Club, a student business acceleration program open to any student at the university. This business incubator connects students with the resources to launch startups, and to grow them into sustainable businesses. Participants have access to a variety of resources including collaborative work space and equipment, workshops, training, networking, funding opportunities and one-on-one mentoring from experienced professionals. Students also compete for capital in several campus and national pitch and business model competitions, obtain access to technical support services, and get connected to potential investors and business partners.

Contact the John Pappajohn Entrepreneurial Center for information about Founders Club or visit the Founders Club web page to apply.

Courses

Entrepreneurial Management Courses

ENTR:1010 Exploring Entrepreneurship 3 s.h.

Introduction to entrepreneurship, including identifying characteristics of the entrepreneur, evaluating opportunities, engaging in customer discovery, design thinking, feasibility, financing, and planning for success.

ENTR:1020 Business Innovation 3 s.h.

Overview of entrepreneurship, innovation, and project management concepts; work in teams with Science, Technology, Engineering, and Mathematics (STEM) industry mentors to develop innovative solutions to real-world problems.

ENTR:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

ENTR:1350 Foundations in Entrepreneurship 2 s.h.

Basic core business concepts faced by entrepreneurial managers in small business accounting, marketing, and business planning. Recommendations: non-business major interested in studying entrepreneurship.

ENTR:1800 Innovation in Action: Sustainability 0-1 s.h.

For businesses to successfully compete and thrive in a global marketplace, they must embrace innovation throughout their organizations, and one of the critical issues businesses face today is that of sustainability—how to most effectively acquire and utilize scarce resources while limiting their overall environmental impact; introduction to sustainability; focus on economic, social, and environmental issues facing organizations and society; project management fundamentals; students work in teams to identify a specific sustainability challenge, and prepare and present a strategic approach for addressing a sustainability problem.

ENTR:2000 Entrepreneurship and Innovation 3 s.h.

Integrated, cross-functional perspective on how organizations identify and evaluate opportunities and develop strategies to compete in a global marketplace; innovation and creativity, opportunity recognition, venture screening, characteristics of successful entrepreneurial leaders, feasibility analysis, strategic business planning; application of entrepreneurship practices for new business creation, corporate venturing, nonprofits. Duplicates ENTR:3520 and MGMT:3100. Corequisites: ENTR:1350.

ENTR:2800 Entrepreneurial Experience 1-3 s.h.

Applied learning course designed to enhance innovation and opportunity recognition skills, develop customer discovery expertise, and foster team-building and leadership abilities.

ENTR:3000 Practicum in Entrepreneurship 1-3 s.h.

Applied, experiential learning opportunities designed to foster development of entrepreneurial leadership skills; opportunity recognition and assessment, strategic business planning, innovation and creativity, team leadership, professional communication skills, strategy development and execution.

ENTR:3050 Professional Preparation for Enterprise Leadership and Entrepreneurship 1 s.h.

Survey of career paths for students studying enterprise leadership and entrepreneurship; opportunities to build a professional network through regular interaction with business professionals and industry leaders; creating strategies for securing internships and full-time employment; developing professional soft skills to succeed in today's workplace.

ENTR:3100 Entrepreneurial Finance 3 s.h.

Understanding financial aspects of new and growing ventures; focus on preparing financial projections, analyzing financial performance, managing cash flow, and determining financial feasibility; detailed overview of various sources of capital available for start-up and growing ventures. Prerequisites: ENTR:3520 or THTR:3520 or ENTR:2000 or MGMT:3100.

ENTR:3200 Entrepreneurial Marketing 3 s.h.

Practical marketing concepts for evaluating the market potential for new products, services, or business opportunities; how to obtain and evaluate market data, determine customer demand, analyze the competition, design effective promotions, develop and implement effective sales strategies, and write a successful marketing plan. Prerequisites: MGMT:3100 or ENTR:2000 or ENTR:3520 or THTR:3520.

ENTR:3300 Legal Aspects of Entrepreneurship 3 s.h.

Areas of law significant to new and emerging businesses; business formation and structure, intellectual property, business agreements, legal processes. Prerequisites: ENTR:2000 or MGMT:3100 or ENTR:3520 or THTR:3520.

ENTR:3400 Strategic Management of Technology and Innovation 3 s.h.

New technology innovation and commercialization; technology innovation process, identification of commercialization strategies, feasibility analysis, intellectual property issues. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100.

ENTR:3500 Social Entrepreneurship 3 s.h.

Introduction to the growing field of social entrepreneurship; creation of ventures with dual missions of social benefit and return on investment; issues related to evaluating market opportunities; acquiring and managing scarce resources; sustainability; maximizing social and economic value. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100.

ENTR:3520 New Ventures in the Arts 3 s.h.

Arts administration principles and trends as applied to creation of an arts-related enterprise; case studies; students create business plan for a new arts organization. Duplicates ENTR:2000 and MGMT:3100. Corequisites: ENTR:1350 or (ACCT:2100 and MKTG:3000). Same as DPA:3520, INTD:3520, THTR:3520.

ENTR:3595 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as MGMT:3500, MUSM:3500, NURS:3595, RELS:3700, SSW:3500.

ENTR:3600 E-Commerce Strategies for Entrepreneurs 3 s.h.

E-commerce opportunities and internet business strategies for entrepreneurial ventures; how to develop effective web business strategies, latest technologies and trends in e-commerce, methods for maximizing traffic, impact of a company's website. Prerequisites: ENTR:2000 or MGMT:3100 or ENTR:3520 or THTR:3520.

ENTR:3700 Sustainable Product Innovation and Management 3 s.h.

Sustainability requirements in management of new product and process development from the perspective of the senior-level executive responsible for a firm's business and operational strategies; student teams will develop a new sustainable product or undertake applied field study projects to gain firsthand experience with sustainability practices and strategies within a company. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100 or MKTG:3000. Requirements: 60 s.h. earned.

ENTR:4000 Topics in Entrepreneurship 1-3 s.h.

Current topics in entrepreneurship. Prerequisites: ENTR:2000 or MGMT:3100 or ENTR:3520 or THTR:3520.

ENTR:4050 Directed Readings in Entrepreneurship arr.

Independent study; topics and assignments approved by instructor.

ENTR:4100 International Entrepreneurship and Culture**1-3 s.h.**

International entrepreneurship and business strategy, foreign exchange, tariffs and trade, micro-finance, economic conditions and culture of destination countries; students will travel abroad and have hands-on experience working with in-country entrepreneurs and will analyze international businesses; focus will be on evaluating entrepreneurial opportunities, identifying sustainable growth strategies, and understanding international business culture. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100. Requirements: junior standing.

ENTR:4200 Entrepreneurship: Business Consulting**3 s.h.**

Students provide strategic business consulting services to start-up and early-stage companies; exploration of consulting process (proposal development, data collection and analysis, team dynamics, communications with clients, developing recommendations, final report preparation and presentation); projects involving market research and analysis, financial analysis and projections, and strategic business and operations planning.

ENTR:4300 Entrepreneurship: Advanced Business Planning**arr.**

Creation and launch of a new venture; completion of a detailed business plan, creating an elevator pitch, and formal presentation of plan.

ENTR:4400 Managing the Growth Business**3 s.h.**

Preparation to effectively manage employees, customers, and suppliers; leadership for a growing entrepreneurial venture; opportunities to evaluate, practice, and refine critical professional management skills. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100. Requirements: 75 s.h. earned.

ENTR:4450 Professional Sports Management**3 s.h.**

Detailed study of professional sports management and marketing; building and managing a front office, marketing sports properties, revenue generation models, developing media relationships, and capitalizing on new opportunities in the sports industry. Prerequisites: ENTR:2000 or ENTR:3520 or THTR:3520 or MGMT:3100.

ENTR:4460 Entrepreneurship and Global Trade**3 s.h.**

Complex issues of business operations in a global economy; trade transactions related to importing and exporting, logistics, and ethical issues in international trade; global business management, global marketing, global supply chain management, and trade finance; preparation for work in global marketplace and for the Certified Global Business Professional certification exam offered by the North American Small Business International Trade Educators. Prerequisites: MGMT:3100 or ENTR:2000 or ENTR:3520 or THTR:3520 or GEOG:2910.

ENTR:4510 Arts Leadership Seminar**3 s.h.**

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000 or THTR:3520. Same as DPA:4510, INTD:4510, THTR:4510.

ENTR:4900 Academic Internship**arr.**

Professional internship experience with academic credit (e.g., paper, course work).

ENTR:4999 Honors Thesis in Entrepreneurial Studies**3 s.h.**

Independent study project directed by a faculty member or staff advisor, and culminating in a thesis that conforms to University of Iowa Honors Program guidelines; project includes empirical research, library research, applied projects. Requirements: honors standing, UI g.p.a. of at least 3.50, and enterprise leadership g.p.a. of 3.50.

ENTR:9000 Developing Professional Service Business**2-3 s.h.**

Use of professional skills and functional knowledge in creating a specialized service business. Same as CEE:5210.

ENTR:9100 Entrepreneurship and Innovation**3 s.h.**

The entrepreneurial process from conception to birth of a new venture; attributes of successful entrepreneurs, innovation and creativity, opportunity recognition, venture screening, identification of resources, feasibility analysis.

ENTR:9400 Evaluating Innovation Opportunities

Integrated, cross-functional perspective of how organizations identify and evaluate opportunities and develop strategies to compete in a global marketplace; innovation and creativity, opportunity recognition, venture screening, identification of resources, and strategic business planning.

ENTR:9450 Strategic Management of Technology and Innovation**3 s.h.**

Role of technology in creation, growth, and survival of industries; processes, risks, and rewards of technological innovation and commercialization; successful approaches to developing technological strategy and products.

ENTR:9500 Managing the Growth Business**3 s.h.**

Issues faced by new, rapidly growing businesses; adapting organizational structure as business expands, building a management team, hiring new employees, managing strategic growth of a business; case studies, particularly in technology sector.

ENTR:9550 Commercializing New Technology**3 s.h.**

Hands-on experience with the process of technology commercialization; real-world opportunity in the form of a technology developed in an academic environment or in the private sector and creation of a plan to transfer that technology to the marketplace; identifying a specific application of that technology (the product); identifying and sizing relevant market segments; determining the appropriate business and financial model; designing a business plan; presentation of business plans/opportunities to simulated venture capitalists.

ENTR:9600 Seminar in Entrepreneurship**1-3 s.h.**

Topics vary; franchising, business acquisition, real estate development, e-commerce, technology transfer.

ENTR:9700 Entrepreneurship: Business Consulting**3 s.h.**

Experience on teams providing consulting services to start-up and early-stage companies; the consulting process—proposal development, data collection and analysis, final report preparation and presentation; projects—marketing studies, financial projections, strategic planning.

ENTR:9800 Entrepreneurship: Advanced Business Planning**1-3 s.h.**

Mentoring for individuals in final stages of preparing to launch their own business.

Entrepreneurial Management, Certificate

The undergraduate Certificate in Entrepreneurial Management requires a minimum of 18 s.h. of credit. The certificate program is open to all current University of Iowa undergraduate students and to all individuals who have earned a bachelor's degree and are not enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The Certificate in Entrepreneurial Management is not open to students earning the B.B.A. in management (entrepreneurship management track) or the B.A. in enterprise leadership.

The certificate program is designed to help students acquire the entrepreneurial mindset that will enable them to launch new ventures or seek management positions in existing organizations. It focuses on qualities and skills essential for entrepreneurs and successful business leaders.

Entrepreneurial management students learn from a select team of faculty members and business executives distinguished by their ability to teach, model, and inspire the entrepreneurial process. Students develop the following skills in the program: innovation and creativity, opportunity recognition, developing and executing business strategies, building and leading interdisciplinary teams, market assessments, financial forecasting and evaluation, professional communications, critical thinking, and problem solving.

Undergraduate students must declare their intention to pursue the certificate. Business students should contact the Tippie College of Business Undergraduate Program Office. Liberal arts and sciences students should contact the Academic Programs & Student Development office.

Students earning the certificate in conjunction with the Bachelor of Applied Studies [p. 1794] (University College) or the Bachelor of Liberal Studies [p. 1797] (University College) may complete the certificate's course work by distance education.

Students may begin working toward the Certificate in Entrepreneurial Management during their sophomore year. They may count a maximum of 6 s.h. of transfer credit toward the certificate, with approval from the entrepreneurship program director. Credit earned in entrepreneurship courses (prefix ENTR) is counted as semester hours earned in business.

The Certificate in Entrepreneurial Management requires the following course work. Many certificate courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and must meet its registration requirements before they may register for the course.

Entrepreneurship Core

ENTR:2000 Entrepreneurship and Innovation requires concurrent registration in ENTR:1350 Foundations in Entrepreneurship; ENTR:3520 New Ventures in the Arts requires concurrent registration in ENTR:1350 Foundations in Entrepreneurship, or in ACCT:2100 Introduction to Financial Accounting and MKTG:3000 Introduction to Marketing Strategy. Certificate students must complete the required concurrent courses.

Code	Title	Hours
One of these:		
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3520	New Ventures in the Arts	3
All of these:		
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:4400	Managing the Growth Business	3

Electives

Students earn an additional 6 s.h. in elective courses chosen from the following list. Students who wish to use a course not on the list must consult with the John Pappajohn Entrepreneurial Center director.

Code	Title	Hours
ENTR:2800	Entrepreneurial Experience	1-3
ENTR:3000	Practicum in Entrepreneurship	1-3
ENTR:3300	Legal Aspects of Entrepreneurship	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3595	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4000	Topics in Entrepreneurship	1-3
ENTR:4050	Directed Readings in Entrepreneurship	arr.
ENTR:4100	International Entrepreneurship and Culture	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4450	Professional Sports Management	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510	Arts Leadership Seminar	3
ENTR:4900	Academic Internship	3
MGMT:4100	Dynamics of Negotiations	3

Finance

Chair

- Thomas A. Rietz

Undergraduate major: finance (B.B.A.)

Graduate degrees: M.S. in finance; finance subprogram for the Ph.D. in business administration

Faculty: <https://tippie.uiowa.edu/people?departments=170>

Website: <https://tippie.uiowa.edu/finance>

The Department of Finance is committed to delivering programs of study that integrate the technology and analytics of today's global financial community. The goal is to provide students with the technical skills they need to enhance their managerial effectiveness, whether they work in large corporations, small organizations, or private consulting.

The department offers the undergraduate major in finance, the Master of Science program in finance, and the subprogram in finance that leads to the Ph.D. in business administration. Additionally, they participate in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog. The department also partners with the Emmett J. Vaughan Institute of Risk Management and Insurance to offer the undergraduate Certificate in Risk Management and Insurance [p. 1146].

Programs

Undergraduate Program of Study

Major

- Major in Finance (Bachelor of Business Administration) [p. 1087]

Graduate Programs of Study

Majors

- Master of Science in Finance [p. 1089]
- Finance subprogram for the Doctor of Philosophy [p. 1091] in Business Administration

Courses

Finance Courses

FIN:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

FIN:3000 Introductory Financial Management 3 s.h.

Financial management goals and decision making; time value of money; valuation of bonds and stocks, risk and return analysis, cost of capital, capital budgeting, cash flow estimation; financial statement analysis and financial planning. Prerequisites: ECON:1200 and ACCT:2100 and ECON:1100. Requirements: 60 s.h. completed.

FIN:3020 Professional Finance Seminar 1 s.h.

Seminar topics include finance careers, curriculum, understanding of current events, internships, professional designations, ethics, and general finance acumen.

FIN:3100 Financial Information Technology 2 s.h.

Applications of commonly used financial software and data systems reviewed by student teams. Corequisites: FIN:3000.

FIN:3200 Investment Management 3 s.h.

Investment in marketable securities in domestic and international markets; financial markets, securities trading, evaluation of risk/return trade-off, formulation and implementation of investment strategies, efficient portfolio formation. Prerequisites: FIN:3000. Corequisites: FIN:3100.

FIN:3300 Corporate Finance 3 s.h.

Advanced managerial decision making; corporate financial policy, dividend policy, agency theory, corporate restructuring, capital structure strategies, mergers and acquisitions, option pricing fundamentals, convertible debt, callable debt, warrants. Prerequisites: FIN:3000. Corequisites: FIN:3100.

FIN:3400 Principles of Risk Management and Insurance 3 s.h.

Introduction to risk and insurance; risk identification and evaluation, demand for insurance, effects of limited liability, theory of moral hazard and adverse selection; business and personal risk; insurance as a risk management tool. Prerequisites: ECON:1100 and ECON:1200.

FIN:3500 Hawkinson Scholar Seminar 1 s.h.

Advanced skill and understanding required for pursuit of investment banking, management consulting careers; specialized résumé and interview training, industry presentations, relevant case assignments.

FIN:3510 Hawkinson Scholar Seminar: Topics in Finance 0 s.h.

Subsectors in the financial services industry, including hedge funds, investment banking, commercial banking; valuation techniques used in real-world mergers, acquisitions, equity offerings, debt financing, and so forth.

FIN:4020 Topics in Finance 3 s.h.

Contemporary issues in finance. Prerequisites: FIN:3000 and FIN:3100.

FIN:4030 Securities Industry Essentials Exam Prep 1 s.h.

Preparatory program for passage of the Securities Industry Essentials (SIE) exam and includes a voucher to take the exam upon completion; much of the material is provided online with additional meetings and review sessions; the SIE exam is for any professional who needs a Series 6, Series 7, or any other exam required by the Financial Industry Regulatory Authority (FINRA). Prerequisites: FIN:3000 or MBA:8180.

FIN:4050 Directed Readings in Finance arr.

Individually guided readings in selected topics.

FIN:4210 Futures and Options 3 s.h.

Use of options, futures, and other derivative securities in financial management; understanding types of derivative securities, markets, trading technology; applications of risk management and speculation; pricing relations with underlying securities. Prerequisites: FIN:3100 and FIN:3200.

FIN:4220 Fixed Income Securities 3 s.h.

Theories of fixed income securities, term structure of interest rates; asset pricing models, valuation of fixed income securities and contingent claims, fixed income portfolio management, immunization strategies, yield curve analysis. Prerequisites: FIN:3000 and FIN:3100 and FIN:3200.

FIN:4230 Real Estate Process 3 s.h.

Fundamentals of real estate finance and investments; economic base analysis, asset analysis, market analysis, mortgage markets, underwriting, alternative mortgages, mortgage-backed securities, real estate securitization, land development, valuation principles, investment analysis, tax consideration, portfolio management. Prerequisites: FIN:3000 and FIN:3100.

FIN:4240 International Finance 3 s.h.

International monetary systems, exchange rate determination, use of currency derivative in hedging and risk management, currency swaps, foreign direct investment, international corporate finance, international capital budgeting, international portfolio investment, Third World debt, privatization, joint ventures. Prerequisites: FIN:3000 and FIN:3100 and FIN:3200.

FIN:4250 Applied Equity Valuation 3 s.h.

Equity valuation and portfolio management techniques by investment professionals; economic forecasting, industry analysis, financial statement analysis, spreadsheet modeling, cost of capital estimation, equity valuation and portfolio construction; students manage the University of Iowa's Krause Fund (an endowed equity portfolio that blends academic rigor with real-world portfolio management experience). Prerequisites: FIN:3100 and FIN:3000. Requirements: UI cumulative g.p.a. of at least 2.80.

FIN:4310 Advanced Corporate Finance 3 s.h.

Understanding and evaluating major corporate actions such as mergers and acquisitions, initial public offerings, spin offs, and debt and equity issuance; introduction to venture capital and leveraged buyouts; includes a substantial experiential learning component and attempts to nudge students away from textbook-based learning towards acquiring practical skills needed to succeed in the corporate finance industry; students will be required to collect and evaluate financial information and be challenged to think beyond the lecture material presented in the classroom. Prerequisites: FIN:3100 and FIN:3300.

FIN:4320 Commercial Banking 3 s.h.

Management of commercial banks and financial service firms; asset and liability management, credit policy, capital risk, liquidity planning, use of swaps and derivatives to hedge interest rate risk, global banking, investment strategies. Prerequisites: FIN:3100 and FIN:3000.

FIN:4330 Investment Banking 3 s.h.

How investment banks fill critical roles in maintaining well-functioning financial markets and provide access to capital and strategic advice to companies and governments; recent global financial crisis; how banker's role as intermediary between companies and markets adds value and creates conflicts and risk. Prerequisites: FIN:3100 and FIN:3300 and FIN:3000.

FIN:4340 Wealth Management 3 s.h.

Financial services for client wealth management; how to make personal investment decisions and build diversified, comprehensive investment portfolios; investment theory; common behavioral biases that lead to investment pitfalls, mistakes; wealth management objectives, portfolio risk and reward, asset allocation, portfolio diversification, tax shield structures, retirement plans, wealth protection, risk management, behavioral finance, psychology of investing. Prerequisites: FIN:3000 and FIN:3100.

FIN:4410 Corporate and Financial Risk Management 3 s.h.

Analysis and treatment of pure and financial risks faced by business organizations; development and implementation of the risk management process, application of varied risk management techniques to identified exposures; how businesses manage risk and how insurance is used to manage the cost of risk; case studies. Prerequisites: FIN:3400.

FIN:4420 Property and Liability Insurance 3 s.h.

Fundamentals of commercial property and liability insurance; commercial property and liability contracts, functions of property and liability insurers; regulation and financial analysis of property and liability insurers; marketing, underwriting, rate making, claim settlements. Prerequisites: FIN:3400.

FIN:4430 Life and Health Insurance 3 s.h.

Types of life insurance and annuity contracts and their uses; regulation of life and health insurers; development of financial plans using life insurance products; Social Security, group, and individual health insurance products, including major medical, disability income, long-term care policies; marketplace analysis; contractual provisions, determination of human life values, mathematics of life contingencies and pricing. Prerequisites: FIN:3400.

FIN:4440 Employee Benefit Plans 3 s.h.

Management of employee benefit plans (e.g., group life and health insurance, retirement programs); design, administration, and financing of employee benefits; federal administration of employee benefit plans; funding requirements, financial alternatives; funding and vesting of retirement annuities; design and management of health care plans, including "cafeteria" approach and nonqualified deferred compensation arrangements; economic effects and financing employee benefits and retirement plans in private and public sectors. Prerequisites: FIN:3400.

FIN:4450 Risk Modeling 3 s.h.

Theory used to solve real-life problems taken from a diverse set of risk management applications; varied areas where risk analysis has become important (i.e., finance, insurance, corporate risk management, personal financial planning); principles of probability theory, mathematical finance, and actuarial science developed for use in quantitative analysis of important risk management problems; spreadsheet-based course. Prerequisites: FIN:3000.

FIN:4900 Academic Internship 1-3 s.h.

Professional internship experience with associated academic content.

FIN:4999 Honors Thesis in Finance 3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

FIN:7110 Finance Theory I 3 s.h.

Consumption-based models of asset pricing; arbitrage, contingent claims; market efficiency and information economics, behavioral models; emphasis on theory. Requirements: Ph.D. enrollment.

FIN:7120 Seminar in Corporate Finance 3 s.h.

Valuation (DCF and CAPM); valuation under certainty, uncertainty; financial structure, cost of capital; dividend policy; firm investment in perfect, imperfect capital markets. Requirements: Ph.D. enrollment.

- FIN:7130 Finance Theory II** 3 s.h.
Continuous time theories of financial markets, including connection between an arbitrage-free pricing system and martingales; pricing of contingent claims, general equilibrium and term structure theory. Requirements: Ph.D. enrollment.
- FIN:7140 Advanced Empirical Finance** 3 s.h.
Market efficiency and term structure theory tests; tests of asset pricing models, dividend policy and financial structure issues. Requirements: Ph.D. enrollment.
- FIN:7850 Seminar in Finance** 1 s.h.
Requirements: Ph.D. enrollment.
- FIN:7950 Directed Reading in Finance - Ph.D.** arr.
Requirements: Ph.D. enrollment.
- FIN:7975 Thesis in Business** arr.
- FIN:9000 Directed Readings in Finance - M.B.A.** arr.
- FIN:9001 Directed Readings in Finance - Master of Science in Finance** arr.
Course work and topics negotiated between student and instructor on a case-by-case basis. Prerequisites: MBA:8180.
- FIN:9010 Contemporary Topics in Finance** arr.
- FIN:9140 Corporate and Financial Risk Management** 2-3 s.h.
Analysis and treatment of risks faced by businesses; how risk management creates value in corporations, includes development and implementation of the risk management process, and explores the application of various risk management techniques to identified exposures; use of case studies to study how businesses manage risk, and how insurance and other risk management tools help reduce the cost of risk. Prerequisites: MBA:8180.
- FIN:9150 Financial Modeling and Firm Valuation** 2-3 s.h.
How to model firm value from a discounted cash flow perspective; identify a company's key value drivers, create spreadsheet valuation models; projected financial valuation integrates projected pro forma accounting statements; forecasting, free cash flow estimation, industry competitive analysis. Prerequisites: MBA:8180.
- FIN:9200 Portfolio Management** 2-3 s.h.
Introduction to fundamental elements of modern portfolio theory, application to investment analysis; investment environment, instruments, types of investors; concepts of risk and return, broad perspective on historical risk and return of various asset classes; asset allocation decision, risk and return dynamics of a multiple securities portfolio; varied asset pricing models, how capital markets work for investors and users of capital. Prerequisites: MBA:8180.
- FIN:9210 Derivatives** 2-3 s.h.
Examination of the wide range of derivative securities that cover the financial landscape; the market place, trading, and investors; different derivative securities in existence, their relationship with the underlying securities, and pricing; applications of derivative securities to risk management and speculation; application of principles to fixed income, international finance, real estate, and securitization. Prerequisites: MBA:8180.
- FIN:9220 Fixed Income Securities** 2-3 s.h.
Conceptual framework and tools to undertake the valuation of fixed income securities and the management of fixed income portfolios; varied fixed income instruments and the markets in which they trade; introduction to basic building blocks of fixed income analysis, including concepts of duration, convexity, and term structure of interest rates; application of concepts in bond portfolio immunization strategies; use of interest rate derivatives in portfolio hedging applications. Prerequisites: MBA:8180.
- FIN:9225 Applied Fixed Income Analysis - Fixed Income Fund** 3 s.h.
Management of fixed income fund portfolio; legal environment in which the fund operates; students analyze and recommend fixed income investments, implement controls to monitor fund's performance; decisions and investment recommendations are made by students; each student is assigned a specific fixed income asset class (i.e., high-yield debt) to monitor, analyze, and predict future investment returns; employment of historical and predictive analytics to estimate short term and long term returns for asset classes; and collectively determine the mean variance portfolio. Prerequisites: MBA:8180 and FIN:9220.
- FIN:9230 Real Estate Finance and Investments** 2-3 s.h.
In-depth understanding of concepts and techniques of real estate financial analysis, equity investment decision making; real estate investing from analysis of developments through the securitization of mortgages; mortgage markets and pricing, real estate finance and investments, mortgage-backed securities, development process, real estate valuation, tax effects, securitized real estate, real estate cycles, application of derivative instruments, strategic asset allocation. Prerequisites: MBA:8180.
- FIN:9240 International Finance** 2-3 s.h.
Introduction to structure and functioning of global financial markets; currency market, international equity markets; use of derivatives in currency risk management for corporate and investment needs; corporate investment decisions in an international context. Prerequisites: MBA:8180.
- FIN:9250 Applied Securities Analysis - Henry Fund I** 3 s.h.
Manage Henry Fund portfolio, learn legal environment in which the fund operates, analyze potential investments, implement controls to monitor the fund's performance; decisions and investment recommendations made by students; each student analyzes an economic sector and geographic region (i.e., utilities analyst and specialist in South East Asia); while the fund cannot currently invest directly in foreign listed stocks, it holds U.S. listed stocks with significant overseas interests and students are able to invest in a number of ADRs. Prerequisites: MBA:8180.
- FIN:9260 Applied Securities Analysis - Henry Fund II** 3 s.h.
Continuation of FIN:9250. Prerequisites: FIN:9250 and MBA:8180.
- FIN:9270 Security Analysis** 3 s.h.
Valuation of financial securities (primarily equities) using discounted cash flow model; industry, regulatory analysis; financial statement analysis; active portfolio management; value-based management techniques; valuation of firms outside the United States. Prerequisites: MBA:8180.

FIN:9280 Global Structured Finance 2-3 s.h.

Design of debt, equity, and hybrid financing techniques and risk mitigation techniques to resolve issuer and investor problems that conventional methods cannot address; conceptual and practical understanding of structured and hybrid products; how securities are designed, priced and meet investors' needs; major structured financing and risk mitigating arrangements induced by global market conditions and developments. Prerequisites: MBA:8180.

FIN:9290 Alternative Investments and Portfolio Strategies 2-3 s.h.

Continuation of FIN:9200; alternative investments, including hedge funds, private equity funds, and venture capital vehicles; purpose of alternative investments, including the risk/return profile of alternatives and correlations with traditional asset classes; specific hedge fund styles, strategies, risk profiles; portfolio strategy topics, including diversification benefits, management of downside risk, international diversification, behavioral finance, performance measures, and performance attribution analysis. Prerequisites: FIN:9200 and MBA:8180.

FIN:9300 Corporate Investment and Financing Decisions 2-3 s.h.

Underpinnings and optimization of corporations' investment and financing decisions; firm-wide and project-specific cost of capital, optimal capital structure decisions; in-depth capital budgeting methods, including real options techniques; corporate investment module of the class includes simulation analysis using Crystal Ball; cost of capital, valuation techniques, advanced capital budgeting, capital structure and dividend policy, option pricing models applied to corporate finance. Prerequisites: MBA:8180.

FIN:9310 Corporate Financial Strategy 2-3 s.h.

Major strategic decisions within the corporate form; risk management, including why firms engage in it, their methods for doing so, and exercises in the simulation of uncertainty; dividends and repurchases under the payout policy decision; corporate governance topics, including executive compensation, board structure, and institutional monitoring; merger and acquisitions analysis, including regulation, valuation, anti-takeover devices, payment method, and LBOs; divestitures and other restructuring topics, including corporate diversification, spin-offs, carve-outs, private workouts, and Chapter 11. Prerequisites: MBA:8180.

FIN:9330 Investment Banking 3 s.h.

How investment banks fill critical roles in maintaining well-functioning financial markets and provide access to capital and strategic advice to companies and governments; recent global financial crisis; how banker's role as intermediary between companies and markets adds value and creates conflicts and risk. Prerequisites: MBA:8180.

FIN:9350 Wealth Management 2-3 s.h.

Rapid growth of the field of wealth management over several decades, driven by general increase in personal wealth and increased responsibility for individuals to manage their own wealth; knowledge and tools to enter the financial services industry; financial planning industry, client characteristics, tax shield structures, insurance, asset allocation plans, estate planning, behavioral finance. Prerequisites: MBA:8180.

FIN:9390 Putting Finance into Practice 3 s.h.

Hands-on practical experience in corporate finance or investments; work in teams on a corporate finance project or an investment project for a corporate or institutional client; partner companies identify financial issues, challenges, and opportunities for students to help solve; students work with the companies and a faculty member to provide an analysis of the situation and proposals of actions to be taken. Prerequisites: MBA:8180.

FIN:9391 Thesis in Finance - Master of Science in Finance arr.

Students conduct original research in finance, supervised by a Department of Finance faculty member. Prerequisites: MBA:8180.

Finance, B.B.A.

Requirements

The Bachelor of Business Administration with a major in finance requires a minimum of 120 s.h., including 21 s.h. of work for the major. The program provides a balance of theory, applications, and financial information technology that facilitates students' transition from classroom to workplace. Through fundamental finance principles and state-of-the-art financial market information technologies, students develop analytical abilities to interpret financial market data, implement the latest trading and investment strategies, and make effective managerial decisions in national as well as international settings.

The program stresses learning by doing, partnership with industry, and internships, with the goal of enhancing students' career development. Students receive a balanced education consistent with the globalization of business and the explosion in financial markets and information technology.

The Bachelor of Business Administration with a major in finance requires the following course work. For B.B.A. common requirements, see the Bachelor of Business Administration [p. 1049] in the Catalog.

Code	Title	Hours
Finance Common Required Courses		12
Finance Required Electives		9
Total Hours		21

Finance Common Required Courses

Code	Title	Hours
All of these:		
FIN:3020	Professional Finance Seminar	1
FIN:3100	Financial Information Technology	2
FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
ACCT:3020	Financial Accounting and Reporting	3

Finance Required Electives

Code	Title	Hours
A total of three courses chosen from the following two lists:		
FIN:3400	Principles of Risk Management and Insurance	3
FIN:4020	Topics in Finance	3
FIN:4210	Futures and Options	3
FIN:4220	Fixed Income Securities	3
FIN:4230	Real Estate Process	3
FIN:4240	International Finance	3
FIN:4250	Applied Equity Valuation	3
FIN:4310	Advanced Corporate Finance	3
FIN:4320	Commercial Banking	3
FIN:4330	Investment Banking	3
FIN:4340	Wealth Management	3

FIN:4450	Risk Modeling	3
Students may include a maximum of one of these in their three electives:		
FIN:4410	Corporate and Financial Risk Management	3
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Finance, B.B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
	Hours	0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
	Hours	16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16
Second Year		
Fall		
ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
ECON:1200	Principles of Macroeconomics	4
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		2
	Hours	16

Spring

ACCT:2200	Managerial Accounting	3
MSCI:2800	Business Analytics	3
MGMT:2000	Introduction to Law	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		15

**Third Year
Fall**

FIN:3100	Financial Information Technology	2
FIN:3000	Introductory Financial Management	3
FIN:3020	Professional Finance Seminar	1
ACCT:3020	Financial Accounting and Reporting	3
BUS:3000	Business Communication and Protocol	3
Non-business elective course		1
Hours		13

Spring

FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
MSCI:3005	Information Systems	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Non-business elective course		1
Hours		16

Fourth Year**Fall**

Major: Finance elective		3
Major: Finance elective		3
MKTG:3000	Introduction to Marketing Strategy	3
Elective course		3
Non-business elective course		3
Hours		15

Spring

Major: Finance elective		3
MSCI:3000	Operations Management	3
Elective course		3
Elective course		1
Non-business elective course		3
Hours		13
Total Hours		120-123

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

consulting, public administration, insurance roles, and real estate.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit What Can I Do with a Major in Finance on the Pomerantz Career Center website.

Career Advancement

Careers for students majoring in finance include corporate treasury operations, cash management, mergers and acquisitions, investment banking, sales and security trading, security analysis, commercial banking and financial services, credit analysis, mortgage lending, financial planning,

Finance, M.S.

Requirements

The Master of Science program in finance requires a minimum of 42-45 s.h. of graduate credit. A cumulative g.p.a. of at least 2.75 is required in all course work.

The M.S. with a major in finance requires the following course work.

Core Courses

Corporate Financial Reporting (MBA:8140) and Managerial Finance (MBA:8180) may be waived for accounting or finance undergraduate majors who earned a minimum g.p.a. of 3.25 or passed the Certified Public Accountant (CPA) or Chartered Financial Analyst (CFA, Level 1) Examination; ACCT:9030 Financial Accounting Standards and Analysis is highly recommended as a substitute elective for these students. Students should consult their advisor.

Code	Title	Hours
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9210	Derivatives	3
FIN:9220	Fixed Income Securities	3
FIN:9240	International Finance	3
FIN:9280	Global Structured Finance	3
MBA:8130	Business Communication (taken three times for 1 s.h. each)	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
MBA:8170	International Economic Environment of the Firm	3
MBA:8180	Managerial Finance	3
Total Hours		33

Electives

Elective credit varies for students. The following elective course work is possible. Students should consult their advisor.

Code	Title	Hours
All students must complete one of the following experiential elective options:		
FIN:7975	Thesis in Business	arr.
FIN:9225	Applied Fixed Income Analysis - Fixed Income Fund	3
FIN:9250 & FIN:9260	Applied Securities Analysis - Henry Fund I-II	6
FIN:9390	Putting Finance into Practice	3
Any of these:		
FIN:4330	Investment Banking	3
FIN:4450	Risk Modeling	3
FIN:9140	Corporate and Financial Risk Management	3
FIN:9230	Real Estate Finance and Investments	3

FIN:9290	Alternative Investments and Portfolio Strategies	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9350	Wealth Management	3
ACCT:9030	Financial Accounting Standards and Analysis	3
ACCT:9050	Taxes and Business Strategy	3
Courses in analytics, mathematics, statistics, or actuarial science (consult advisor)		

Admission

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College.

Applicants must:

- have earned a bachelor's degree from a U.S. college or university, or have earned an equivalent degree from another country;
- submit unofficial transcripts with their application and official transcripts for admission;
- have earned a minimum g.p.a. of at least 3.00 or the international equivalent;
- have taken the Graduate Record Examination (GRE) General Test or the Graduate Management Admission Test (GMAT) unless the applicant earned an undergraduate degree at the University of Iowa in business or other STEM designated field with a minimum g.p.a. of 3.25 or above, or if they have successfully completed the Certified Public Accountant (CPA) or Chartered Financial Analyst (CFA, Level 1) Examination;
- submit a statement of purpose with a maximum length of 500 words; and
- submit two recommendations that must be received within two weeks of the submission deadline.

Applicants whose first language is not English must score at least 600 (paper-based) or 100 (internet-based) on the Test of English as a Foreign Language (TOEFL), or an iBT total score of 7.0 with no subscore lower than 6.0 on the International English Language Testing System (IELTS). Scores should be sent to the University of Iowa directly from the testing agency. Automatic waivers of the TOEFL requirement are granted for applicants who have completed a baccalaureate or more advanced degree from an accredited college or university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand.

Applicants who use the IELTS test are required to take the on-campus English Proficiency Examination.

Application deadlines are as follows—

Priority deadline: January 31

International student deadline: March 15

Domestic student deadline: June 1

Career Advancement

Careers for M.S. graduates in finance include corporate treasury operations, cash management, mergers and acquisitions, investment banking, sales and security trading,

security analysis, commercial banking and financial services, credit analysis, mortgage lending, financial planning, consulting, public administration, insurance roles, and real estate.

The Career Services team offers multiple resources to help students find internships and jobs.

Doctor of Philosophy

Graduate students in finance may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1058] in the Catalog and visit the Department of Finance website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

International Business

Coordinators

- Jennifer E. Bertrand (College of Liberal Arts and Sciences),
Stephanie G. Fountain (Tippie College of Business)

Undergraduate certificate: international business

Website: <https://tippie.uiowa.edu/current-students/undergraduates/academics/certificates/international-business-certificate>

The Tippie College of Business and the College of Liberal Arts and Sciences offer the undergraduate Certificate in International Business. The program is designed for students who intend to pursue careers in international business as well as those interested in gaining a better understanding of the global economy and a broader awareness of the political, historical, and social environment in which international business operates.

Programs

Undergraduate Program of Study Certificate

- Certificate in International Business [p. 1093]

International Business, Certificate

The undergraduate Certificate in International Business requires a minimum of 29 s.h. and satisfaction of the certificate's world language or study abroad requirement (total credit depends on a student's choice of world language or study abroad experience). In addition to a world language or study abroad, the program includes study of international business and economics, international relations and institutions, and the contemporary art, literature, culture, and/or politics of one of several geographical regions (Asia, Europe, Latin America, Middle East/Africa, or Russia/Eastern Europe). The range of courses permits students to tailor areas of specialization suited to their individual interests and to complement majors in business and in liberal arts and sciences.

The certificate program is open to current University of Iowa undergraduate students and to all individuals who are not enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

Students should declare their intention to earn the certificate as early as possible, talk with an advisor about certificate requirements, and submit an individual plan of study. Tippie College of Business students should talk with the advising staff at the college's Undergraduate Program Office; College of Liberal Arts and Sciences students should talk with a Certificate in International Business advisor at the Academic Advising Center. Individuals who hold a bachelor's degree from another institution should contact the University's Office of Admissions.

A minimum of 20 s.h. of certificate course work (other than language courses) must be completed at the University of Iowa or in approved study abroad programs. Students who plan to count study abroad credit toward the certificate should consult a Certificate in International Business advisor before leaving campus.

Certificate courses may not be taken pass/nonpass. A course may not be used to satisfy more than one certificate requirement.

The Certificate in International Business requires the following course work.

Code	Title	Hours
	International Business Courses	17
	International Relations and Institutions Courses	6
	One of these:	0-20
	World Language (0-20 s.h., depending on student's background)	
	Study Abroad Experience (3 s.h.)	
	Area Studies Courses	6
	Total Hours	29-49

International Business

These courses provide students with an essential understanding of economics, which is central to all business operation. They also help students develop knowledge of the functional areas of international business.

Code	Title	Hours
Both of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
Three of these (total of 9 s.h.):		
BUS:2450	Business and Culture in China	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance	3
MGMT:3450	International Business Environment	3
MGMT:4500	Strategy, Innovation and Global Competition	3
MKTG:4300	International Marketing	3
LAW:8600	International Business Transactions	3
LAW:8631	International Trade Law: Basic Norms and Regulations	3

One of these may be counted toward the 9 s.h. requirement above:

CHIN:3103	Business Chinese I	3
FREN:3410	Business French	3
GRMN:3214	Business German	3
JPNS:3500	Japanese for Professional Purposes I	3
SPAN:3040	Business Spanish	3
SPAN:3080	Spanish for International Business	3

Tippie study abroad programs may be applicable, including London Winter, May China, global internships, and more. Credit only applies in one area of the certificate. Students should consult their advisor to determine where their experience will apply.

International Relations and Institutions

These courses familiarize students with comparative politics, social geography, foreign policy, and issues related to world population and the environment—topics relevant to decision making in the international business world.

Code	Title	Hours
Two of these (6 s.h.):		
ANTH:1040/ LING:1040	Language Rights	3
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2100	Anthropology and Contemporary World Problems	3

ANTH:2103/ GHS:2000	Introduction to Global Health Studies	3
ANTH:2136	Urban Anthropology	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:3103	Environment and Culture	3
ANTH:3131	Anthropology and Human Rights	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3
COMM:4131/ IS:4131	Globalization and Culture	3
CRIM:3415	Global Criminology	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2130	World Cities	3
GEOG:2410	Environment and Development	3
GEOG:2910	The Global Economy	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:4770/ GHS:4770	Environmental Justice	3
GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4180	Climate Change and Health	3
GHS:4600	Global Health and Human Rights	2-3
HIST:1101	The Modern World	3
HIST:3126	History of Globalization	3
HIST:3143	International Politics: The History of the Present	3-4
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3155	The World Since 1945	3
HIST:3157/ GWSS:3157	Gender, Sexuality, and Human Rights	3
HIST:3242	The United States in World Affairs	3-4
HIST:4101	History of Human Rights	3
HIST:4125	War and Peace in the Twentieth Century	3
HIST:4162/ GHS:4162	History of Global Health	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
HRTS:3915	Human Rights and the Arts	3
IS:2000	Introduction to International Studies	3

IS:2020	World Events Today!	3
IS:2111	Developed and Developing Places	3
IS:2112	The European Union	3
IS:3199	Global Environmental Politics	3
IS:3200	Sustainable Development	3
IS:3565	Global Perspectives on Negotiation, Persuasion, and Communication	3
JMC:3116/IS:3116	Media and Global Cultures	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:3430	Philosophy of Human Rights	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:2416	Revolutions and Political Violence	3
POLI:2417	Comparative Environmental Policy	3
POLI:3400	Political Economy	3
POLI:3405	Authoritarian Politics	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3424	Global Development	3
POLI:3450	Problems in Comparative Politics	3
POLI:3500	American Foreign Policies	3
POLI:3501	International Organization and World Order	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3514	Regional Peace and Security	3
POLI:3515	Global Communication and Politics	3
POLI:3516	The Politics of International Economics	3
POLI:3517	Global Justice	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3521	Twenty-first-Century Technology and Warfare	3
POLI:3522	Ending Wars and Keeping Peace	3

POLI:3550	Problems of International Politics	3
PSY:3595	Psychology of Negotiation	3
RELS:1015	Religions in a Global Context: The Critical Role of Religion in International Affairs	3
RELS:2333	Economics and Religion: Theories and Practices	3
SOC:2022	Energy and Society	3
SPAN:3550	Doing Business in Latin America	3

World Language or Study Abroad Experience

Certificate students gain insight into the culture of another world region and deepen their understanding of their own language and culture by learning a world language or completing a study abroad experience.

Students who choose language study are required to develop intermediate-level competence in a language that is spoken in one of several geographic regions (Asia, Europe, Latin America, Middle East/Africa, or Russia/Eastern Europe) by completing one of the approved language sequences below.

Students who choose to complete a study abroad experience are expected to coordinate it with the course work they use to fulfill the certificate's area studies requirement (see "Area Studies" below). They must earn at least 3 s.h. of graded credit for the study abroad experience that is not used in another area of the certificate.

For questions about languages not listed or about study abroad course work, see a Certificate in International Business advisor.

Arabic

Code	Title	Hours
All of these:		
ARAB:1001- ARAB:1002	Elementary Modern Standard Arabic I-II	10
ARAB:2001- ARAB:2002	Intermediate Modern Standard Arabic I-II	10

Chinese

Code	Title	Hours
This sequence:		
CHIN:1111- CHIN:1112	First-Year Chinese: First Semester - First-Year Chinese: Second Semester	10
One of these sequences:		
CHIN:2101- CHIN:2102	Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester (both courses)	10
CHIN:2103- CHIN:2104	Accelerated Second-Year Chinese: First Semester - Accelerated Second-Year Chinese: Second Semester (both courses)	6

French

Code	Title	Hours
One of these:		
FREN:1001- FREN:1002	Elementary French I-II (both courses)	10
FREN:1010	First-Year French Review	5
All of these:		
FREN:2001- FREN:2002	Intermediate French I-II (both courses)	10
One course for which FREN:2002 is prerequisite (may include Iowa Regents Program credit)		

German

Code	Title	Hours
One of these:		
GRMN:1001- GRMN:1002	Elementary German I-II (both courses)	8
GRMN:1010	First-Year German Review	5
GRMN:1020	Intensive Elementary German	6
One of these:		
GRMN:2001- GRMN:2002	Intermediate German I-II (both courses)	8
GRMN:2020	Intensive Intermediate German	6
And:		
One course for which GRMN:2002 or GRMN:2020 is prerequisite		

Italian

Code	Title	Hours
One of these:		
ITAL:1101- ITAL:1102	Elementary Italian I-II (both courses)	10
ITAL:3002	Intensive Elementary Italian	6
All of these:		
ITAL:2203- ITAL:2204	Intermediate Italian I-II (both courses)	8
One course for which ITAL:2204 is prerequisite		

Japanese

Code	Title	Hours
All of these:		
JPNS:1001- JPNS:1002	First-Year Japanese: First Semester - First-Year Japanese: Second Semester	10
JPNS:2001- JPNS:2002	Second-Year Japanese: First Semester - Second-Year Japanese: Second Semester	10

Korean

Code	Title	Hours
All of these:		
KORE:1101- KORE:1102	First-Year Korean: First Semester - First-Year Korean: Second Semester	8
KORE:2101- KORE:2102	Second-Year Korean: First Semester - Second-Year Korean: Second Semester	8

Portuguese

Code	Title	Hours
One of these:		
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010 & PORT:2015	Elementary Portuguese I-II (both courses)	6
PORT:3050	Intensive Portuguese for Spanish Speakers	4
And this course, unless PORT:3050 is taken:		
PORT:2500	Accelerated Intermediate Portuguese	5

And:

One course for which PORT:2500 or PORT:3050 is prerequisite

Russian

Code	Title	Hours
All of these:		
RUSS:1111- RUSS:1112	First-Year Russian I-II	10
RUSS:2111- RUSS:2112	Second-Year Russian I-II	8

And:

One course for which RUSS:2112 is prerequisite

Spanish

Code	Title	Hours
One of these:		
SPAN:1001- SPAN:1002	Elementary Spanish I-II (both courses)	10
SPAN:1003	Elementary Spanish Review	5
One of these:		
SPAN:1501- SPAN:1502	Intermediate Spanish I-II (both courses)	10
SPAN:1503	Accelerated Intermediate Spanish	6

And:

One course for which SPAN:1502 or SPAN:1503 is prerequisite

Swahili

Code	Title	Hours
All of these:		
SWAH:1001- SWAH:1002	Elementary Swahili I-II	8
SWAH:2001- SWAH:2002	Intermediate Swahili I-II	8

Area Studies

Area studies topics are critical to students' understanding of how society and culture influence the people with whom they share the world—and with whom they may conduct business. The following courses help students learn about the culture, contemporary history, art, literature, and politics of a specific geographic region.

Students complete 6 s.h. from one geographic region. They should select a region that is related to their chosen world language or study abroad experience.

Asia

Appropriate for these languages: Chinese, Japanese, or Korean.

Code	Title	Hours
ANTH:2108/ GWSS:2108	Gendering India	3
ANTH:2175/ JPNS:2175	Japanese Society and Culture	3
ANTH:3121/ GWSS:3121	Love, Marriage, and Family in India	3
ANTH:3170	Peoples and Cultures of Southeast Asia	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ARTH:1070/ CHIN:1070	Asian Art and Culture	3
ARTH:2220/ ASIA:2231	Introduction to the Art of China	3
ARTH:2250/ JPNS:2250	Introduction to the Art of Japan	3
ARTH:3220/ ASIA:3219	Chinese Art and Culture	3
ARTH:3230/ ASIA:3220	Chinese Painting I: Pagodas and Palaces	3
ARTH:3260/ JPNS:3260	Japanese Painting	3
ARTH:3270/ ASIA:3270	Themes in Asian Art History	3
ARTH:3280	The Materialization of Sexuality in China and Beyond	3
ASIA:1704	The Languages of Asia in Cultural and Historical Perspective	3
ASIA:2444	Envision India	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
ASIA:2500	Cold War Cultures in Korea	3
ASIA:4508	Asian Studies	arr.
CHIN:1504	Asian Humanities: China	3
CHIN:1702	Chinese Popular Culture	3
CHIN:3202	Chinese Literature: Prose	3
CHIN:3341/CL:3341	Chinese Literature: Poetry	3
CHIN:4203/CL:4203	Modern Chinese Writers	3
CHIN:4206	Transnational Chinese Cinemas	3
CINE:4606/ ASIA:4606	Topics in Asian Cinema	3
ENGL:3540	Literature of the Indian Subcontinent	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GHS:3192	Environment and Health in Modern India	3
GWSS:1070	Asian American Women Writers	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4

HIST:1606/ ASIA:1606	Civilizations of Asia: South Asia	3-4	POLI:3408	Chinese Politics and Society	3
HIST:1607	Civilizations of Asia: Korea	3-4	POLI:3420	Southeast Asia: Politics and Development	arr.
HIST:1609	India Now! A Survey from Bollywood Films to Global Terror	3-4	RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
HIST:2687/ ASIA:2887	Perspectives on Korea	3	RELS:1410	Introduction to Indian Religions	3
HIST:3644/ RELS:3644/ SOAS:3644	Gandhi and His Legacy	3	RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3	RELS:1510/ ASIA:1110	Gods, Buddhas, and Ghostly Officials: The Past and Present of Chinese Religions	3
HIST:3685	Modern Korean History	3	RELS:1610/ JPNS:1115	Japanese Religions	3
HIST:4176	Vietnam War on Film	3-4	RELS:3055/ ASIA:3055	Death, Dying, and Beyond in Asian Religions	3
HIST:4605/ GHS:4605	Disease, Politics, and Health in South Asia	3	RELS:3431/ GWSS:3131	Gender and Sexuality in Asia	3
HIST:4610/ JPNS:4610	Japan - Age of the Samurai	3	RELS:3448/ SOAS:3448	The Allure of Krishna: Sacred Sexuality in Indian Culture	3
HIST:4615/ JPNS:4615	Modern Japan	3	RELS:3655/ ASIA:3655/ HIST:3655	Zen Buddhism	3
HIST:4616	Japanese History and Society: World War II to the Twenty-First Century	3	RELS:3660/ JPNS:3660	Japanese Religion and Thought	3
HIST:4617	History, Memory, and Pacific War	3	RELS:3666	The History of a Religious and Spiritual Practice: Yoga in Asia and Beyond	3
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3	SOAS:1502/ RELS:1502	Asian Humanities: India	3
HIST:4640	Imperialism and Modern India	3	SOAS:1550	Sex, Music, and Pop Culture in India	3
HIST:4653/IS:4653	Law and Society in Late Imperial and Modern China	3	WLLC:3700/ ASIA:3700/ JPNS:3700/ TRNS:3700	Topics in Global Cinema	3
JPNS:1506	Asian Humanities: Japan	3	Europe		
JPNS:3128	Introduction to Japanese Linguistics	3	Appropriate for these languages: French, German, Italian, Portuguese, or Spanish.		
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3	Code	Title	Hours
JPNS:3202/CL:3204	Traditional Japanese Literature in Translation	3	ARTH:3020/ FREN:3030	Paris and the Art of Urban Life	3
JPNS:3203/CL:3203	Modern Japanese Fiction in Translation	3	ARTH:3864	Nazi and Stalinist Art: Aesthetics of Power	3
JPNS:3205	Major Authors in Modern Japanese Literature	3	CL:3263	Studies in 20th-Century European Literature	arr.
JPNS:3206/CL:3206	Warriors' Dreams	3	ENGL:2330	Topics in Modern British Literature After 1900	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3	ENGL:2360	Twentieth-Century British Literature	3
JPNS:3208	Japanese Film	3	ENGL:2361	Twenty-first-Century British Literature	3
JPNS:3401	Language in Japanese Society	3	ENGL:3320	Modern British Drama	3
JPNS:3402	Japan: Culture and Communication	3	ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
JPNS:3601	Contemporary Japanese Culture	3	FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
KORE:1135	Korean Language in Culture and Society	3	FREN:3120	French Civilization	3
KORE:1500	Asian Humanities: Korea	3			
PHIL:2343	Philosophy East and West	3			
PHIL:3845/ RELS:3645	Buddhist Philosophy	3			
POLI:1445	Introduction to Asian Politics: China	3			

FREN:3130	French-Speaking Cultures	3
FREN:3225	Studies in Modern France	3
FREN:4015	Francophone Cinema	3-4
FREN:4026/ GWSS:4026	French Women Writers	3-4
FREN:4080/CL:4368	Post-Colonial Literature in France	3
FREN:4100	French Cinema	3-4
FREN:4433/ HIST:4433	France Under Nazi Occupation, 1940-1944	3-4
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4
GRMN:2618/ CL:2618	The Third Reich and Literature	3
GRMN:2620	Anne Frank and Her Story	3-4
GRMN:2630	German Cinema: Greatest Hits	3-4
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4
GRMN:2650	German Nationalism After WWII	3-4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
GRMN:2720/ HIST:2420	Germany in the World	3
GRMN:2775	Scandinavian Crime Fiction	3
GRMN:3236	German Film	3
GRMN:3250	Brief Texts About Big Events	3
GRMN:3405	German Cultural History	3
GRMN:3501	German Writers Engaged	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
GRMN:4315	Contemporary German Civilization	3
GRMN:4540	Literature in Film	3
HIST:1403	The West and the World: Modern	3-4
HIST:2465	Europe Since 1945	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:4435	War and Society in Modern Europe	3
HIST:4438	Modern European Imperialism	3
HIST:4440	Artists, Intellectuals, and Politics in 20th-Century Europe	3
HIST:4460	Twentieth-Century Europe: The Nazi Era	3
HIST:4461	Twentieth-Century Europe: The Cold War and After	3
HIST:4465	Modern France 1870-Present	3

HIST:4466/ FREN:4466	France and Algeria from Pirates to Terrorism	3
HIST:4470	France from 1815-Present	3
HIST:4478	Holocaust in History and Memory	3
ITAL:1050	Italy Live	3
ITAL:2550	Images of Modern Italy	3
ITAL:4350	Studies in Italian Language	3
ITAL:4667	Modern Italian Fiction	3
ITAL:4668	Modern Italian Poetry and Theater	3
POLI:1449	Introduction to European Politics	3
SPAN:1900	Diversity and Cultures in Spain	3
SPAN:2400	Readings in Spanish Literature	3
SPAN:2810	Screening Spain	3
SPAN:3600	Cultures of Spain	3
SPAN:3620	Madrid	3
SPAN:3630	Spanish Youth Culture	3
SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:3840	Contemporary Spanish Short Story	3
SPAN:4830	The Hispanic World in the Digital Era	3

Latin America

Appropriate for these languages: Portuguese or Spanish.

Code	Title	Hours
ANTH:3111/ GHS:3040/LAS:3111	Health in Mexico	3
CINE:4678/ LAS:4678/ SPAN:4810	Topics in Latin American Cinema	3
COMM:2052/ LAS:2052	Latin American Media	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3535/ LAS:3535	Inter-American Studies	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4
HIST:2288	Introduction to Mexican American History	3
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3508/ GHS:3508/LAS:3508	Health in Latin America	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4217/ LAS:4217/ LATS:4217	Latina/o Immigration	3

HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4505	Topics in Latin American History	3
HIST:4520	Latin America and the United States: The Historical Perspective	3
HIST:4525	Latin American Revolution	3
LAS:2700/ COMM:2800/ IS:2700/PORT:2700/ SPAN:2700	Introduction to Latin American Studies	3
LAS:4700/ ANTH:4700/ CL:4700/HIST:4504/ PORT:4700/ SPAN:4900	Latin American Studies Seminar	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
POLI:2415/ LAS:2415	Latin American Politics	3
PORT:2850/ SPAN:2850	Brazilian Narrative in Translation	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850/ SPAN:3850	Topics in Cultural Studies	3
PORT:4000	Topics in Luso-Brazilian Literature	3
SPAN:1800	Contemporary Spanish American Narrative	3
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:2500	Readings in Spanish American Literature	3
SPAN:2800	Screening Latin America	3
SPAN:2900	Music of the Hispanic World	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215	Medellin	3
SPAN:3230	Modern Mexico	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3440/ LATS:3440	Topics in Latino/a Literature and Culture	3
SPAN:4350	Twentieth-Century Spanish American Theater and Performance	3
SPAN:4360	The Orient in Contemporary Latin American Literature and Culture	3
SPAN:4820/ LATS:4800	Latino/a Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3

SPAN:4880	Comic Books and Graphic Novels in the Hispanic World	3
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Middle East/Africa

Appropriate for these languages: Arabic, Swahili, or proficiency in another contemporary Middle Eastern or African language.

Code	Title	Hours
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ARAB:1050	Topics in Middle East/Muslim World Studies I	3
ARAB:2025	Study Abroad: Culture and Society	1
ARAB:2050	Topics in Middle East/Muslim World Studies II	3
ARAB:3005	Culture and Resistance: The Modern Middle East	3-4
ARTH:1040	Arts of Africa	3
ARTH:3150	Art of West Africa	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3
ASIA:1770	Asian Humanities: Middle East	3
ASIA:3120	Autobiography in Islamic Literary Cultures	3
ASIA:3550	Islam, Secularity, Modernity	3
ENGL:3550/ AFAM:3550	African Literature	3
ENGL:3555/ AFAM:3555	Topics in African Cinema	3
FREN:3130	French-Speaking Cultures	3
FREN:4015	Francophone Cinema	3-4
FREN:4110	Francophone Literature of the African Diaspora	3
FREN:4466/ HIST:4466	France and Algeria from Pirates to Terrorism	3
GHS:3555/ HIST:3755/IS:3555	Understanding Health and Disease in Africa	3
HIST:1708	Civilizations of Africa	3
HIST:3745/IS:3745/ RELS:3845	Islam in Africa	4
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3808	Draw Me History: The Middle East and North Africa Through Comics and Animated Films	3
HIST:3810	History of the Modern Middle East	3
HIST:4725/ GWSS:4725	Women and Gender in African History	3
HIST:4815	Topics in the Modern Middle East	3
POLI:1403	Introduction to Politics in the Muslim World	3
POLI:3418	Governance in the Middle East	3
POLI:3419	War in the Muslim World	3

POLI:3421	Southern Africa: Development and Governance	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	arr.
POLI:3423	The Middle East: Policy and Diplomacy	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2486	Religious Coexistence and Conflict in the Middle East	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:3020	Religion and Politics	3
RELS:3333/IS:3333	Economics and Islam	3
RELS:3834/ IS:3834/JMC:3146/ WLLC:3834	Arab Spring in Context: Media, Religion, and Geopolitics	3
RELS:3855/IS:3855	Human Rights and Islam	3
SWAH:4050	Kiswahili in Cyberspace	3

RUSS:3202/CL:3302 Russian Literature in Translation 1860-1917

3

Russia/Eastern Europe

Appropriate for these languages: Russian, or proficiency in a modern Slavic language.

Code	Title	Hours
HIST:4493	Soviet Union 1917-1945	3
POLI:1401	Introduction to the Politics of Russia and Eurasia	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
POLI:3413	Russian Politics	3
RUSS:1082	Youth Subcultures After Socialism	3
RUSS:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1500/CL:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Religion and Culture of Slavs	3
RUSS:2100	Secrets of Russian Mentality	3
RUSS:2122	Cult Films of the Last Soviet Generation	3
RUSS:2131	Women in Russian Society	3
RUSS:2232/CL:2700	Romani (Gypsy) Cultures of Eastern Europe	3
RUSS:2531/CL:2531	Topics in Russian, East European, and Eurasian Studies	arr.
RUSS:2600/CL:2600	Issues in Russian Identity: Nationalism	3
RUSS:3100	West and East: Women in the Slavic World	3
RUSS:3122/CL:3122	Tolstoy and Dostoevsky	3-4
RUSS:3124/CL:3124	Invitation to Nabokov	3-4
RUSS:3131/ GHS:3131	Health Care and Health Reforms in Russia	3

Management and Organizations

Chair

- Amy E. Colbert

Undergraduate major: management (B.B.A.)

Graduate degree: management and organizations subprogram for the Ph.D. in business administration

Faculty: <https://tippie.uiowa.edu/people?departments=174>

Website: <https://tippie.uiowa.edu/management-and-organizations>

The Department of Management and Organizations offers study in managing human resources, teamwork and project management, law and ethics, leadership and personal development, negotiations, international business, and entrepreneurial management.

The department offers the undergraduate major in management and the subprogram in management and organizations that leads to the Ph.D. in business administration. Additionally, they participate in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog.

Programs

Undergraduate Program of Study

Major

- Major in Management (Bachelor of Business Administration) [p. 1105]

Graduate Program of Study

Major

- Management and organizations subprogram for the Doctor of Philosophy [p. 1109] in Business Administration

Courses

Management and Organizations Courses

MGMT:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

MGMT:2000 Introduction to Law 3 s.h.

Legal issues surrounding start-up and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, and alternative dispute resolution. Requirements: sophomore standing.

MGMT:2100 Introduction to Management 3 s.h.

Principles of management, organizational structure, decision making, leadership, line-staff relationships, and administration of organizations; overview of the demands and challenges facing managers, behaviors of effective managers, management theory, personal effectiveness, decision making, team skills, and leadership skills. Requirements: sophomore standing.

MGMT:3050 Professional Preparation for Management 1 s.h.

Survey of career paths in the field of management through discussions with individuals working in human resources, management consulting, entrepreneurial endeavors, and more; hands-on activities for students to hone the skills required to succeed in today's workplace.

MGMT:3100 Entrepreneurial Strategy 3 s.h.

The synergistic effect of entrepreneurial attributes (e.g., innovation, creativity, opportunity recognition) and managerial attributes (e.g., strategic management, planning, budgeting) on profit and nonprofit organizations.

MGMT:3200 Individuals, Teams, and Organizations 3 s.h.

Theories of organizational behavior applied to current business trends for individuals, teams, organizations; personality, managing diversity, work-family conflict, self-managed teams, charismatic leadership, work motivation, managing conflict, organizational culture. Prerequisites: MGMT:2000 and MGMT:2100.

MGMT:3300 Strategic Human Resource Management 3 s.h.

People management activities, policies, and practices that promote effective organizations; how changes in technology, business restructuring, legal and social concerns, other issues affect human resource management. Prerequisites: MGMT:2000 and MGMT:2100.

MGMT:3400 Employment Law 3 s.h.

Laws affecting employers and employees, such as regulatory health and safety policies, unemployment and retirement benefits, and employment discrimination including hiring, termination, testing issues. Prerequisites: MGMT:2000 and MGMT:2100.

MGMT:3450 International Business Environment 3 s.h.

Differences in international and domestic business; cultural, legal, political factors for managers. Requirements: junior or higher standing.

MGMT:3500 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MUSM:3500, NURS:3595, RELS:3700, SSW:3500.

MGMT:3600 Nonprofit Organizational Effectiveness II 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as NURS:3600, RELS:3701, SSW:3600.

MGMT:3999 CIMBA Italy Experiential Leadership 1-3 s.h.
Leadership Initiative for Excellence (LIFE) includes a three-day training that enhances key leadership competencies including effective communication, decision making, teamwork, focus, and interpersonal skills; Learn, Enrich, Achieve, Perform (LEAP) includes and builds upon concepts in LIFE, and is a semester-long professional development program that utilizes self-assessment, one-on-one and group coaching, and developmental seminars; for students enrolled in the CIMBA Italy Program.

MGMT:4000 Topics in Management 1-3 s.h.
Topics not regularly offered in other courses. Prerequisites: MGMT:2100 and MGMT:2000.

MGMT:4050 Directed Readings in Management and Organizations arr.

MGMT:4100 Dynamics of Negotiations 3 s.h.
Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: 90 s.h. completed.

MGMT:4200 Staffing and Talent Management 3 s.h.
Staffing processes; external influences such as labor markets, the legal environment; support activities such as job analysis, employment planning; staffing activities such as internal and external recruiting, selection. Prerequisites: MGMT:3300 and MGMT:3400 and MGMT:3200.

MGMT:4300 Leadership and Personal Development 3 s.h.
Practical development and application of leadership and managerial skills to enhance individual and organizational effectiveness. Prerequisites: MGMT:3200.

MGMT:4325 Team and Project Management 3 s.h.
Fundamentals of managing teams and group projects; emphasis on practical application, using case studies, and interactive and experiential exercises. Prerequisites: MGMT:3200 and MGMT:3300.

MGMT:4350 Performance Management and Strategic Rewards 3 s.h.
Role of pay and other rewards on organizational objectives; compensation's impact on employee behavior and performance; mix of pay and benefits in compensation systems; legal environment regulating pay and benefits; nonmonetary forms of reward; the role of performance management, pay, and other rewards on employee performance and organizational objectives is examined; includes performance appraisals, coaching, performance feedback, incentive systems, the mix of pay and benefits in compensation systems, and the legal environment regulating pay and benefits. Prerequisites: MGMT:3300 and MGMT:3200.

MGMT:4500 Strategy, Innovation and Global Competition 3 s.h.
Development of skills for firm strategy formation in a complex and technology-driven global economy; analytical tools that are essential to any consultant, manager, or entrepreneur facing dynamic industry environments. Prerequisites: MGMT:2100.

MGMT:4600 Nonprofit Ethics and Governance 3 s.h.
Tools to help identify, understand, and resolve ethical issues in nonprofit sectors; how individual beliefs and societal standards shape ethical decision making; application of ethical frameworks to classic and contemporary ethical dilemmas; how various forms of governance shape ethical behavior in organizations; case studies, readings, lectures, and guest speakers. Same as JMC:4600.

MGMT:4900 Academic Internship arr.
Professional internship experience with associated academic content.

MGMT:4999 Honors Thesis in Management and Organizations 3 s.h.
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

MGMT:7120 Methods for Field Research (Ph.D.) 2 s.h.
Field methods commonly used in behavioral research with emphasis on surveys; different types of field research designs; evaluation of advantages and disadvantages of different research approaches; practice generating research questions and hypotheses appropriate for field survey designs; issues related to levels of analysis; develop and administer surveys to maximize response rates; identify appropriate samples; brief introduction to statistical approaches for analyzing survey data.

MGMT:7124 Methods for Qualitative Research 2 s.h.
Qualitative methods available to researchers; role and contributions of qualitative methods in research; reasons why qualitative research papers get rejected by journals and strategies to avoiding them; work with qualitative data; philosophy of science, formulating research questions, sampling and gaining access, alternative qualitative data collection methods, ways of coding and analyzing qualitative data, building theory from qualitative data.

MGMT:7128 Methods for Experimental Research 2 s.h.
Nature of research and principles of experimental design, including laboratory and field experiments (quasi-experiments), event sampling, and methods of small-group research; analysis of variance (ANOVA), analysis of covariance (ANCOVA), multi-attribute analysis of variance (MANOVA); orthogonal, planned and unplanned comparisons, factorial experiments including repeated measures, nested-factors design, Latin square designs; analysis of data sets with SPSS.

MGMT:7140 Meta-Analysis in Behavioral Social Sciences (Ph.D.) 3 s.h.
Methods for quantitative integration of findings in behavioral and social sciences; overall effect size or correlation, whether conflicting findings documented in research literature are due to moderators (interactions) or statistical and measurement artifacts.

MGMT:7160 Measurement Theory and Methods in the Behavioral and Social Sciences (Ph.D.) 3 s.h.
Measurement and statistical methods needed for conduct of methodologically sound, publishable research; kinds and levels of measurement; role of measurement in theory development and cumulative research knowledge; theory of measurement error; types of reliability and their estimation; corrections for bias in research results due to measurement error; basic scaling methods; criterion-related, content, and construct validity; cross-validation and shrinkage formulas; factor analysis; statistical power in research studies; introduction to meta-analysis; item analysis and scale construction; structural equation modeling. Requirements: basic statistical methods course.

MGMT:7320 Organizational Theory Ph.D. 2 s.h.
Organizational theory; effect of changing environment and technological factors on organizational structure and effectiveness; resource dependency and power, conflict, interorganizational network, population ecology, economic theories of organization, institutional theory.

MGMT:7323 Foundations of Organizational Theorizing 2-3 s.h.

Examination of the field of micro-organizational behavior (micro-OB); development of ability to evaluate and generate papers that make a theoretical contribution to the field; classic and contemporary research related to prevailing theories; students engage in weekly writing, including a series of theory building exercises and peer reviewing; objectives include supporting peers in generating new theoretical questions, models, and/or frameworks, and providing an overview of theoretical contributions in several important areas in organizational behavior.

MGMT:7325 Cross-Cultural and International Research in Organizational Behavior and Human Resources 2-3 s.h.

Overview of research trends and methodological challenges associated with international and cross-cultural research in human resources and organizational behavior; introduction to various typologies of societal cultural values (e.g., Hofstede, GLOBE, Schwartz); challenges and recommended practices for conducting research with cross-cultural or international samples; empirical research and trends in the cross-cultural organizational behavior discipline; empirical research and trends in the international human resources discipline.

MGMT:7330 Staffing Organizations (Ph.D.) 3 s.h.

Aspects of selection, including professional and legal standards; job analysis techniques, validation strategies; criterion development; selection methods (e.g., psychological tests, interviews, biographical data, assessment centers); ethical issues.

MGMT:7340 Group Processes (Ph.D.) 3 s.h.

In-depth understanding of how work groups and teams can be made more effective in organizations; team design issues (i.e., task type, interdependence, leadership, member composition); process issues including power, influence, communications, conflict, collective memory, and intergroup relations.

MGMT:7350 Leadership (Ph.D.) 3 s.h.

Understanding and preparation for implementing leadership in organizations; focus on reading and analysis of basic research-related leadership theories; contrast "great person" theories, traditional behavioral and situational theories, and transformational leadership theory.

MGMT:7360 Motivation and Attitudes (Ph.D.) 3 s.h.

Motivational processes, attitudes, communication and interorganizational networks; emphasis on motivational antecedents and consequences, theoretical implications for models of work performance.

MGMT:7370 Reward Systems (Ph.D.) 2 s.h.

Compensation systems, government influences, equity in compensation and individual wage determination; research-based examination of performance evaluation and appraisal, theories of work performance.

MGMT:7375 Performance Management 2 s.h.

Theories and research pertaining to employee work performance and evaluation; conceptual definitions of work performance; theories concerning the determinants of work performance; theory and research explaining the effectiveness and biases of performance evaluation systems; theories and empirical research on performance feedback; areas for future theoretical and empirical investigation in performance management.

MGMT:7380 Training and Development (Ph.D.) 2 s.h.

Research-based examination of training and development programs; emphasis on processes of needs assessment, instructional design, and evaluation; integration of training with other human resource management functions; design of management development initiatives.

MGMT:7385 Social and Human Capital 2 s.h.

Theory, research, and methods for understanding social capital as a resource available to individuals resulting from the social structure which they are located; readings focus on application of social networks to various content areas at individual, team, and organizational units of analysis; examination of relationships among social and human capital on individual and team outcomes; emphasis on understanding existing theory and empirical findings; social network research in terms of study design and analysis through software programs including UCINET and R.

MGMT:7700 Mentored Research arr.

Management research conducted by doctoral students under faculty supervision; culminates in second-year research paper.

MGMT:7800 Foundations of Human Resource Management 2-3 s.h.

Broad survey of foundational topics in human resource management, particularly from a micro perspective, interspersed with special topics of growing interest within the field; introduction to foundational theoretical and empirical research on topics of staffing, training and development, performance management and compensation, including an examination of trending topics of interest in these areas; students develop skills necessary to evaluate, criticize, and contribute to literature on human resource management.

MGMT:7850 Seminar in Management 2-3 s.h.

Topics vary.

MGMT:7900 Contemporary Topics in Management and Organizations arr.

Research topics in human resources and organizational behavior.

MGMT:7950 Directed Readings in Management and Organizations arr.**MGMT:7975 Thesis in Management and Organizations** arr.

Management research conducted by doctoral students under faculty supervision; culminates in dissertation.

MGMT:9090 Influence and Constructive Persuasion 3 s.h.

Exploration of methods of persuasion and the science behind why and how influence works in a contemporary business setting; leadership as a function of consensus building, convincing, and motivating in today's team-based, knowledge-centric enterprises; how leaders select from a variety of influence techniques to get others' commitment to a course of action rather than commanding others; persuasion—using solid evidence coupled with emotional appeal—as capacity to present a message in a way that leads others to support it; how persuasion, when used effectively, creates a sense of freedom—others freely choose your perspective and support it.

MGMT:9091 Corporate Social Responsibility and Sustainability 2-3 s.h.

Introduction to main corporate social responsibility (CSR) and sustainability issues; current debates; costs and benefits of CSR/sustainability; relationship between leadership, innovation, and CSR; CSR's effects on companies' ability to attract and retain good employees; numerous cases studies ranging from small to large companies from various sectors including food and agriculture, manufacturing, finance, mining, energy, retail, transportation; students read and debate articles and case studies written by leading business experts, academics, and CEOs; individual or teamwork on a CSR change analysis.

MGMT:9092 Effective Managerial Communication 2-3 s.h.

Decisive personal and organizational skills for business leaders and entrepreneurs; at individual level, students will refresh writing, listening, speaking, and interpersonal skills for business settings; at the organizational level, course provides crucial managerial skills—how to conduct an effective meeting, questioning skills for employment selection, engaging in small talk, and communication during a crisis.

MGMT:9093 Communication and Digital Strategy 3 s.h.

Fundamentals of applied communication skills—written, verbal, and presentations.

MGMT:9110 Dynamics of Negotiations 2-3 s.h.

Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: M.B.A. enrollment.

MGMT:9120 Leadership and Personal Development 2-3 s.h.

Major theories; determinants of leader effectiveness, personal and career success; practical development of leadership, managerial skills to enhance individual, organizational effectiveness.

MGMT:9130 Strategic Management of Change 3 s.h.

How congruence in organizational strategy, structure and culture, job design, and employee characteristics produces effective organizations; emphasis on managing organizational change, implementing and working in teams, project management. Prerequisites: MBA:8120.

MGMT:9150 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, LAW:8751, RELS:6070, SPST:6010, SSW:6247, URP:6278.

MGMT:9160 Nonprofit Organizational Effectiveness II 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, LAW:8752, RELS:6075, SPST:6020, SSW:6248, URP:6279.

MGMT:9210 Law and Ethics 2-3 s.h.

Legal issues surrounding start-up and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, and alternative dispute resolution; exploration of the ways in which ethics and law intersect as well as the ways in which law reflects various ethical judgments; consideration and comparison of the roles of law and the role of ethics in our society.

MGMT:9220 Maximizing Team Performance 3 s.h.

Current approaches to implementing effective teams within organizations; team selection and formation, group dynamics, facilitation skills, performance and obstacle management.

MGMT:9230 Managing and Preventing Conflict 3 s.h.

Skills for management of high-conflict situations in the workplace and for long-term business success and job satisfaction; experience developing mediation-based skills and communication techniques to prevent and resolve workplace conflicts.

MGMT:9250 Managing Employee Performance 3 s.h.

Concepts and practices to effectively manage, measure, and improve employee performance; establishing and communicating organizational expectations, the manager as coach and motivator, measurement methodologies, and performance improvement methods; concepts and practices to effectively manage, measure, and improve employee performance; establishing and communicating organizational expectations; the manager as coach and motivator, performance improvement methods, and designing more effective reward practices. Requirements: MBA:8120 or previous course work in organizational behavior/development or management.

MGMT:9260 Strategic Employee Development 3 s.h.

Concepts, practices in training and development; strategic issues affecting the design, implementation, and evaluation of training programs and of career management and organizational development activities.

MGMT:9270 Human Resource Management 3 s.h.

Systematic approach to managing human resources through practices consistent with validated theories and empirical research; human resources practices and business strategies; human resources strategy, recruitment and selection, training and development, employment law, international human resources, career management, compensation.

MGMT:9290 Global Business Management 3 s.h.

Theoretical knowledge and practical skills that are critical to successfully compete in the global marketplace and to make sound management decisions in international contexts; economic, political, legal, and social aspects of a business environment in foreign markets; multinational companies' winning moves in entering and growing in these markets; best practices in managing people in different cultural settings.

Management, B.B.A.

Requirements

The Bachelor of Business Administration with a major in management requires a minimum of 120 s.h., including 22 s.h. of work for the major. The program is designed to give students a thorough background in the department's study areas as well as an understanding of their application to real-life situations. Specific courses, research projects, and other experiences, such as simulations, are blended to include both theoretical and pragmatic aspects of the field.

All B.B.A. students majoring in management choose one of three tracks: entrepreneurial management, human resource management, or leadership and management. The entrepreneurial management track is intended for students who plan to start their own business or work in a small business. The human resource management track covers business and employment law and prepares students to pursue careers in human resources or to earn a degree in law. The leadership and management track focuses on practical skills; it is best suited for students considering consulting or management careers. Each track provides a solid background in general management principles in addition to a specialized focus.

The B.B.A. with a major in management requires the following course work. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1045] in the Catalog.

Code	Title	Hours
	Management Common Required Courses	10
	Management Track Courses	12
	Total Hours	22

Management Common Required Courses

Students in all tracks must complete the following courses.

Code	Title	Hours
MGMT:3050	Professional Preparation for Management	1
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3300	Strategic Human Resource Management	3
MGMT:4100	Dynamics of Negotiations	3

Entrepreneurial Management Track Courses

Students in the entrepreneurial management track are not eligible to earn the B.A. in enterprise leadership or the Certificate in Entrepreneurial Management.

Code	Title	Hours
All of these:		
MGMT:3100	Entrepreneurial Strategy	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:4400	Managing the Growth Business	3
And 3 s.h. from these:		

MGMT:4500	Strategy, Innovation and Global Competition	3
ENTR:3000	Practicum in Entrepreneurship	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4100	International Entrepreneurship and Culture	3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4900	Academic Internship	3

Human Resource Management Track Courses

Code	Title	Hours
All of these:		
MGMT:3400	Employment Law	3
MGMT:4200	Staffing and Talent Management	3
MGMT:4350	Performance Management and Strategic Rewards	3
And 3 s.h. from these:		
MGMT:3450	International Business Environment	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:4300	Leadership and Personal Development	3
or MGMT:3999	CIMBA Italy Experiential Leadership	
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4400	Managing the Growth Business	3

Leadership and Management Track Courses

Code	Title	Hours
All of these:		
MGMT:4300	Leadership and Personal Development	3
or MGMT:3999	CIMBA Italy Experiential Leadership	
MGMT:4325	Team and Project Management	3
And 6 s.h. from these:		
MGMT:3100	Entrepreneurial Strategy	3
MGMT:3400	Employment Law	3
MGMT:3450	International Business Environment	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:4200	Staffing and Talent Management	3

MGMT:4500	Strategy, Innovation and Global Competition	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4200	Entrepreneurship: Business Consulting	3

B.B.A. by Distance Education

Students may earn the B.B.A. with a major in management (entrepreneurial management track) by distance education. The degree requires a minimum of 120 s.h. of credit. To be admitted to the program, individuals must have earned a minimum of 60 s.h. of college-level credit with a g.p.a. of at least 2.75, and they must have completed the following four prerequisite courses with a g.p.a. of at least 2.75: MATH:1380 Calculus and Matrix Algebra for Business, STAT:1030 Statistics for Business, ECON:1100 Principles of Microeconomics, and ACCT:2100 Introduction to Financial Accounting. Contact the Department of Management and Organizations and Distance and Online Education to learn more.

Academic Plans

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Management, B.B.A.

- Entrepreneurial Management Track [p. 1106]
- Human Resource Management Track [p. 1107]
- Leadership and Management Track [p. 1107]

Entrepreneurial Management Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
Hours		16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3

GE: Diversity and Inclusion or GE: Values and Culture ^d	3
Hours	16

Second Year

Fall

STAT:1030	Statistics for Business	4
ACCT:2100	Introduction to Financial Accounting	3
MGMT:2100	Introduction to Management	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		1
Hours		14

Spring

ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2000	Introduction to Law	3
BUS:3000	Business Communication and Protocol ^e	3
Non-business elective course		3
Hours		16

Third Year

Fall

MGMT:3050	Professional Preparation for Management ^f	1
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3100	Entrepreneurial Strategy	3
MSCI:2800	Business Analytics ^d	3
GE: International and Global Issues ^d		3
Non-business elective course		2
Hours		15

Spring

MGMT:3300	Strategic Human Resource Management	3
Major: Entrepreneurial Management track course		3
MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		3
Hours		15

Fourth Year

Fall

Major: Entrepreneurial Management track course		3
Major: Entrepreneurial Management track course		3
FIN:3000	Introductory Financial Management	3
Non-business elective course		3
Non-business elective course		1
Hours		13

Spring

MGMT:4100	Dynamics of Negotiations	3
MSCI:3000	Operations Management	3
MKTG:3000	Introduction to Marketing Strategy	3
Non-business elective course		3

Elective course	2
Hours	14
Total Hours	119-122

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e BUS:3000 must be taken in the first semester after admission to the Tippie College of Business. Direct admits take BUS:3000 in their second year.
- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

Human Resource Management Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
Hours		16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
Hours		16
Second Year		
Fall		
STAT:1030	Statistics for Business	4
ACCT:2100	Introduction to Financial Accounting	3
MGMT:2100	Introduction to Management	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		1
Hours		14
Spring		
ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4

MGMT:2000	Introduction to Law	3
BUS:3000	Business Communication and Protocol ^e	3
Non-business elective course		3
Hours		16

Third Year

Fall

MGMT:3050	Professional Preparation for Management	1
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3300	Strategic Human Resource Management	3
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		2
Hours		15

Spring

Major: Human Resource Management track course		3
Major: Human Resource Management track course		3
MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		3
Hours		15

Fourth Year

Fall

Major: Human Resource Management track course		3
Major: Human Resource Management track course		3
FIN:3000	Introductory Financial Management	3
Non-business elective course		3
Non-business elective course		1
Hours		13

Spring

MGMT:4100	Dynamics of Negotiations	3
MSCI:3000	Operations Management	3
MKTG:3000	Introduction to Marketing Strategy	3
Non-business elective course		3
Elective course		2
Hours		14
Total Hours		119-122

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Standard admits should take BUS:3000 in the first semester after admission to the Tippie College of Business. Direct admits should take BUS:3000 in their second year.

Leadership and Management Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, ^b internship course, study abroad, experiential course.

	Hours	0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
	Hours	16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16
Second Year		
Fall		
STAT:1030	Statistics for Business	4
ACCT:2100	Introduction to Financial Accounting	3
MGMT:2100	Introduction to Management	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		1
	Hours	14
Spring		
ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2000	Introduction to Law	3
BUS:3000	Business Communication and Protocol ^e	3
Non-business elective course		3
	Hours	16
Third Year		
Fall		
MGMT:3050	Professional Preparation for Management	1
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3300	Strategic Human Resource Management	3
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		2
	Hours	15
Spring		
MGMT:4300	Leadership and Personal Development	3
Major: Leadership & Management track course		3
MSCI:3005	Information Systems	3

Non-business elective course	3
Elective course	3
Hours	15

Fourth Year

Fall

Major: Leadership & Management track course	3
Major: Leadership & Management track course	3
FIN:3000 Introductory Financial Management	3
Non-business elective course	3
Non-business elective course	1
Hours	13

Spring

MGMT:4100	Dynamics of Negotiations	3
MSCI:3000	Operations Management	3
MKTG:3000	Introduction to Marketing Strategy	3
Non-business elective course		3
Elective course		2
Hours		14
Total Hours		119-122

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e BUS:3000 must be taken in the first semester after admission to the Tippie College of Business. Direct admits take BUS:3000 in their second year.

Career Advancement

Recent graduates have found jobs in government agencies, nonprofit organizations, public policy groups, banking, employee relations, business consulting, transportation planning, education, and entrepreneurial endeavors.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment six months after graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more career information, visit What Can I Do with a Major in Management on the Pomerantz Career Center website.

Doctor of Philosophy

Graduate students in management and organizations may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1058] in the Catalog and visit the Department of Management and Organizations website.

Applicants must meet the admission requirements of the Graduate college; see the Manual of Rules and Regulations of the Graduate College.

Management Sciences

Chair

- Barrett Thomas

Undergraduate major: business analytics and information systems (B.B.A.)

Graduate degrees: M.S. in business analytics (career, professional); management sciences subprogram for the Ph.D. in business administration

Graduate certificate: business analytics

Faculty: <https://tippie.uiowa.edu/people?departments=175>

Website: <https://tippie.uiowa.edu/management-sciences>

The Department of Management Sciences specializes in using advanced computation and mathematical techniques to solve critical business problems. Its strengths in research and instruction include operations management, business analytics, information systems, and quantitative methods.

The department offers the undergraduate major in business analytics and information systems, with tracks in business analytics or information systems. Off-campus offerings include the part-time Master of Science program in Business Analytics and a graduate Certificate in Business Analytics located in Des Moines, Cedar Rapids, and the Quad Cities. On-campus graduate programs include the full-time Master of Science program in Business Analytics and the Doctor of Philosophy in Business Administration with a management sciences subprogram.

The off-campus business analytics program collaborates with the Professional M.B.A. Program to offer a combined M.S./M.B.A. degree. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

In addition, the department administers the Business Analytics Career Academy in the M.B.A. program; see the Master of Business Administration Program [p. 1132] in the Catalog.

Programs

Undergraduate Program of Study

Major

- Major in Business Analytics and Information Systems (Bachelor of Business Administration) [p. 1115]

Graduate Programs of Study

Majors

- Master of Science in Business Analytics (career) [p. 1118]
- Master of Science in Business Analytics (professional) [p. 1119]
- Management sciences subprogram for the Doctor of Philosophy [p. 1120] in Business Administration

Certificate

- Certificate in Business Analytics [p. 1121]

Courses

Management Sciences Courses

MSCI:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

MSCI:1500 Business Computing Essentials 2 s.h.

Basic proficiency with common business application software (word processing, spreadsheet, presentation software, database); simulation training to achieve requisite skills; additional support available via optional textbook or ebook; online, modular, self-taught course.

MSCI:2800 Business Analytics 3 s.h.

Introduction to business decision making using data; students transform data into Insight using visualization, statistics, and optimization; introduction to Excel as a tool for business analytics. Prerequisites: (STAT:1030 or STAT:2010 or STAT:3100 or STAT:3101 or STAT:3120 or STAT:3510 with a minimum grade of B or STAT:4100 or BIOS:4120 or PSQF:4143 with a minimum grade of B) and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860) and (MSCI:1500 or CS:1020 or CS:1110 or CS:1210 or CS:2110 or ENGR:1300 or ENGR:2730).

MSCI:3000 Operations Management 3 s.h.

Strategic, tactical, operational issues that arise in management of production and service operations; product and process design, facilities planning, quality management, materials management, operations planning and scheduling, emerging technologies in production and service management. Prerequisites: STAT:2010 or STAT:3120 or STAT:3101 or STAT:2020 with a minimum grade of B or STAT:3510 with a minimum grade of B or BIOS:4120 or STAT:3100 or PSQF:4143 with a minimum grade of B or STAT:1030 or STAT:4100. Requirements: junior standing.

MSCI:3005 Information Systems 3 s.h.

Application of computing principles to solving business problems; information technology in modern organizations; focus on sound data analysis to support decision making; tools used for problem solving (spreadsheets, databases, web applications); role of information systems in organizations; components of information technology; internet and network economy; basic data analysis and visualization; decision-making logic represented as algorithms; perform what-if analysis with data; emerging technologies. Prerequisites: MSCI:1500 or CS:1020.

MSCI:3020 Business Programming 3 s.h.

Introduction to algorithms, data structures, and object-oriented programming constructs to solve business problems. Prerequisites: MSCI:3005 or CS:2110.

MSCI:3025 VBA Spreadsheet Programming 3 s.h.

Introduction to programming Visual Basic for Applications in Excel to develop spreadsheet-based, decision-support systems. Prerequisites: MSCI:3005 or CS:2110.

MSCI:3030 Business Process Analysis 3 s.h.

Data-driven approach to improve business processes; value-stream map analysis of industrial and service-oriented business processes to identify improvement opportunities; discrete-event simulation tools utilized to model business processes and demonstrate effect of variability on process performance metrics; role of information systems to increase an organization's efficiency and sustainability; application of lean principles to support environmental integrity and economic viability; meets a requirement for the sustainability certificate. Prerequisites: MSCI:3000.

MSCI:3050 Business Analytics and Information Systems Professional Preparation 1 s.h.

Information on career opportunities in the fields of business analytics and information systems; introduction to the many career avenues available to a BAIS major and how to position oneself for success in those careers.

MSCI:3070 Management Sciences Topics arr.

Special topics in management sciences and information systems.

MSCI:3100 Accounting Information Systems 3 s.h.

Application of computer technology to accounting and transaction processing systems; information systems infrastructure and trends; problem solving with microcomputer spreadsheets, databases; accounting cycle operations. Prerequisites: (MSCI:3005 or CS:2110) and ACCT:2200 and ACCT:2100. Same as ACCT:3600.

MSCI:3140 Visualizing Information 3 s.h.

Instruments for reasoning about quantitative information; analyzing and communicating statistical information; main typologies of data graphics (data-maps, time-series, space-time narrative, relational diagrams, graphs and methods for dimensionality reduction); language for discussing data visualizations combined with knowledge of human perception of visual objects; how to visualize information effectively by using statistical methods, knowledge of human perception, and basics of data graphics. Prerequisites: MSCI:3250.

MSCI:3200 Database Management 3 s.h.

Design and implementation of a database using relational DBMS; emphasis on issues of logical and physical design, database administration, concurrency control, maintenance. Prerequisites: MSCI:3005 or CS:2110 or CS:2230 or CS:3330 or ENGR:2730.

MSCI:3250 Analyzing Data for Business Intelligence 3 s.h.

Introduction to methods and tools of processing, manipulating, analyzing, and visualizing data for descriptive analytics and insights that can aid business decision making. Corequisites: MSCI:3200.

MSCI:3300 Software Design and Development 3 s.h.

Design and implementation of an information system; emphasis on programming and management of the software development life cycle. Corequisites: MSCI:3020 or CS:2230, MSCI:3030, and MSCI:3200; if not taken as prerequisites.

MSCI:3400 Data Communications 3 s.h.

Computer communications: computer-communication system, hardware, data transmission principles; examples of existing communication networks; related managerial issues. Prerequisites: MSCI:3005 or CS:2110 or CS:1210.

MSCI:3500 Data Mining 3 s.h.

Introduction to predictive analytics methods motivated by problems in operations, marketing, finance and accounting; data and text mining techniques, including classification, clustering, and association analysis. Prerequisites: MSCI:2800 or STAT:2020 with a minimum grade of B or ECON:2800 or STAT:4101 or ECON:4800.

MSCI:3800 Optimization and Simulation Modeling 3 s.h.

How to leverage data and apply spreadsheet optimization software and Monte Carlo simulation to form optimal decision policies. Prerequisites: MSCI:2800 or STAT:4101 or ECON:4800 or ECON:2800 or STAT:2020 with a minimum grade of B.

MSCI:3920 Supply Chain Management 3 s.h.

Key issues in design and management of global supply chains; issues in integration of business processes across organizations that are concerned with movement of goods, delivery of services, and information flow along the supply chain in order to create value for the customer; issues in coordinating production and logistics within a firm and with outside suppliers and customers in the supply chain. Prerequisites: MSCI:3000.

MSCI:4050 Directed Readings arr.**MSCI:4150 Business Analytics Capstone 3 s.h.**

Individual or team senior project incorporating track-specific knowledge and skills from business analytics curriculum; projects from real-world customer involving descriptive, predictive, and prescriptive; outcomes include client presentation and project report. Prerequisites: MSCI:3200 and MSCI:3030 and MSCI:3250 and MSCI:3500.

MSCI:4220 Advanced Database Management and Big Data 3 s.h.

Advanced database management topics; basics of semi-structured data and web services; how to retrieve real-world big datasets from web services; use of SQL and PL/SQL to analyze data in relational databases; big data related topics such as Hadoop and Hive. Prerequisites: MSCI:3200. Same as IGPI:4220.

MSCI:4280 Data Security 3 s.h.

Data and network security topics to ensure confidentiality, integrity, and availability of information and assets including cryptography, access control, physical security, network and application security, and management issues surrounding information security.

MSCI:4350 Information Systems Capstone 3 s.h.

Individual or team senior project incorporating track-specific knowledge and skills from information systems curriculum; projects from real-world customer involving development of software applications and information system infrastructure; outcomes include written documentation, presentation, and project report. Prerequisites: (MSCI:3020 or CS:2230) and MSCI:3030 and MSCI:3200 and MSCI:3300.

MSCI:4480 Knowledge Discovery 3 s.h.

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as CS:4480, ECE:4480, IGPI:4480.

MSCI:4900 Academic Internship arr.

Professional internship experience with associated academic content.

MSCI:4999 Honors Thesis in Management Sciences**3 s.h.**

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

MSCI:6050 Data Management and Visual Analytics**3 s.h.**

Understanding how data is stored in databases and learning the tools used to access the data is key to creating datasets used to answer many business questions; how to manage and access data in relational databases using Structured Query Language (SQL); basic principles of visual analytics and techniques for presenting data retrieved from databases. Requirements: enrollment in graduate business analytics program.

MSCI:6060 Data Programming in R**3 s.h.**

Introduction to principles and practices of handling, cleaning, processing, and visualizing data using R programming language; basic programming skills that can be applied to software development in any programming language; variables and data types, control structures, functions and subroutines, arrays and other simple data structures.

MSCI:6070 Data Science**3 s.h.**

Underlying concepts and practical computational skills of data-mining tools including penalty-based variable selection (LASSO), logistic regression, regression and classification trees, clustering methods, principal components and partial least squares; analysis of text and network data; theory behind most useful data mining tools and how to use these tools in real-world situations; software for analysis, exploration, and simplification of large high-dimensional data sets. Prerequisites: MSCI:9100 or MBA:8150.

MSCI:6100 Text Analytics**3 s.h.**

Concepts and techniques of text mining; practice of using statistical tools to automatically extract meaning and patterns from collections of text documents; topics include document representation, text classification and clustering, sentiment analysis and topic modeling. Prerequisites: (MSCI:6060 or MSCI:9060) and (MSCI:6070 or MSCI:9110).

MSCI:6110 Big Data Management and Analytics**3 s.h.**

Introduction to advanced techniques for managing and analyzing "big" data; non-relational data models, such as semi-structured (e.g., XML) and unstructured (e.g., key-value) data; state-of-the-art big data tools for non-relational data management, such as noSQL databases and distributed databases (e.g., Hadoop); query languages such as HIVE; design and implementation of data analysis methods on these platforms; through exercises and course projects, students will be trained to use the tools introduced to implement analysis tasks on big data sets. Prerequisites: (MSCI:6050 or MSCI:9050) and (MSCI:6060 or MSCI:9060).

MSCI:6120 Analytics Experience**3 s.h.**

Students work in groups to complete semester-long projects pertaining to business analytics; all project stages are addressed including problem definition, data cleaning, analysis, and final presentation; appropriate tools from required courses used throughout. Prerequisites: MSCI:9100 and MSCI:6050 and MSCI:9110 and MSCI:6060 and MSCI:6070. Requirements: all CER courses and at least one master's course.

MSCI:6130 Applied Optimization**3 s.h.**

Use of optimization (also called prescriptive analytics or mathematical programming) to make tactical and strategic decisions; advanced optimization skills including data collection and preparation, logical modeling, and solution interpretation and implementation within a software environment; applications in the various functional areas of business are discussed throughout. Prerequisites: (MSCI:9100 or MBA:8150) and (MSCI:9060 or MSCI:6060).

MSCI:6140 Information Visualization**3 s.h.**

Instruments for reasoning about quantitative information; analyzing and communicating statistical information; main typologies of data graphics (data-maps, time-series, space-time narrative, relational diagrams, graphs and methods for dimensionality reduction); language for discussing data visualizations combined with knowledge of human perception of visual objects; how to visualize information effectively by using statistical methods, knowledge of human perception, and basics of data graphics.

MSCI:6150 Financial Analytics**3 s.h.**

Businesses as well as investors are affected by fluctuating treasury bond rates, equity prices, and foreign exchange rates, and the risk must be measured; students focus on gaining knowledge of the classic financial models and statistical and risk metrics and scaling them up with analytics techniques (sorting with thresholds, portfolio optimization, decision trees, and database programming) to find the best investments based on historical datasets; beginning with descriptive analytics and pushing into predictive and prescriptive analytics, students build a software simulation laboratory using R. Prerequisites: (MSCI:9100 or MBA:8150) and (MSCI:6060 or MSCI:9060).

MSCI:6160 Big Data Analytics**3 s.h.**

Principles of data mining and machine learning in the context of big data; basic data mining principles and methods (pattern discovery, clustering and ordering); analysis of different types of data (sets and sequences); machine learning topics including supervised and unsupervised learning, tuning model complexity, dimensionality reduction, nonparametric methods, comparing and combining algorithms, and applications of these methods; development of analytical techniques to cope with challenging and real big data problems; introduction to graphics processing unit (GPU) computing tools. Prerequisites: (MSCI:9100 or MBA:8150) and (MSCI:6060 or MSCI:9060).

MSCI:6170 Directed Readings - Graduate Business Analytics**arr.**

Project and/or research with a faculty member as part of the graduate business analytics program. Requirements: enrollment in graduate business analytics program.

MSCI:6180 Healthcare Analytics**3 s.h.**

Clinical data management is essential for evaluating evidence-based practice/performance-improvement projects; a high quality data management plan provides key stakeholders with information necessary to make decisions; plan components include identified processes and outcomes linked to variables and data sources, adequate statistical power, data cleaning and manipulation techniques, statistical methods, and meaningful presentation of variables that address stakeholder concerns and questions; students gain knowledge and skills necessary to develop and execute a data management plan within a final project. Prerequisites: (MSCI:9100 or MBA:8150) and MSCI:6050.

- MSCI:6300 Dynamic Programming** 3 s.h.
Fundamentals of discrete sequential dynamic programming with special focus on situations in which outcomes are uncertain; formulation and analysis of deterministic and stochastic dynamic programs under several objective criteria; emphasis on rapidly expanding field of approximate dynamic programming; applications including inventory control, vehicle routing, and resource allocation.
- MSCI:6500 Social Network Analytics: Models and Algorithms** 3 s.h.
Preparation for future research in computational network analysis; introduction to methodology for analyzing various types of complex networks including social networks, information networks, and business networks; basic concepts of networks, models for network structures and dynamics, computational algorithms for analyzing networks; hands-on experience with analyzing real-world networks using third-party software or programming APIs.
- MSCI:6600 Linear Programming** 3 s.h.
Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as IE:6600, IGPI:6600.
- MSCI:6700 Discrete Optimization** 3 s.h.
Introduction to modeling and solving discrete optimization problems; integer programming, network flows, dynamic programming. Prerequisites: MSCI:6600. Same as IGPI:6700.
- MSCI:6800 Web Mining** 3 s.h.
Techniques for mining the web and other unstructured or semi-structured, hypertextual, distributed information repositories; crawling, indexing, ranking, filtering algorithms.
- MSCI:6900 Heuristic Search** 3 s.h.
Design of heuristic search algorithms to find good (near-optimal) solutions to difficult (NP-hard) optimization problems that occur in many disciplines; basic heuristic concepts (local search, greedy search, problem decomposition) which serve as fundamental constructs for metaheuristics, including simulated annealing, genetic algorithms, tabu search, variable neighborhood search; introduction to various optimization problems and survey of various heuristic approaches; underlying theoretical structure of several heuristic methods; how to implement a heuristic algorithm.
- MSCI:7000 Management Sciences Topics** 3 s.h.
Same as IGPI:7000.
- MSCI:7850 Research Seminar in Management Sciences** 1 s.h.
Current research topics. Requirements: Ph.D. enrollment.
- MSCI:7900 Special Topics in Management Sciences** arr.
- MSCI:7950 Directed Readings** arr.
- MSCI:7975 Thesis in Management Sciences** arr.
Requirements: Ph.D. enrollment.
- MSCI:9010 Contemporary Topics in Analytics** 1-3 s.h.
Content from cutting edge topics in business analytics, operations, and project management; topics vary.
- MSCI:9050 Data Management and Visual Analytics** 3 s.h.
Understanding how data is stored in databases and learning the tools used to access the data is key to creating datasets to answer many business questions; how to manage and access data in relational databases using Structured Query Language (SQL); basic principles of visual analytics and techniques for presenting data retrieved from databases.
- MSCI:9060 Data Programming in R** 2-3 s.h.
Introduction to principles and practices of handling, cleaning, processing, and visualizing data using R programming language; basic programming skills that can be applied to software development in any programming language; includes topics such as variables and data types, control structures, functions and subroutines, arrays and other simple data structures. Prerequisites: MBA:8150 or MSCI:9100.
- MSCI:9070 Data Science** 2 s.h.
Underlying concepts and practical computational skills of data-mining tools including penalty-based variable selection (LASSO), logistic regression, regression and classification trees, clustering methods, principal components and partial least squares; analysis of text and network data; theory behind most useful data mining tools and how to use these tools in real-world situations; software for analysis, exploration, and simplification of large high-dimensional data sets. Prerequisites: MBA:8150 or MSCI:9100.
- MSCI:9080 Business Analytics in Practice** 3 s.h.
Application of theory from classroom to real world context through an experiential learning project; company-sponsored project applying analytics to solve problems in a variety of contexts; including supply chain and operations, marketing, finance, or health care. Prerequisites: MSCI:6050 and MSCI:6060 and MSCI:6070.
- MSCI:9100 Business Analytics** 3 s.h.
Introduction to analytical techniques for making business decisions; utilizing Excel for application of descriptive and predictive analytical tools to solve practical business problems using real world data; dealing with uncertainty in decision making; formal probability concepts and statistical methods for describing variability (decision trees, random variables, hypothesis testing); application of techniques (linear regression, Monte Carlo simulation, linear optimization) to model, explain, and predict for operational, tactical, and strategic decisions.
- MSCI:9110 Advanced Analytics** 2-3 s.h.
Development of data-driven, problem-solving skills for prediction of uncertain outcomes and prescription of business solutions; linear and nonlinear regression, Monte Carlo simulation, forecasting, data mining, and optimization utilizing spreadsheets and dedicated software packages. Prerequisites: MSCI:9100 or MBA:8150.
- MSCI:9120 Managing the Supply Chain** 2-3 s.h.
Design, operation, and management of a supply chain; supplier and customer partnerships, supply base management, transportation and logistics, supply chain innovation, supply chain sustainability; supply chain risk management and performance metrics. Prerequisites: MBA:8190 or MBA:8240.
- MSCI:9130 Lean Process Improvement** 3 s.h.
Lean principles across the enterprise; real-world applications and case studies in manufacturing and service sectors. Prerequisites: MBA:8190 or MBA:8240.
- MSCI:9135 Strategy Deployment and Lean Enterprise** 3 s.h.
How organizations transform themselves into Lean enterprises that maximize customer value through the elimination of waste; focus on how manufacturing and service organizations successfully align their process improvement efforts to strategic goals of the organization (policy deployment); A3 thinking, strategic planning, balanced scorecard, Lean supply chain, employee engagement, and cultural transformation. Prerequisites: MBA:8190 or MBA:8240.

MSCI:9140 Rapid Continuous Improvement 3 s.h.

Hands-on experience working on rapid continuous improvement (RCI) teams sponsored by industrial affiliates of the business college involved in using RCI. Offered spring break.

MSCI:9160 Supply Chain Analytics 2-3 s.h.

Supply chain analytics applications for decision making, including demand forecasting, inventory management, capacity planning, and supply chain coordination. Prerequisites: MBA:8150 or MSCI:9100.

MSCI:9180 Statistical Methods for Process Improvement 3 s.h.

Strategies to improve quality of products, effectiveness of processes; managerial issues, statistical methods, quality, customer needs, customer satisfaction, quality measures and standards; understanding and reducing variability; builds on MBA:8150; data-based management, statistical process control, control charts, capability indexes, design of experiments. Prerequisites: MSCI:9100 or MBA:8150.

MSCI:9185 Project Management 2-3 s.h.

Preparation for managing projects and project portfolios; project selection, project planning and budgeting, scheduling, resource allocation, project control; integration of project planning tools, including project management software.

MSCI:9190 Advanced Project Management 3 s.h.

Expands on the study of project management by examining why 70 percent of all projects fail to meet established requirements and what project managers can do to ensure success; elements of the Project Management Institute's *Guide to the Project Management Body of Knowledge* are reviewed including the 47 key processes; concepts are presented for improving project outcomes, including thinking well through creative and innovative methods, developing an organizational environment for successful projects, and using alternative methodologies such as Agile. Prerequisites: MSCI:9185.

MSCI:9200 Business Programming 3 s.h.

Introduction to algorithms, data structures, and object-oriented programming constructs to solve business problems. Corequisites: MSCI:3005.

MSCI:9210 Introduction to Modeling with VBA 2-3 s.h.

Introduction to programming Visual Basic for Applications in Excel; case studies in finance, marketing, operations, accounting.

MSCI:9220 Introduction to Information Systems 3 s.h.

Effective ways for business firms to harness the power of information technology for strategic purposes; conventional and emerging architectures of information systems; integrated perspective on structural relationships among IT components; emphasis on case studies.

Business Analytics and Information Systems, B.B.A.

Requirements

The Bachelor of Business Administration with a major in business analytics and information systems requires a minimum of 120 s.h., including 22 s.h. of work for the major. The program provides a variety of educational experiences that develop students' knowledge of managerial decision-making systems. Students acquire skill in applying this knowledge by constructing quantitative models, using computer technology, and creating database systems.

Students choose one of two tracks: business analytics or information systems.

The B.B.A. with a major in business analytics and information systems requires the following course work. For common B.B.A. requirements, see the Bachelor of Business Administration [p. 1049] in the Catalog.

Code	Title	Hours
Major Common Required Courses		7
Required Track Courses		12
Required Electives		3
Total Hours		22

Major Common Required Courses

Students in both tracks must complete these three courses.

Code	Title	Hours
MSCI:3030	Business Process Analysis	3
MSCI:3050	Business Analytics and Information Systems Professional Preparation	1
MSCI:3200	Database Management	3

Required Track Courses

Students complete the requirements from one of the two tracks below.

Business Analytics Track

Students in the business analytics track complete all of the following.

Code	Title	Hours
MSCI:3250	Analyzing Data for Business Intelligence	3
MSCI:3500	Data Mining	3
MSCI:3800	Optimization and Simulation Modeling	3
MSCI:4150	Business Analytics Capstone	3

Information Systems Track

Students in the information systems track complete all of the following.

Code	Title	Hours
MSCI:3020	Business Programming	3
MSCI:3300	Software Design and Development	3
MSCI:3400	Data Communications	3
MSCI:4350	Information Systems Capstone	3

Required Electives (Both Tracks)

All students complete at least 3 s.h. from the following.

Code	Title	Hours
MSCI:3025	VBA Spreadsheet Programming	3
MSCI:3100	Accounting Information Systems	3
MSCI:3920	Supply Chain Management	3
MSCI:4220	Advanced Database Management and Big Data	3
MSCI:4280	Data Security	3
CS:1210	Computer Science I: Fundamentals	4
ECON:3355	Economic and Business Forecasting	3
MKTG:3102	Marketing Analytics	3
Any computer science course for which CS:1210 is a prerequisite		3-4
Any course required for the nonselected track		3

Academic Plans

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Business Analytics and Information Systems, B.B.A.

- Business Analytics Track [p. 1115]
- Information Systems Track [p. 1116]

Business Analytics Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3

First Year Fall

MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3

CSI:1600	Success at Iowa	2
	Hours	16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16
Second Year		
Fall		
ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
MSCI:3005	Information Systems	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
	Hours	16
Spring		
ACCT:2200	Managerial Accounting	3
MSCI:2800	Business Analytics	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2100	Introduction to Management	3
Non-business elective course		3
	Hours	16
Third Year		
Fall		
MSCI:3050	Business Analytics and Information Systems Professional Preparation	1
MSCI:3000	Operations Management	3
MSCI:3200	Database Management	3
BUS:3000	Business Communication and Protocol	3
GE: International and Global Issues ^d		3
	Hours	13
Spring		
MSCI:3030	Business Process Analysis	3
MSCI:3250	Analyzing Data for Business Intelligence	3
FIN:3000	Introductory Financial Management	3
Non-business elective course		3
Non-business elective course		3
	Hours	15
Fourth Year		
Fall		
MSCI:3500	Data Mining	3
MSCI:3800	Optimization and Simulation Modeling	3
Elective course		3
Non-business elective course		3
Non-business elective course		3
	Hours	15

Spring

MSCI:4150	Business Analytics Capstone	3
Major: BAIS elective		3
MKTG:3000	Introduction to Marketing Strategy	3
Elective course		3
Non-business elective course		1
	Hours	13
	Total Hours	120-123

a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.

b See degree audit for course options.

c Enrollment in math courses requires completion of a placement exam.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Information Systems Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
	Hours	0-3

First Year**Fall**

MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric ^d	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
	Hours	16

Spring

MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16

Second Year**Fall**

ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
MSCI:3005	Information Systems	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
	Hours	16

Spring

ACCT:2200	Managerial Accounting	3
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MSCI:2800	Business Analytics	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Hours		16
Third Year		
Fall		
MSCI:3050	Business Analytics and Information Systems Professional Preparation	1
MSCI:3000	Operations Management	3
MSCI:3200	Database Management	3
BUS:3000	Business Communication and Protocol	3
GE: International and Global Issues ^d		3
Hours		13
Spring		
MSCI:3030	Business Process Analysis	3
MSCI:3020	Business Programming	3
FIN:3000	Introductory Financial Management	3
Non-business elective course		3
Non-business elective course		3
Hours		15
Fourth Year		
Fall		
MSCI:3300	Software Design and Development	3
MSCI:3400	Data Communications	3
Elective course		3
Non-business elective course		3
Non-business elective course		3
Hours		15
Spring		
MSCI:4350	Information Systems Capstone	3
Major: BAIS elective		3
MKTG:3000	Introduction to Marketing Strategy	3
Elective course		3
Non-business elective course		1
Hours		13
Total Hours		120-123

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

management, line supervision, purchasing, and manufacturing systems.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit What Can I Do with a Major in Business Analytics and Information Systems on the Pomerantz Career Center website.

Career Advancement

The business analytics and information systems major prepares students for careers in data mining, supply chain management, and the design and management of information technology. The major prepares students for career opportunities in both manufacturing and service organizations. Graduates find entry-level work as computer programmers, systems analysts, sales representatives with computer companies, and management trainees. Entry-level work in operations management is found in materials

Business Analytics (career), M.S.

Businesses of all sizes are creating and storing more data than ever before according to IBM—2.5 quintillion bytes per day. In fact, 90 percent of all data that exists today was created in the last two years. Businesses are swimming in data, but often lack the talent and expertise to use it effectively for making decisions, revealing insights, and making predictions. Business analytics experts are changing that. The full-time Master of Science program in business analytics puts students on the leading edge of a burgeoning industry hungry for top notch talent.

Students learn the skills and techniques necessary to turn raw data into actionable insights. Descriptive and diagnostic analytics are just starting points in the program. The skills learned develop students into decision-makers and data scientists adept at using predictive and prescriptive analytics to solve business problems.

The full-time program is located in Iowa City. The plan of study spans 16 months, and includes core courses, internships, and electives.

Requirements

The full-time Master of Science program in business analytics requires a minimum of 39 s.h. of graduate credit. Transfer credit may be accepted with approval from the program. A cumulative g.p.a. of at least 2.75 is required in all course work.

The M.S. with a major in business analytics requires the following course work.

Code	Title	Hours
Core Courses		18
Experience Course/Project		3
Electives		18
Total Hours		39

Core Courses

Code	Title	Hours
All of these:		
MSCI:6050	Data Management and Visual Analytics	3
MSCI:6060	Data Programming in R	3
MSCI:6070	Data Science	3
MSCI:9100	Business Analytics	3
MSCI:9110	Advanced Analytics	3
MBA:8130	Business Communication	3

Experience Course/Project

The experience course consists of a group project that solves a semester-long business problem.

Code	Title	Hours
This course:		
MSCI:6120	Analytics Experience	3

Electives

Elective course work allows students to deepen or broaden their skills. Additional electives may be available for credit but must be pre-approved.

Code	Title	Hours
18 s.h. from these:		
MSCI:6100	Text Analytics	3
MSCI:6110	Big Data Management and Analytics	3
MSCI:6130	Applied Optimization	3
MSCI:6140	Information Visualization	3
MSCI:6150	Financial Analytics	3
MSCI:6160	Big Data Analytics	3
MSCI:6180	Healthcare Analytics	3
MSCI:9160	Supply Chain Analytics	3
MKTG:9165	Digital Marketing Analytics	3

Admission

Applicants must meet the admission requirements of the Graduate College and of the program; see Manual of Rules and Regulations of the Graduate College and program requirements on the Full-Time Master of Business Analytics Admissions web page.

Business Analytics (professional), M.S.

The digital revolution empowered by the internet and computer technology in business and individual life during the last several decades has generated unimaginable amounts of data in the form of digital records stored in databases and file servers. The volume, velocity, and variety of these data have produced a new set of problems and challenges for businesses and organizations in their pursuit of competitiveness, effectiveness, and efficiency. These problems and challenges also have created unprecedented opportunities for businesses and organizations to discover, model, understand, and serve their customers and partners in ways never imagined and to supply details never possible before. Businesses and organizations that are able to master this volume of data will have a tremendous competitive advantage over their competition in the marketplace.

As the need for implementing data analytic solutions grows, demand for professionals who understand and are capable of working with and exploring this data has exploded in recent years. This program addresses the growing need to manage and analyze the rapidly increasing amount of data that is available to support business decision making.

The part-time program is located in Des Moines, Cedar Rapids, and the Quad Cities.

Requirements

The part-time Master of Science program in business analytics requires a minimum of 30 s.h. of graduate credit. Transfer credit may be accepted with approval from the program. Students who wish to include the 15 s.h. earned from the Certificate in Business Analytics toward the M.S. degree should seek approval from the program. A cumulative g.p.a. of at least 2.75 is required in all course work.

The M.S. with a major in business analytics requires the following course work.

Code	Title	Hours
Core Courses		15
Experience Course/Project		3
Electives		12
Total Hours		30

Core Courses

Code	Title	Hours
All of these:		
MSCI:6050	Data Management and Visual Analytics	3
MSCI:6060	Data Programming in R	3
MSCI:6070	Data Science	3
MSCI:9100	Business Analytics	3
MSCI:9110	Advanced Analytics	3

Experience Course/Project

The experience course consists of a group project that solves a semester-long business problem.

Code	Title	Hours
This course:		
MSCI:6120	Analytics Experience	3

Electives

Elective course work allows students to deepen or broaden their skills.

Code	Title	Hours
12 s.h. from these:		
MSCI:6100	Text Analytics	3
MSCI:6110	Big Data Management and Analytics	3
MSCI:6130	Applied Optimization	3
MSCI:6140	Information Visualization	3
MSCI:6150	Financial Analytics	3
MSCI:6160	Big Data Analytics	3
MSCI:6180	Healthcare Analytics	3
MSCI:9160	Supply Chain Analytics	3
MKTG:9165	Digital Marketing Analytics	3

Combined Programs

M.S./M.B.A. (Professional Program)

The combined M.S. in business analytics/Professional M.B.A. Program allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Management Sciences collaborates with the Master of Business Administration Program to offer a combined M.S./M.B.A. degree.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the M.B.A., see the M.B.A. Professional Program in the Master of Business Administration [p. 1135] section of the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College.

Doctor of Philosophy

Graduate students in management sciences may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1058] in the Catalog and visit the Department of Management Sciences website.

Applicants must meet the admission requirements of the Graduate college; see the Manual of Rules and Regulations of the Graduate College.

Business Analytics, Graduate Certificate

The graduate Certificate in Business Analytics requires 15 s.h. of credit, of which 9 s.h. must be unique to the certificate and cannot be counted toward the student's major. Students may be allowed to apply up to 6 s.h. of course work from another institution toward the certificate with approval by petition to the director of the certificate program. A cumulative g.p.a. of at least 2.75 is required in order to complete the certificate. All courses are offered off-campus.

The certificate program is open to students who have earned an undergraduate degree. A minimum undergraduate or graduate g.p.a. of 2.50 is required for admission.

Analytics—broadly defined as the scientific process of transforming data into insight for making better decisions—plays an increasingly critical role in business. Companies must be able to access and analyze this data intelligently. As the recognition of analytics has grown, so has the demand for analytics education.

The focus on business analytics entails a specific approach targeting the core business disciplines of business, including operations, information technology, finance, marketing, accounting, and human resources, among others.

The Certificate in Business Analytics requires the following course work.

Code	Title	Hours
All of these:		
MSCI:6050	Data Management and Visual Analytics	3
MSCI:6060	Data Programming in R	3
MSCI:6070	Data Science	3
MSCI:9100	Business Analytics	3
MSCI:9110	Advanced Analytics	3
Total Hours		15

Marketing

Chair

- Dhananjay Nayakankuppam

Undergraduate major: marketing (B.B.A.)

Graduate degree: marketing subprogram for the Ph.D. in business administration

Faculty: <https://tippie.uiowa.edu/people>

Website: <https://tippie.uiowa.edu/marketing>

The study of marketing concerns itself with all activities related to the marketing and distribution of goods and services, from producers to consumers. The goal of the department is to make strong contributions to marketing practice and marketing theory with innovative teaching, cutting-edge research, and active community outreach. The marketing curriculum provides a broad foundation in marketing concepts along with opportunities to specialize in areas of vocational interests. The department utilizes multiple teaching methods, including experiential learning, research experiences, case analyses, online and face-to-face classroom training to prepare students to solve a variety of marketing problems that arise in our increasingly complex global economy.

The Department of Marketing offers the undergraduate major in marketing and the subprogram in marketing that leads to the Ph.D. in business administration. Additionally, the department participates in the M.B.A. program; see Master of Business Administration Program [p. 1132] in the Catalog.

Related Certificate

Event Planning

The Department of Marketing (Tippie College of Business), the Departments of Communication Studies and Health and Human Physiology, and the School of Journalism and Mass Communication (College of Liberal Arts and Sciences) collaborate to offer the undergraduate Certificate in Event Planning. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event planning and careers in the event planning industry. For information about the certificate, see the Certificate in Event Planning [p. 437] in the Catalog.

Programs

Undergraduate Program of Study

Major

- Major in Marketing (Bachelor of Business Administration) [p. 1126]

Graduate Program of Study

Major

- Marketing subprogram for the Doctor of Philosophy [p. 1131] in Business Administration

Courses

Marketing Courses

MKTG:1300 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

MKTG:3000 Introduction to Marketing Strategy 3 s.h.

Philosophy and activities of marketing; marketing environment of an organization; strategies with respect to marketing decisions, buyer behavior; spreadsheet analysis of marketing problems. Requirements: junior standing.

MKTG:3050 Professional Preparation in Marketing 2 s.h.

Overview of alternative marketing careers; required skills and personal characteristics that drives success in these fields; hard and soft skills required in major types of marketing careers; development of a professional brand identity and strategy to find marketing internships and permanent employment opportunities; marketing's relationship to other business and organizational functions and to external environment. Corequisites: MKTG:3000.

MKTG:3051 Career Preparation for Marketing Management 1 s.h.

Finding and successfully competing for career opportunities in marketing management; includes online exercises, interactions with marketing executives, and participation in one of the national organizations representing marketing management professionals. Prerequisites: MKTG:3000 and MKTG:3050.

MKTG:3052 Career Preparation for Retailing 1 s.h.

Finding and successfully competing for career opportunities in retailing; online exercises, interactions with retailing executives, and participation in one of the national organizations representing retailing professionals. Prerequisites: MKTG:3000 and MKTG:3050.

MKTG:3053 Career Preparation for Professional Sales 1 s.h.

Finding and successfully competing for career opportunities in professional sales; online exercises, interactions with sales executives, and participation in one of the national organizations representing sales professionals. Prerequisites: MKTG:3000 and MKTG:3050.

MKTG:3054 Career Preparation for Market Analytics 1 s.h.

Finding and successfully competing for career opportunities in market analytics; online exercises, interactions with market research executives, and participation in one of the national organizations representing market research professionals. Prerequisites: MKTG:3000 and MKTG:3050.

MKTG:3055 Career Preparation for Marketing 1 s.h.

Finding and successfully competing for career opportunities in marketing; online exercises, interactions with executives, and participation in a national organization representing professionals. Prerequisites: MKTG:3000 and MKTG:3050.

MKTG:3100 Marketing Research 3 s.h.

Marketing, research methods; role of marketing research information as a tool in management decision making. Prerequisites: MKTG:3000 and (ECON:2800 or MSCI:2800 or STAT:2020 with a minimum grade of B or ECON:4800 or STAT:4101).

MKTG:3101 Marketing Metrics**3 s.h.**

Identifying and measuring key metrics that are the focus for marketing plans and the backbone for evaluating marketing performance (e.g., penetration, share of requirements, customer satisfaction, churn rates, click-through rates, and customer lifetime value); relationship between conceptual models of business-to-business and business-to-consumer behaviors and the selection of appropriate metrics; emphasis on use of metrics as basic inputs for goal setting, marketing decision making, and evaluation. Prerequisites: MKTG:3000 and MKTG:3100.

MKTG:3102 Marketing Analytics**3 s.h.**

Marketing science models used in strategic and tactical marketing decisions; application of consumer behavior in the development of quantitative models that inform marketing mix decisions (advertising, pricing, and salesforce effort), new product development, product line management, and category management; topics may include product mapping, latent class (segmentation) analysis, conjoint analysis, choice modeling (binary and multinomial logic), diffusion models (word-of-mouth), decision-calculus ("models and manager" technology), churn analysis and web analytics. Prerequisites: MKTG:3000 and MKTG:3100.

MKTG:3103 Advanced Marketing Research**3 s.h.**

Traditional and nontraditional research techniques to address business problems that have a relationship to basic research; primary focus on hands-on experience and peer-based learning. Prerequisites: MKTG:3000.

MKTG:3200 Consumer Behavior**3 s.h.**

Behavioral and social aspects of marketing; research methods and findings from behavioral sciences, their relation to production, consumption, and marketing of products, services. Prerequisites: MKTG:3000.

MKTG:3300 Web Business Strategy**3 s.h.**

Introduction to World Wide Web business and marketing; concepts, methods, and applications associated with doing business on the web; web page construction and design; case studies and/or entrepreneurial projects. Prerequisites: MKTG:3000.

MKTG:3400 Retail Strategies**3 s.h.**

Strategies for retail site selection, store design, supply chain management, customer relationship management/customer service; merchandising management strategies for planning merchandise assortments, buying systems, buying merchandise, pricing, promotion. Prerequisites: MKTG:3000.

MKTG:3401 Merchandise Management**3 s.h.**

Merchandise and service mix strategies for alternative retail concepts, including various store and online formats; topics include national brands versus private label, multi-channel distribution, logistics, replenishment strategies, pricing, promotion, product assortment, store layout, and point-of-sale and in-store merchandising. Prerequisites: MKTG:3000.

MKTG:3500 Direct Marketing Strategies**3 s.h.**

Principles and processes of direct and database marketing; insight into the requirements for building a customer-based marketing strategy. Prerequisites: MKTG:3000.

MKTG:3700 Marketing Institute Seminar I**2 s.h.**

Soft skills and professional expertise to succeed in marketing and consulting careers; résumé and interview training, industry presentations, business case assignments, lectures. Prerequisites: MKTG:3000. Requirements: admission to the Marketing Institute.

MKTG:3701 Marketing Institute Field Studies**2 s.h.**

Plan, design, carry out, and report on a marketing research project for a profit or nonprofit client organization; communicate with managers, apply knowledge of marketing research, meet deadlines, and convert research findings into actionable recommendations for management. Prerequisites: MKTG:3000 and MKTG:3700. Requirements: admission to the Marketing Institute.

MKTG:3702 Marketing Institute Seminar II**2 s.h.**

Development of soft skills and professional expertise to succeed in marketing and consulting careers; résumé and interview training, industry presentations, business case assignments, lectures; mentor students in marketing institute seminar. Prerequisites: MKTG:3000 and MKTG:3700 and MKTG:3701. Requirements: admission to the Marketing Institute.

MKTG:4000 Contemporary Topics in Marketing**3 s.h.**

Topics not regularly offered in other courses. Prerequisites: MKTG:3000.

MKTG:4050 Directed Readings in Marketing**arr.****MKTG:4100 Advertising Theory****3 s.h.**

Advertising as a promotional force; emphasis on theory, planning, resulting strategic and tactical decisions made by advertising executives. Prerequisites: MKTG:3000.

MKTG:4101 Integrated Marketing Communications**3 s.h.**

Making marketing communication decisions and understanding how marketing communications work; planning and evaluation of marketing communications; theories, models, and tools to make better marketing communication decisions; course uses an Integrated Marketing Communications perspective, which involves understanding the role of the different promotional mix elements and coordinating them to develop effective marketing communication programs. Prerequisites: MKTG:3000.

MKTG:4200 Sales Management**3 s.h.**

Personal selling, management of sales force; emphasis on recruitment, selection, training of sales representatives; problems in allocation of sales effort, supervision, control. Prerequisites: MKTG:3000.

MKTG:4201 Professional Selling**3 s.h.**

Personal selling function in overall business strategy and professional selling process that underlies successful sales careers; emphasis on hands-on experiences in developing practical skills in sales strategy, analytics, and communications skills; students develop and make sales presentations, engage in role-playing exercises, and complete applied selling exercises as individuals or in sales teams; focus is on professional selling in a business environment, but students will also apply course concepts in other interpersonal business communications settings. Prerequisites: MKTG:3000.

MKTG:4250 Marketing and Sustainability**3 s.h.**

Concepts for developing and implementing sustainable marketing strategies; developing more environmentally friendly products, more sustainable logistical systems, socially responsible pricing, and promoting sustainable products in a socially responsible way. Prerequisites: MKTG:3000.

MKTG:4275 Social Media Marketing**3 s.h.**

Fundamentals of social media in a marketing context; establishing clear organizational goals, developing appropriate marketing strategies, and determining key campaign logistics (who, when, where); guest speakers and hands-on projects involving social media. Prerequisites: MKTG:3000.

MKTG:4300 International Marketing 3 s.h.

Differences in global environment: how cultural considerations, political, legal, and economic conditions affect market entry strategies and marketing mix decisions; development of marketing plan for non-U.S. environments. Prerequisites: MKTG:3000.

MKTG:4500 Marketing Management 3 s.h.

Marketing problems of organizations; emphasis on marketing manager's role in developing, presenting goal-oriented marketing strategies; application of marketing concepts to real business situations. Prerequisites: MKTG:3000 and MKTG:3050 and MKTG:3100 and MKTG:3200 and (MKTG:3101 or MKTG:3102 or MKTG:3103 or MKTG:3300 or MKTG:3400 or MKTG:3401 or MKTG:3701 or MKTG:4000 or MKTG:4101 or MKTG:4200 or MKTG:4201 or MKTG:4250 or MKTG:4275 or MKTG:4300 or MKTG:4800). Requirements: completion of 90 s.h.

MKTG:4800 Field Studies in Marketing 3 s.h.

Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Prerequisites: MKTG:3000 and MKTG:3100.

MKTG:4900 Academic Internship arr.

Professional internship experience with associated academic content.

MKTG:4999 Honors Thesis in Marketing 3 s.h.

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Requirements: admission to the Tippie College of Business honors program.

MKTG:7800 Seminar in Consumer Behavior - Ph.D. 3 s.h.

Key facets of consumer behavior—information processing, perception, memory, learning, attitude formation, attitude change, decision making, emotion; behavioral research methods.

MKTG:7850 Seminar in Marketing Models - Ph.D. 3 s.h.

Theoretical, operational models in marketing, with emphasis on recent advances; in-depth criticism of models, participation in model development project.

MKTG:7900 Seminar in Research Topics - Ph.D. arr.

Individual research topics.

MKTG:7950 Directed Readings in Marketing - Ph.D. arr.**MKTG:7975 Thesis in Marketing arr.****MKTG:9000 Directed Readings in Marketing arr.****MKTG:9010 Contemporary Topics in Marketing 1-3 s.h.**

Topics not regularly offered in other courses. Prerequisites: MBA:8110.

MKTG:9015 Social Media Marketing for Business 3 s.h.

Fundamentals of social media marketing; establishing clear organizational goals for engaging in social media to market a product or service, developing solid strategies for implementation, and determining other key campaign logistics. Prerequisites: MBA:8110.

MKTG:9110 Category Management 3 s.h.

Marketing strategy related to manufacturing product line interactions, retailer product assortment, consumer response; category definition, product line pricing and branding, cross-category promotions, channel coordination, efficient consumer response, loyalty programs, database marketing. Prerequisites: MBA:8110.

MKTG:9120 Customer Relationship Management 3 s.h.

Analytical approaches to customer relationship management; issues, techniques and terminology associated with database marketing and data mining; analysis of customer databases; assessing lifetime valuation (LTV) of customers, identifying "high potential" customers, estimating return on marketing investment, building predictive models to estimate the probability of response to a marketing campaign. Prerequisites: MBA:8110.

MKTG:9150 Brand Management 3 s.h.

Strategies for building, leveraging, and defending brands; principles of consumer behavior, how they relate to building brand identity and equity; branding of consumer goods and services. Prerequisites: MBA:8110.

MKTG:9165 Digital Marketing Analytics 3 s.h.

Comprehensive introduction to current analytic tools and technologies used in digital marketing; hands-on analyses with JMP, a state-of-the-art visually stunning data analysis software; strategic applications of marketing analytics to data from B2C and B2B cases. Prerequisites: MBA:8150 and MBA:8110.

MKTG:9170 Business to Business Marketing 3 s.h.

Industrial buyer behavior, buyer-seller relationships, interactive product policy and market segmentation, distribution and selling systems; skill development in market strategy formulation for industrial products and services, and in solving problems and making decisions about industrial marketing. Prerequisites: MBA:8110.

MKTG:9190 International Marketing 3 s.h.

Domestic versus international perspective; identification and evaluation of opportunities and risks in non-U.S. markets; research problems in global markets; effects of international organizations, foreign exchange, macroeconomic policies, local law, and cultural differences on consumer behavior and marketing decisions; multinational versus global marketing strategies (entry, product adaptation, channel logistics, pricing, promotion); emphasis on practical applications. Prerequisites: MBA:8110.

MKTG:9200 Field Studies in Marketing 3 s.h.

Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Prerequisites: MBA:8110 and MBA:8150.

MKTG:9300 Applied Marketing Research 2-3 s.h.

Research design, survey design, sampling, data analysis, qualitative research methods, research project management. Prerequisites: MBA:8110 and MBA:8150.

MKTG:9310 Marketing Analytics 2-3 s.h.

Quantitative tools to support marketing planning decisions, including forecasting, elasticity analysis, conjoint analysis, and customer LTV; analysis of syndicated data. Prerequisites: MBA:8150 or MSCI:9100.

MKTG:9320 Strategic Brand Positioning 2-3 s.h.

Define market boundaries; use customer and competitor analyses to create sustainable market positions; create and manage brand identities; brand architecture, brand equity measurement. Prerequisites: MBA:8110.

MKTG:9330 Product and Pricing Management 2-3 s.h.

Create and capture value through product and service design, including stage-gate evaluation models; implement pricing strategy for new products and existing product lines. Prerequisites: MBA:8110.

MKTG:9340 Customer Analysis 2-3 s.h.

Use customer insights to support successful marketing programs; organizational, individual, and joint decision making; post sale satisfaction behaviors. Prerequisites: MBA:8110.

MKTG:9350 Marketing Communication and Promotions 2-3 s.h.

Develop effective communication programs for business and consumer markets; manage agency relationships; integrate media/vehicle platforms; track and evaluate investments in communications and promotions. Prerequisites: MBA:8110.

MKTG:9360 Category Management 2-3 s.h.

Manufacturer-retailer relationships, product line planning, efficient consumer response, cross-category marketing strategies, competition between national brands and store labels, retailer positioning, customer loyalty.

Marketing, B.B.A.

Requirements

The Bachelor of Business Administration with a major in marketing requires a minimum of 120 s.h., including 21 s.h. of work for the major. The program is designed to provide undergraduate students with an understanding of the business, social, and economic roles of marketing and to prepare them for marketing careers.

Several decades ago, the study of marketing dealt almost exclusively with business activities involved in the flow of goods from production to consumption. Today it includes principles that are more widely applicable; they are as relevant to the success of arts, sports, and social programs as they are to firms selling goods and services. A major in marketing includes study in the behavioral sciences, communications, statistical analysis, and computer methods as well as marketing decision making.

All students complete the common required courses and select one of the four marketing tracks: marketing management, retail management, professional sales and management, or marketing analytics.

The B.B.A. with a major in marketing requires the following course work. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1049] in the Catalog.

Code	Title	Hours
	Marketing Common Required Courses	12
	Marketing Required Track Courses	9
	Total Hours	21

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Marketing Common Required Courses

Students in all tracks must complete these four courses.

Code	Title	Hours
MKTG:3050	Professional Preparation in Marketing	2
MKTG:3055	Career Preparation for Marketing	1
MKTG:3100	Marketing Research	3
MKTG:3200	Consumer Behavior	3
MKTG:4500	Marketing Management (must be taken at the University of Iowa)	3

Marketing Required Track Courses

Students complete the requirements from one of the four tracks below.

Code	Title	Hours
Marketing Management Track		
	Three marketing courses chosen from the "Marketing Electives" list below	9
Retail Management Track		

MKTG:3400	Retail Strategies	3
MKTG:3401	Merchandise Management	3
	One additional marketing course, chosen from the "Marketing Electives" list below	3

Professional Sales and Management Track

MKTG:4200	Sales Management	3
MKTG:4201	Professional Selling	3
	One additional marketing course, chosen from the "Marketing Electives" list below	3

Marketing Analytics Track

MKTG:3101	Marketing Metrics	3
MKTG:3102	Marketing Analytics	3
	One additional marketing course, chosen from the "Marketing Electives" list below	3

Marketing Electives

Code	Title	Hours
MKTG:3101	Marketing Metrics	3
MKTG:3102	Marketing Analytics	3
MKTG:3103	Advanced Marketing Research	3
MKTG:3300	Web Business Strategy	3
MKTG:3400	Retail Strategies	3
MKTG:3401	Merchandise Management	3
MKTG:3701	Marketing Institute Field Studies	2
MKTG:4000	Contemporary Topics in Marketing	3
MKTG:4101	Integrated Marketing Communications	3
MKTG:4200	Sales Management	3
MKTG:4201	Professional Selling	3
MKTG:4250	Marketing and Sustainability	3
MKTG:4300	International Marketing	3
MKTG:4800	Field Studies in Marketing	3

Academic Plans

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Marketing, B.B.A.

- Marketing Management Track [p. 1126]
- Retail Management Track [p. 1127]
- Professional Sales and Management Track [p. 1128]
- Marketing Analytics Track [p. 1129]

Marketing Management Track

Course	Title	Hours
Academic Career Any Semester		

Students must complete a minimum of 60 s.h. in non-business courses.^a

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.^b

	Hours	0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
	Hours	16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16
Second Year		
Fall		
ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		3
	Hours	16
Spring		
ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		3
	Hours	16
Third Year		
Fall		
MKTG:3050	Professional Preparation in Marketing	2
MKTG:3000	Introduction to Marketing Strategy	3
BUS:3000	Business Communication and Protocol	3
MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		1
	Hours	15
Spring		
MKTG:3100	Marketing Research	3
MKTG:3200	Consumer Behavior	3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3

Non-business elective course	3
Hours	15

Fourth Year

Fall

Major: Marketing elective	3	
Major: Marketing elective	3	
MKTG:3055	Career Preparation for Marketing	1
MSCI:3000	Operations Management	3
Elective course		3
Elective course		1

Hours	14
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Spring

MKTG:4500	Marketing Management	3
Major: Marketing elective		3
Elective course		3
Non-business elective course		3
Non-business elective course		1

Hours	13
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Total Hours	121-124
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a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.

b See degree audit for course options.

c Enrollment in math courses requires completion of a placement exam.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Retail Management Track

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
	Hours	0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
	Hours	16
Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
	Hours	16

Second Year**Fall**

ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		3
Hours		16

Spring

ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		16

Third Year**Fall**

MKTG:3050	Professional Preparation in Marketing	2
MKTG:3000	Introduction to Marketing Strategy	3
BUS:3000	Business Communication and Protocol	3
MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		1
Hours		15

Spring

MKTG:3100	Marketing Research	3
MKTG:3401	Merchandise Management	3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Hours		15

Fourth Year**Fall**

MKTG:3400	Retail Strategies	3
MKTG:3200	Consumer Behavior	3
MKTG:3055	Career Preparation for Marketing	1
MSCI:3000	Operations Management	3
Elective course		3
Elective course		1
Hours		14

Spring

MKTG:4500	Marketing Management	3
Major: Marketing elective		3
Elective course		3
Non-business elective course		3
Non-business elective course		1
Hours		13
Total Hours		121-124

a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.

b See degree audit for course options.

c Enrollment in math courses requires completion of a placement exam.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Professional Sales and Management Track

Course	Title	Hours
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Academic Career**Any Semester**

Students must complete a minimum of 60 s.h. in non-business courses.^a

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.^b

Hours	0-3
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First Year**Fall**

MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
Hours		16

Spring

MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
Hours		16

Second Year**Fall**

ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		3
Hours		16

Spring

ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		16

Third Year**Fall**

MKTG:3050	Professional Preparation in Marketing	2
MKTG:3000	Introduction to Marketing Strategy	3
BUS:3000	Business Communication and Protocol	3

MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		1
Hours		15
Spring		
MKTG:3100	Marketing Research	3
MKTG:3200	Consumer Behavior	3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Hours		15
Fourth Year		
Fall		
MKTG:4200	Sales Management	3
Major: Marketing elective		3
MKTG:3055	Career Preparation for Marketing	1
MSCI:3000	Operations Management	3
Elective course		3
Elective course		1
Hours		14
Spring		
MKTG:4500	Marketing Management	3
MKTG:4201	Professional Selling	3
Elective course		3
Non-business elective course		3
Non-business elective course		1
Hours		13
Total Hours		121-124

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Marketing Analytics

Course	Title	Hours
Academic Career		
Any Semester		
Students must complete a minimum of 60 s.h. in non-business courses. ^a		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. ^b		0 - 3
Hours		0-3
First Year		
Fall		
MATH:1340	Mathematics for Business ^c	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives ^d		3
GE: Natural Sciences without Lab ^d		3
CSI:1600	Success at Iowa	2
Hours		16

Spring		
MATH:1380	Calculus and Matrix Algebra for Business	4
ECON:1100	Principles of Microeconomics	4
MSCI:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion or GE: Values and Culture ^d		3
Hours		16
Second Year		
Fall		
ACCT:2100	Introduction to Financial Accounting	3
STAT:1030	Statistics for Business	4
MGMT:2000	Introduction to Law	3
GE: Social Sciences (excluding ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics) ^d		3
Non-business elective course		3
Hours		16
Spring		
ACCT:2200	Managerial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MSCI:2800	Business Analytics	3
GE: International and Global Issues ^d		3
Non-business elective course		3
Hours		16
Third Year		
Fall		
MKTG:3050	Professional Preparation in Marketing	2
MKTG:3000	Introduction to Marketing Strategy	3
BUS:3000	Business Communication and Protocol	3
MSCI:3005	Information Systems	3
Non-business elective course		3
Elective course		1
Hours		15
Spring		
MKTG:3100	Marketing Research	3
MKTG:3200	Consumer Behavior	3
FIN:3000	Introductory Financial Management	3
MGMT:2100	Introduction to Management	3
Non-business elective course		3
Hours		15
Fourth Year		
Fall		
MKTG:3101	Marketing Metrics	3
Major: Marketing elective		3
MKTG:3055	Career Preparation for Marketing	1
MSCI:3000	Operations Management	3
Elective course		3
Elective course		1
Hours		14
Spring		
MKTG:4500	Marketing Management	3
MKTG:3102	Marketing Analytics	3

Elective course	3
Non-business elective course	3
Non-business elective course	1
Hours	13
Total Hours	121-124

- a ACCT, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours, with the exception of ECON:1100 and ECON:1200.
- b See degree audit for course options.
- c Enrollment in math courses requires completion of a placement exam.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

Career Advancement

The Bachelor of Business Administration (B.B.A.) program in marketing prepares students for positions in sales, market research, retailing, purchasing, or advertising. Employment opportunities exist for positions as market analysts, merchandise managers, buyers, purchasing agents, advertising managers, brand managers, consultants, and sales representatives in a variety of for-profit and nonprofit organizations.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit Marketing on the Pomerantz Career Center website.

Doctor of Philosophy

Graduate students in marketing may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in Business Administration [p. 1058] in the Catalog and visit the Department of Marketing website.

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College.

Master of Business Administration Program

Associate Dean

- David W. Frasier

Assistant Deans

- David J. Deyak, Colleen M. Downie, Dawn T. Kluber

Professional degree: M.B.A.

Professional certificates: business fundamentals; finance; leadership; marketing

Professional minors: business analytics; finance; marketing

Faculty: <https://tippie.uiowa.edu/people>

Website: <https://tippie.uiowa.edu/future-graduate-students/mba-programs>

The Master of Business Administration (M.B.A.) program provides students with a foundation for future growth and flexibility in professional management. The program, which is fully accredited by AACSB International—the Association to Advance Collegiate Schools of Business, enables students to build broad-based professional portfolios of analytical skills, knowledge, leadership, and applied experiences. The curriculum is rigorous, yet learning takes place in a collaborative environment that builds teamwork skills and encourages independent problem solving.

Students in Iowa's M.B.A. programs come from every region of the United States and from countries worldwide. They represent a variety of backgrounds, undergraduate majors, and professional experience. The curriculum is designed for college graduates in any field; previous business course work is not required. However, full-time work experience is typically required for admission. Contact the M.B.A. Program Office for a brochure listing complete program requirements.

The Departments of Accounting, Economics, Finance, Management and Organizations, Management Sciences, and Marketing all contribute to the Master of Business Administration program through faculty participation and course work.

Programs

Professional Programs of Study Major

- Master of Business Administration [p. 1135]

Minors

- Minor in Business Analytics [p. 1138]
- Minor in Finance [p. 1139]
- Minor in Marketing [p. 1140]

Certificates

- Certificate in Business Fundamentals [p. 1141]
- Certificate in Finance [p. 1142]
- Certificate in Leadership [p. 1143]
- Certificate in Marketing [p. 1144]

Courses

See course lists in the individual Tippie College of Business departmental sections of the Catalog for descriptions of M.B.A. electives.

Graduate Management Programs (M.B.A. Program) Courses

MBA:8000 Directed Readings-M.B.A. 1-3 s.h.

MBA:8010 M.B.A. IMPACT 0 s.h.

Introduction to the Tippie M.B.A. program and its culture; activities accentuate themes of involvement, motivation, professionalism, achievement, and challenge; week-long immersion in collaborative team-building experiences.

MBA:8100 Business Acumen and Career Development 1-2 s.h.

Career service tools to effectively market self to employers and succeed in chosen career path, communicate personal brand and vision, succeed in job search process, demonstrate professionalism in various business venues, and grow a personal sphere of influence; academy experience to build depth within chosen career field/academic track through course work and outside-of-class academy activities, academic concepts applied to business world, and exposure to relevant information important to student's major that does not clearly fit into academic course work.

MBA:8110 Marketing Management 2-3 s.h.

Concepts, principles, models of marketing management; focus on strategic planning, management decision making, and implementation of marketing programs.

MBA:8120 Management in Organizations 2-3 s.h.

How to explain, predict, and influence behavior in organizations; decision making, leadership, communication, group skills in management positions; motivation, leadership, teams, organizational culture, organizational design, individual differences, organizational change.

MBA:8130 Business Communication 1-3 s.h.

Effective communication to become a successful business professional and leader; strengthen ability to speak and write confidently, competently, and effectively, regardless of venue; varied team and individual presentation coaching, applied exercises.

MBA:8140 Corporate Financial Reporting 2-3 s.h.

Contemporary financial reporting practices in the United States; how alternative accounting treatments affect the usefulness of financial information in applied decision settings.

MBA:8150 Business Analytics 2-3 s.h.

Introduction to analytical techniques for making business decisions; utilizing Excel to apply descriptive and predictive analytical tools to solve practical business problems using real world data; dealing with uncertainty in decision making; formal probability concepts and statistical methods for describing variability (decision trees, random variables, hypothesis testing); application of techniques (linear regression, Monte Carlo simulation, linear optimization) to model, explain, and predict for operational, tactical, and strategic decisions.

MBA:8160 Managerial Economics 1-3 s.h.

Models of consumer and firm behavior with applications; market equilibrium and structure; pricing decisions.

MBA:8170 International Economic Environment of the Firm 2-3 s.h.

Basic determinants of aggregate output, employment, wages, unemployment, consumption, investment, international trade flows, interest rates, exchange rates, prices and inflation in open economies; sources and nature of economic growth; effects of domestic and foreign monetary, fiscal policies; effects of trade, exchange rate policies.

MBA:8180 Managerial Finance 2-3 s.h.

Time value of money, applications of present value techniques; stock and bond valuation, capital budgeting, cost of capital calculation, portfolio formation and efficient market analysis, financial statement analysis, pro forma analysis, hedging financial risks. Requirements: MBA:8140 or an undergraduate-level course in financial accounting or finance.

MBA:8190 Operations Management 2-3 s.h.

Planning and decision-making activities for managing an organization's operations; trade-offs associated with operations management decisions, tools and techniques for helping operations managers implement decisions and reach goals; production and service delivery strategy, capacity planning, product and process design, total quality management, demand management, production and service planning, scheduling, materials control, emerging production and service technologies. Prerequisites: MBA:8150.

MBA:8200 Strategic Business Consulting 1-6 s.h.

Plan, schedule, and deliver strategic consulting services to commercial enterprises; project definition, preparation and presentation of deliverables, client relationship management.

MBA:8210 Global Business Strategy 3 s.h.

Strategic frameworks and skills critical for success in the global marketplace; content of an economic environment; cultural, ethical, and legal issues in the conduct of international business; how companies enter foreign markets and grow international subsidiaries, succeed in mergers and acquisitions, cooperate in joint ventures and strategic alliances.

MBA:8220 Ethics and the Law 1-2 s.h.

Legal and ethical issues surrounding startup and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, alternative dispute resolution.

MBA:8230 Introduction to Leadership 1-2 s.h.

Major theories; practical development of leadership and managerial skills to enhance individual and organizational effectiveness.

MBA:8240 Operations and Supply Chain 2-3 s.h.

Planning and decision-making activities for managing an organization's operations in both manufacturing and services, with an emphasis on production and service delivery strategy, process design, capacity planning, process analytics, queueing, and an introduction to supply chain management including supply chain design and coordination. Prerequisites: MBA:8150.

MBA:8300 Foundations in Strategy 2-3 s.h.

Key elements of domestic competitive and corporate strategy; industry analysis (understanding the importance of industry for firm performance); strategies for achieving competitive advantage (cost focus, differentiation focus); corporate strategy (corporate scope, horizontal diversification, vertical integration); topics of global strategy, which may include challenges of attaining competitive advantage in foreign markets, such as cross-national distance and liabilities of foreignness, as well as international strategies (replication strategy, adaptation strategy, arbitrage strategy).

MBA:8309 Consulting Project Leadership 1-2 s.h.

Student Team Leads for the Business Solution Center engage in activities to support the launch of spring consulting projects; initial client interactions, project scope, project planning documents, project arrangement letters, and detailed work plans in consultation with their client and Business Solutions Center leadership; basics of leading a team of student consultants. Prerequisites: MBA:8110 and MBA:8120 and MBA:8140 and MBA:8150 and MBA:8180 and MBA:8190 and MBA:8300. Requirements: full-time M.B.A. standing.

MBA:8310 Business Integration 1-3 s.h.

Student teams run an operational business simulation, conduct organizational/industry analysis, assess market opportunities, define strategic direction, compete for company profitability and market share. Prerequisites: MBA:8110 and MBA:8140 and MBA:8150 and MBA:8180 and (MBA:8190 or MBA:8240) and MBA:8300.

MBA:8330 Seminar in Strategic Management I 1-3 s.h.

Introduction to strategic management; the role of marketing, operations, and finance in strategic planning; case studies.

MBA:8340 Seminar in Strategic Management II 1-3 s.h.

Strategic management integrating all aspects of business; computer simulation, lectures, case studies, readings.

MBA:8400 M.B.A. Internship 0 s.h.**MBA:8410 Application in Organizational Leadership** 0-1 s.h.

Opportunity to develop leadership skills necessary for managing student organizations; class discussion, workshops, guest speakers; for M.B.A. organization treasurers and presidents.

MBA:8420 M.B.A. Case Competition 1-3 s.h.

Students represent the Tippie College of Business Graduate Management Programs in a case competition; internal case work, presentation and case analysis training. Requirements: M.B.A. standing.

MBA:8500 Seminar in International Business 0-6 s.h.

Issues and challenges facing organizations doing business in international markets; social, economic, political factors, business policies and customs in the global environment; may include travel, study abroad. Requirements: M.B.A. enrollment.

MBA:8501 M.B.A. Coaches Program 1 s.h.

Development of coaching skills while leading a rigorous peer-to-peer mentoring program with first-year M.B.A. students; improve ability to communicate, motivate, influence, train, and develop others as well as develop high level competency in coaching in critical career development skills, such as business communications, crafting a personal brand pitch, interviewing preparation, and creating and leveraging a network; successful leaders are skilled coaches, so the benefits of this course to both coach and mentee, extend far beyond the classroom experience and time as a Tippie student.

MBA:9120 Introduction to Leadership 1 s.h.

Major theories; practical development of leadership and managerial skills to enhance individual and organizational effectiveness.

Master of Business Administration, M.B.A.

The Master of Business Administration includes several programs: professional M.B.A., executive M.B.A., M.B.A. in Hong Kong, and the M.B.A. in Italy ("CIMBA M.B.A."). Students in the professional M.B.A. program have the opportunity to enroll in combined programs in business analytics or social work. See "Combined Programs" under the M.B.A. Professional Program [p. 1135] in this section of the Catalog.

M.B.A. Executive Program

The M.B.A. Executive Program (the EMBA program) requires 52 s.h. of graduate credit. The executive program is conducted at the Pomerantz Center on the University's Iowa City campus and at the Pappajohn Education Center in Des Moines, Iowa; see program locations on the Tippie College of Business website.

Course work for the M.B.A. Executive Program is presented over four semesters. The program begins in mid-August (Iowa City) or in mid-January (Des Moines) with a five-day residency. It continues with classes one day each week on alternating Fridays and Saturdays (Iowa City) or on Friday and Saturday every other week (Des Moines). A second five-day residency is held at the beginning of the second year. Students have a four-week winter break and summers off.

Each entering class progresses through the program as a group. The curriculum includes 18 courses, an 11 day international business seminar, and work in study groups that persist throughout the program.

The M.B.A. Executive Program requires the following course work.

Code	Title	Hours
First Year		
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8330	Seminar in Strategic Management I	1
MGMT:9270	Human Resource Management	3
Second Year		
MBA:8300	Foundations in Strategy	3
MBA:8170	International Economic Environment of the Firm	3
MBA:8310	Business Integration	2
MBA:8500	Seminar in International Business	1
ACCT:9020	Strategic Cost Analysis	3
FIN:9300	Corporate Investment and Financing Decisions	3
MGMT:9110	Dynamics of Negotiations	3

MGMT:9120	Leadership and Personal Development	3
MGMT:9130	Strategic Management of Change	3
MGMT:9210	Law and Ethics	3
Total Hours		52

Admission

Admission is limited to experienced managers and executives who want to broaden their management skills without interrupting their professional careers. Applicants typically have seven or more years of postgraduate managerial experience. Previous academic work in business is not required.

M.B.A. Professional Program

The Professional M.B.A. Program (PMBA program) is tailored for working professionals building on the synergies of concurrent work and learning. The program prepares graduates to be effective managers and leaders in the global marketplace. The curriculum is designed for students with varied backgrounds, undergraduate majors, and professional experience. Previous course work in business is not required.

Courses are offered each semester during evening hours or weekends at three locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center, Des Moines at the John and Mary Pappajohn Education Center (JMPEC), and the Quad Cities at the Birchwood Fields Learning Center; see program locations on the Tippie College of Business website. PMBA students also may enroll in full-time M.B.A. courses in Iowa City when space is available.

Program requirements include 45 s.h. of credit including a business core of nine courses plus six electives. The core develops competency in general management skills and key functional business areas. The electives contribute to the development of an area of expertise and foster a deeper understanding of management and business practices. Electives are offered in analytics, entrepreneurship, finance, leadership and management, marketing, and operations/supply chain. Students may take part in several global learning opportunities in international locations to increase their understanding of the global business environment and its implications for business conduct and decision making.

Students may earn a professional Certificate in Finance [p. 1142], Leadership [p. 1143], or Marketing [p. 1144] while they fulfill requirements for the M.B.A. without taking courses beyond the 45 s.h. required for the degree. In addition, through a separate application, PMBA students also may earn the Certificate in Business Analytics [p. 1121] while they fulfill requirements for the M.B.A.

Students can complete the degree requirements in as few as two-and-one-half years or extend their study to as long as 10 years. Most students earn the M.B.A. in about three years, taking two courses each fall and each spring semester and one course during the summer.

Plan of Study

Code	Title	Hours
First Year		
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3

MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
Business elective		3
Second Year		
MBA:8180	Managerial Finance	3
MBA:8190 or MBA:8240	Operations Management Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
Two business electives		6
Third Year		
MBA:8160	Managerial Economics	3
MBA:8310	Business Integration	3
Three business electives		9
Total Hours		45

Admission

The PMBA program admits students for entry in summer, fall, or spring; applications are accepted throughout the year. Admission decisions are based on completed application materials, including quality of work experience, undergraduate grade-point average, scores on the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) General Test, and recommendations. Applicants should have at least one and one-half years of postbaccalaureate professional work experience before admission and must be fully employed in a professional position to be considered for admission.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the program accepts International English Testing System (IELTS) scores. For information about registering for TOEFL or IELTS and reporting scores to the University, visit English Requirements for M.B.A. Admission on the Office of Admissions website.

Admission decisions are made before registration begins for completed applications received by the priority application deadline. Admitted applicants who have met the priority application deadline may request registration for classes on the first registration date. The University must receive completed application materials by the following application deadlines.

Summer session (May): April 30

Fall semester (August): July 30

Spring semester (January): December 15

GMAT/GRE Waiver

Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) General Test waivers may be granted. The following requirements must met in order to be considered.

The applicant has earned a master's or terminal degree, including a Ph.D., M.D., J.D., or Pharm.D. from an accredited U.S. postsecondary institution posted on the U.S. Department of Education website. The applicant who has earned an advanced degree from a non-U.S. postsecondary institution will be considered for a waiver by exception.

The applicant must have earned a cumulative g.p.a. of 3.00 or higher on a 4.00 scale (or equivalent) in all graduate work used to fulfill the degree requirements.

Waivers may be granted when an applicant has significant professional experience and strong academic performance at the undergraduate level or while a pre-M.B.A. student. The following requirements need to be met to be considered.

The applicant has six or more years of postbaccalaureate professional work experience and has demonstrated career progression.

The applicant has earned a cumulative undergraduate g.p.a. of 3.25 or higher on a 4.00 scale with grades of B or higher in two or more quantitative courses, such as algebra or a more advanced course; or a cumulative g.p.a. of 3.00 or higher in a minimum of three University of Iowa M.B.A. courses while in pre-M.B.A. status, including grades of B or higher in two of the following courses—business analytics, managerial economics, corporate financial reporting, or managerial finance.

Enrollment in Courses Before Formal Admission

Individuals who have not yet been formally admitted to the program may request pre-M.B.A. status by submitting their résumé and transcript to the PMBA program for approval. They should have at least one and one-half years of postbaccalaureate professional work experience. Those granted pre-M.B.A. status may enroll in a maximum of five PMBA courses with a maximum of two courses during each 10- or 12-week session and one course during shorter sessions.

Students must take one of the following courses sometime during pre-M.B.A. status.

Code	Title	Hours
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3

Credit earned during pre-M.B.A. status is applied to the requirements for the degree once the applicant is admitted to the program.

Combined Programs

Combined degree programs allow students to pursue two degrees simultaneously, earning both more quickly than they would if they pursued each degree separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

M.B.A./M.S. in Business Analytics (Professional Subprogram)

The M.B.A. Program along with the Department of Management Sciences offers a combined Master of Business Administration/Master of Science in business analytics program. For more information, see the M.S. in business analytics [p. 1119] (Tippie College of Business) in the Catalog.

M.B.A./M.S.W.

The M.B.A. Program collaborates with the School of Social Work to offer the combined Master of Business Administration/

Master of Social Work program. For more information, see the M.S.W. [p. 928] (College of Liberal Arts and Sciences) in the Catalog.

M.B.A. in Hong Kong

The M.B.A. program in Hong Kong ("Hong Kong M.B.A.") requires 45 s.h. of graduate credit. The curriculum is designed for students with various backgrounds, experience, and academic majors who are living in or near Hong Kong or Taiwan. The program does not require previous course work in business.

Students complete the required courses in sequence; most complete the program in 16-20 months. Each course begins with two weeks of online course work followed by two consecutive weekends of classes in Hong Kong and an additional two weeks of online course work. Faculty from the University of Iowa travel to Hong Kong to teach the weekend classes. Some courses offer a video conference option for students living in Taiwan. Students also have the opportunity to study on campus in Iowa City for up to one semester.

The M.B.A. in Hong Kong requires the following course work.

Code	Title	Hours
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
MBA:8160	Managerial Economics	3
MBA:8170	International Economic Environment of the Firm	3
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
Business electives		18
Total Hours		45

Admission

Students are admitted to the program year-round. Admission decisions are based on a completed application, which includes a résumé, academic qualifications, an essay, letters of recommendation, and an interview. Applicants must have at least three years of professional-level work experience.

M.B.A. in Italy

The M.B.A. program in Italy ("CIMBA M.B.A.") requires 52-55 s.h. of graduate credit. The 11-month full-time program is held primarily at the CIMBA campus in Paderno del Grappa, Italy, but the final course is completed on the University of Iowa campus in Iowa City. A two-year part-time program also is available for working professionals living in Italy.

The program focuses on personal leadership development and emphasizes strategic management, consulting, and international business. Students apply what they learn through a consulting project with local and international companies. In addition to the M.B.A. degree, students earn certificates through Kepner-Tregoe in problem solving and decision making, and in project management. The program

draws its faculty from the University of Iowa and from institutions across the United States and Europe.

The full-time program admits students only for fall semester entry. Part-time applicants typically start in the fall but may be permitted to begin the program at other times.

The M.B.A. CIMBA program requires the following course work.

Code	Title	Hours
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Business Analytics	3
MBA:8160	Managerial Economics	3
MBA:8170	International Economic Environment of the Firm	2
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
ACCT:9020	Strategic Cost Analysis	3
ENTR:9100	Entrepreneurship and Innovation	3
FIN:9300	Corporate Investment and Financing Decisions	3
MGMT:9210	Law and Ethics	2
MGMT:9120	Leadership and Personal Development	3
MSCI:9110	Advanced Analytics	3
MSCI:9120	Managing the Supply Chain	3
MSCI:9220	Introduction to Information Systems	3
Electives		3-6
Total Hours		52-55

Admission

Admission decisions are based on an applicant's completed application, which includes a résumé, academic qualifications, essays, an interview, and scores on the Graduate Management Admission Test (GMAT) or Graduate Record Exam (GRE) General Test. Applicants must have at least two years of professional work experience.

Business Analytics, Professional Minor

The professional minor in business analytics is open only to students who are completing course work in the full-time M.B.A. program.

Students must complete four courses from the following.

Code	Title	Hours
This course:		
MBA:8150	Business Analytics	2-3
Three of these:		
MSCI:9050	Data Management and Visual Analytics	3
MSCI:9060	Data Programming in R	2-3
MSCI:9070	Data Science	2
MSCI:9110	Advanced Analytics	3

Finance, Professional Minor

The professional minor in finance is open only to students who are completing course work in the full-time M.B.A. program.

Students must complete a minimum of 6 s.h. from the following.

Code	Title	Hours
At least one of these:		
FIN:9200	Portfolio Management	2
FIN:9300	Corporate Investment and Financing Decisions	2
At least one of these:		
FIN:9150	Financial Modeling and Firm Valuation	2
FIN:9210	Derivatives	2
FIN:9220	Fixed Income Securities	2
FIN:9230	Real Estate Finance and Investments	2
FIN:9240	International Finance	2
FIN:9280	Global Structured Finance	3
FIN:9290	Alternative Investments and Portfolio Strategies	2
FIN:9310	Corporate Financial Strategy	2
FIN:9350	Wealth Management	2
FIN:9390	Putting Finance into Practice	3

Marketing, Professional Minor

The professional minor in marketing is only open to students who are completing course work in the full-time M.B.A. program.

Students must chose a minimum of 6 s.h. from the following.

Code	Title	Hours
MKTG:9300	Applied Marketing Research	2
MKTG:9310	Marketing Analytics	2
MKTG:9320	Strategic Brand Positioning	2
MKTG:9330	Product and Pricing Management	2
MKTG:9340	Customer Analysis	2
MKTG:9350	Marketing Communication and Promotions	2
MKTG:9360	Category Management	3

Business Fundamentals, Professional Certificate

The professional Certificate in Business Fundamentals requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 3.00 in certificate course work. If students have completed one or more of the same courses for another certificate, they must consult their advisor to ensure they earn 15 s.h. to complete the certificate program.

The certificate is open to most University of Iowa graduate students. It is not available to students who are admitted to the pre-M.B.A. or Professional M.B.A. Program. However, students who have completed the business fundamentals certificate may use the certificate courses to fulfill degree requirements once admitted to the Professional M.B.A. Program. Students interested in applying to the Professional M.B.A. Program should do so before they complete certificate requirements; they must meet admission requirements of the Professional M.B.A. Program.

The certificate is designed to introduce students to the core principles of business. Course work covers select disciplines within business—accounting, analytics, finance, managing organizations, marketing, and strategy. Students gain knowledge and develop skills that will immediately strengthen their performance as employees and managers. The certificate is comprised of Professional M.B.A. Program courses, allowing students to benefit from the same course work and faculty members as M.B.A. students.

The Certificate in Business Fundamentals requires the following course work.

Code	Title	Hours
All of these:		
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8180	Managerial Finance	3
One of these:		
MBA:8150	Business Analytics	3
MBA:8210	Global Business Strategy	3

Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. Applicants must have an undergraduate cumulative g.p.a. of at least 2.75, or a graduate cumulative g.p.a. of at least 3.00 and a minimum of 18 months of full-time professional work experience after completion of their baccalaureate degree. Applicants must be fully employed in a professional capacity to be considered.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

Finance, Professional Certificate

The professional Certificate in Finance requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 3.00 in certificate course work. If students have completed any of the same courses for another certificate, they must consult their advisor to ensure they earn 15 s.h. to complete the certificate program.

The certificate is open to individuals who are fully employed and desire to complete the certificate to build their financial skills or to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional course work.

The certificate is ideal for students who wish to gain specialized knowledge of financial concepts. Students can select courses to focus their study in specific areas of finance such as corporate finance, investments, portfolio management, and wealth management.

The Certificate in Finance requires the following course work.

Code	Title	Hours
This course:		
MBA:8180	Managerial Finance	3
Four of these:		
FIN:9010	Contemporary Topics in Finance	3
FIN:9140	Corporate and Financial Risk Management	3
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9220	Fixed Income Securities	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9270	Security Analysis	3
FIN:9280	Global Structured Finance	3
FIN:9290	Alternative Investments and Portfolio Strategies	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9350	Wealth Management	3
MSCI:6150	Financial Analytics	3

Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. Applicants must have an undergraduate cumulative g.p.a. of at least 2.75, or a graduate cumulative g.p.a. of at least 3.00 and a minimum of 18 months of full-time professional work experience after completion of their baccalaureate degree. Applicants must be fully employed in a professional position to be considered.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign

Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

Leadership, Professional Certificate

The professional Certificate in Leadership requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 3.00 in certificate course work. If students have completed any of the same courses for another certificate, they must consult their advisor to ensure they earn 15 s.h. to complete the certificate program.

The certificate is open to individuals who are fully employed and desire to complete the certificate to build their skills or to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional course work.

Modern-day leadership is about facilitating change, maximizing team and employee performance, influencing others, and leading companies and people to greatness. Students who pursue the leadership certificate learn the skills to effectively lead others. The certificate is appropriate for working professionals in all business functions and industries.

The Certificate in Leadership requires the following course work.

Code	Title	Hours
Both of these:		
MBA:8120	Management in Organizations	3
MGMT:9120	Leadership and Personal Development	3
Three of these:		
MBA:8130	Business Communication	3
MGMT:9090	Influence and Constructive Persuasion	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
MGMT:9092	Effective Managerial Communication	3
MGMT:9110	Dynamics of Negotiations	3
MGMT:9130	Strategic Management of Change	3
MGMT:9210	Law and Ethics	3
MGMT:9220	Maximizing Team Performance	3
MGMT:9230	Managing and Preventing Conflict	3
MGMT:9250	Managing Employee Performance	3
MGMT:9260	Strategic Employee Development	3
MGMT:9270	Human Resource Management	3
MGMT:9290	Global Business Management	3

Admission

Admission decisions are based upon completed application materials, including academic performance and quality

and quantity of work experience. Applicants must have an undergraduate cumulative g.p.a. of at least 2.75, or a graduate cumulative g.p.a. of at least 3.00 and a minimum of 18 months of professional work experience after completion of their baccalaureate degree. Applicants must be fully employed in a professional position to be considered.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

Marketing, Professional Certificate

The professional Certificate in Marketing requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 3.00 in certificate course work. If students have completed any of the same courses for another certificate, they must consult their advisor to ensure they earn 15 s.h. to complete the certificate program.

The certificate is open to individuals who are fully employed and desire to complete the certificate to build their skills or to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional course work.

The study of marketing includes the activities and processes for creating, communicating, and delivering products and services that add value for customers. Students learn the foundations of marketing and build specialized skills in a diversity of marketing functions, including the newest concepts and tools in digital and social marketing.

The Certificate in Marketing requires the following course work.

Code	Title	Hours
This course:		
MBA:8110	Marketing Management	3
Four of these:		
MBA:8150	Business Analytics	3
MKTG:9010	Contemporary Topics in Marketing	3
MKTG:9015	Social Media Marketing for Business	3
MKTG:9120	Customer Relationship Management	3
MKTG:9150	Brand Management	3
MKTG:9165	Digital Marketing Analytics	3
MKTG:9170	Business to Business Marketing	3
MKTG:9190	International Marketing	3
MKTG:9310	Marketing Analytics	3
MKTG:9300	Applied Marketing Research	3
MKTG:9320	Strategic Brand Positioning	3
MKTG:9330	Product and Pricing Management	3
MKTG:9340	Customer Analysis	3
MKTG:9350	Marketing Communication and Promotions	3

Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. Applicants must have an undergraduate graduate cumulative g.p.a. of at least 2.75, or a graduate cumulative g.p.a. of at least 3.00 and a minimum of 18 months of full-time professional work experience after completion of their baccalaureate degree. Applicants must be fully employed in a professional position to be considered.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

Risk Management and Insurance

Director

- Thomas R. Berry-Stoelzle

Undergraduate certificate: risk management and insurance

Faculty: <https://tippie.uiowa.edu/about-tippie/centers-institutes/vaughan-institute/contacts>

Website: <https://tippie.uiowa.edu/about-tippie/centers-institutes/vaughan-institute>

The financial services/insurance sector is the second largest economic sector in Iowa, including 29 headquartered companies and 228 branches. Risk management and insurance is a diverse field with many career opportunities, including corporate risk manager, risk management consultant, employee benefits manager, insurance broker, underwriter, wealth manager, financial analyst, claims adjuster, producer (sales), actuary, and auditor.

The Emmett J. Vaughan Institute of Risk Management and Insurance prepares students for risk management careers. In addition to the course work, the Vaughan Institute provides professional development opportunities—networking events with industry speakers, scholarships, a mentorship program with alumni, and a job fair.

The certificate program is designed to give students an in-depth understanding of risk management tools as well as hands-on experience using them. It provides students with the knowledge to understand the business model of insurance. Experiential learning is a cornerstone of the program. Students work as consultants solving real world risk management challenges for companies in eastern Iowa. These projects are supervised by industry professionals, while conceptual classes are taught by research-active professors with global reputations. The Vaughan Institute was named a Global Center of Insurance Excellence, one of only 20 in the world.

Risk management and insurance courses provide value to students' personal lives by familiarizing them with insurable risks and types of insurance (property, liability, life and health). With the selection of elective courses, students learn about employee benefit plans, wealth management, real estate, and banking, among others.

In addition, over 84 percent of students enrolled in the certificate program secure internships during their time in the program, while 98 percent receive a full-time position in a career field associated with risk management and insurance.

Programs

Undergraduate Program of Study Certificate

- Certificate in Risk Management and Insurance [p. 1146]

Resources

The Vaughan Institute provides numerous opportunities for students. It offers:

- an active student organization—Gamma Iota Sigma;
- over \$50,000 in scholarships awarded to Vaughan students each academic year;
- networking events with industry professionals;
- a series of speaker events with recent graduates to assist in résumé preparation, and refinement of interview skills;
- an industry mentor program;
- a student résumé book sent to over 250 employers;
- professional development opportunities, such as the Dana C. Ramundt Golf Challenge;
- trips to professional conferences in locations, such as Chicago, Dallas, and San Antonio;
- a student newsletter with job and internship announcements; and
- a risk management and insurance career fair.

Career Advancement

Risk management is a growing field in all industries with huge potential for career advancement. It is estimated that 400,000 industry positions in the industry will be available by 2020. Six of every ten risk management and insurance (RMI) professionals will retire in the next decade, which is 30 percent higher than any other industry.

While 75 percent of RMI graduates remain in the Midwest, others are working in 36 states and four countries. Graduates are employed in 14 different industries and by 175 different companies. Nearly 40 percent work for insurance companies, brokers, and agencies.

Popular careers include those in analysis (finance, investments, credit, portfolio, risk), underwriting, auditing, working for brokers or agencies, actuarial and consulting work, corporate finance, marketing, investment banking, management, sales, and as entrepreneurs.

Risk Management and Insurance, Certificate

The undergraduate Certificate in Risk Management and Insurance (RMI) requires at least 26-35 s.h. of credit: 35 s.h. for B.B.A. students with a major in finance, 34-35 s.h. for students with a major in mathematics (specialization in risk management and insurance or in finance), 23 s.h. for actuarial science majors, and 26 s.h. for other majors.

Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a graduate or professional degree program.

Students must declare their intent to earn the certificate with the RMI advisor. Some courses have prerequisites; students must complete prerequisites before they may register for a course. For more information, see the Certificate in Risk Management and Insurance on the Emmett J. Vaughan Institute of Risk Management and Insurance website.

The Certificate in Risk Management and Insurance requires the following course work.

Foundation Courses

All students complete the following (11 s.h.).

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting (not required for actuarial science majors)	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4

RMI Courses

All students complete the following (15 s.h.).

Code	Title	Hours
One of these:		
FIN:3000	Introductory Financial Management	3
FIN:3300	Corporate Finance (for actuarial science majors)	3
IE:2500	Engineering Economy (for engineering majors)	3
Both of these:		
FIN:3400	Principles of Risk Management and Insurance (with grade of C or higher)	3
FIN:4410	Corporate and Financial Risk Management	3
Two of these:		
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3
FIN:4450	Risk Modeling	3

Additional Course Work for Finance and Mathematics Majors

In addition to the above requirements, finance majors or mathematics majors (math program C, finance and RMI tracks) also must complete the following courses.

Finance Major

B.B.A. students majoring in finance complete three of these (9 s.h.).

Code	Title	Hours
MGMT:4100	Dynamics of Negotiations	3
MKTG:4200	Sales Management	3
MSCI:3025	VBA Spreadsheet Programming	3

A maximum of three finance courses (prefix FIN) numbered 4000 or above, excluding those taken to satisfy RMI courses above

Mathematics Major with Specialization

Students majoring in mathematics with a specialization in risk management and insurance or a specialization in finance complete three of these (8-9 s.h.).

Code	Title	Hours
ACCT:3020	Financial Accounting and Reporting	3
ACCT:3200	Income Measurement and Asset Valuation (accounting majors take this instead of ACCT:3020)	3
FIN:3100	Financial Information Technology	2
FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
FIN:4210	Futures and Options	3
FIN:4220	Fixed Income Securities	3
FIN:4230	Real Estate Process	3
FIN:4320	Commercial Banking	3

Risk Management and Insurance Affiliated Courses

The Department of Finance offers six courses affiliated with the Emmett J. Vaughan Institute of Risk Management and Insurance that are included in the Certificate in Risk Management and Insurance curriculum. Students should view the course descriptions and prerequisites for each of the courses below.

Code	Title	Hours
FIN:3400	Principles of Risk Management and Insurance	3
FIN:4410	Corporate and Financial Risk Management	3
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3
FIN:4450	Risk Modeling	3

College of Dentistry

Dean

- David C. Johnsen

Executive Associate Dean

- Galen B. Schneider

Associate Dean, Education

- Lily T. Garcia

Associate Dean, Finance and Facilities

- Scott K. Arneson

Associate Dean, Patient Care

- Michael J. Kanellis

Associate Dean, Research

- Brad A. Amendt

Associate Dean, Student Affairs

- Sherry R. Timmons

Professional degree: D.D.S.

Graduate degrees: M.S.; Ph.D.

Website: <https://www.dentistry.uiowa.edu/>

The College of Dentistry is an integral part of the University of Iowa and its health sciences campus. Its mission, which embraces the University's academic values as well as the ethical responsibilities implicit in educating future members of a profession, rests on a foundation representing every aspect of collegiate activity: education of students as general practitioners and specialists; research into all aspects of oral and dental disease and the delivery of health care; and service to the community, the state, and the profession.

Faculty members, D.D.S. students, and dental specialty residents provide oral health care to patients at clinics in the Dental Science Building and the Center for Disabilities and Development. Faculty, staff, and students participate in interdisciplinary research and training activities involving the University's five health science colleges as well as other University colleges and departments.

Dentistry at the University of Iowa began in 1882 as a single department. In 1900 the University underwent general reorganization and the Dental Department became the College of Dentistry. Today the college is Iowa's only provider of dental education and ranks as a leader in dental education nationwide.

The college and its educational programs are accredited by the Commission on Dental Accreditation of the American Dental Association, an independent tripartite commission authorized and recognized by the Commission on Post-Secondary Education.

Programs offered by the college cover the full spectrum of dentistry and closely integrated fields. They include the Doctor of Dental Surgery program (D.D.S.), which prepares general dentists; advanced education programs in all dental specialties, each of which may lead to certification in a dental specialty; several advanced education programs in other areas of dentistry, including the oral science program, which offers a M.S. degree in conjunction with a specialty certificate; a Ph.D. degree; post-D.D.S. residency programs

in hospital-based dentistry; and a wide variety of continuing education programs for dental and allied professions.

Faculty

Iowa's dental faculty is predominantly full-time. In addition, more than 100 part-time adjunct faculty members assist with clinical teaching in the D.D.S. and advanced residency programs. Approximately 88 percent of the college's faculty members hold D.D.S. or D.M.D. degrees and 12 percent represent other disciplines. The vast majority of faculty dentists have advanced education past the D.D.S., generally with master's degrees in specialty areas; about one-fifth hold a Ph.D.

The College of Dentistry is committed to the principle that diversity is essential to a strong educational environment—one that prepares new generations of dentists to provide high-quality care to patients from many backgrounds. The college's full-time faculty reflects that commitment.

Programs

Professional Program of Study (D.D.S.)

The Doctor of Dental Surgery program prepares students to practice general dentistry. It requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry. See the Doctor of Dental Surgery [p. 1150] for a description of the program's curriculum and information about a combined bachelor's degree and a D.D.S., the dentistry licensure examination, student organizations, expenses, admission, financial support, and academic rules and procedures.

Post-D.D.S. and Graduate Programs of Study

Several College of Dentistry departments offer professional certificate programs designed to prepare dentists for clinical specialty practice: endodontics [p. 1153]; operative dentistry [p. 1159]; oral pathology, radiology, and medicine [p. 1163]; orthodontics [p. 1170]; pediatric dentistry [p. 1174]; periodontics [p. 1176]; and prosthodontics [p. 1181]. Students who complete these programs satisfactorily are awarded a certificate. The Department of Oral and Maxillofacial Surgery [p. 1161] offers a four-year residency program that culminates in a certificate. The college also offers the Certificate in Geriatric and Special Needs Dentistry [p. 1156].

The College of Dentistry offers a Doctor of Philosophy and a Master of Science in oral science [p. 1167]. The M.S. is only offered in conjunction with a specialty certificate. Students earning the Certificate in Endodontics or the Certificate in Prosthodontics may earn an M.S. or a Ph.D. in oral science. Those earning the Certificate in Operative Dentistry, Certificate in Oral and Maxillofacial Pathology, Certificate in Oral and Maxillofacial Radiology (Department of Oral Pathology, Radiology, and Medicine), or the Certificate in Periodontics may earn an M.S. in oral science.

In addition, the Department of Orthodontics [p. 1170] offers a Master of Science in orthodontics, and the Department of Preventive and Community Dentistry [p. 1178] offers a Master of Science in dental public health.

For information about post-D.D.S. and graduate programs of study, see the College of Dentistry department sections of the Catalog.

Facilities

The College of Dentistry is located in the Dental Science Building on the University of Iowa health sciences campus, in proximity to the Roy J. and Lucille A. Carver College of Medicine, College of Nursing, College of Pharmacy, College of Public Health, and University of Iowa Hospitals and Clinics. The Bowen Science Building and the Hardin Library for the Health Sciences also are nearby.

The south wing of the Dental Science Building is devoted to clinical teaching. There are 248 operatories in departmental clinics, student laboratories, clinical research space, and a cafeteria. The three clinical floors of the south wing were recently remodeled as part of a comprehensive four-year project. The west wing contains two floors of patient treatment areas and one floor of space for students.

The clinical spaces include 46 dental operatories in the Geriatric and Special Needs Clinic, the Endodontic Clinic, Faculty General Practice, and the Craniofacial Clinical Research Center. Student areas include a classroom that accommodates 80 people, small-group study rooms, a seminar room, a student lounge, lockers, and showers. The north wing houses the simulation clinic and technique bench teaching laboratory, the electronic classroom, college administrative offices, technology and media services, the academic Department of Preventive and Community Dentistry, and the research laboratories and faculty offices of the Iowa Institute for Oral Health Research.

Dental Education and Patient Care

Patient care is integral to dental education. Students and faculty members deliver oral health care in clinics on the health sciences campus and at several off-campus sites, including nursing homes. More than 45,600 people receive oral health care yearly in the college's clinics. Patients from throughout Iowa as well as from western Illinois and northern Missouri account for most of the 167,300 patient visits each year.

Interdisciplinary Centers and Research

Iowa Institute for Oral Health Research

The Iowa Institute for Oral Health Research occupies the first and fourth floors of the Dental Science Building's north wing. Laboratories are equipped to support a wide variety of research projects reflecting the complex nature of modern health care needs. Research at the institute is coordinated by the College of Dentistry. Focus areas include biostatistics, biomaterials, caries research, craniofacial and dental genetics and development, immunology, inflammation, public health and epidemiology, stem cells, and tissue engineering. Clinical and translational research involving new innovative methods and products designed in the research laboratories is carried out in the Craniofacial Clinical Research Center. A new initiative is the development of a precision, personalized medicine database and biorepository at the College of Dentistry. This will allow for more efficient and specialized patient care.

Although research is concentrated in these program areas, one of the unit's strengths has been the consistent level of interaction and collaboration among individuals and programs across the college and the University.

Craniofacial Anomalies Research Center

The role of the Craniofacial Anomalies Research Center is to understand the molecular mechanisms of genes and gene interactions that contribute to craniofacial/dental anomalies and birth defects. These genetic defects arise from inherited and somatic gene mutations due to environmental effects. The center researchers use mouse, ferret and zebrafish models, human genetic material, cell lines, and molecular/biochemistry approaches to understand gene function. With the advent of human genome sequencing and the decreasing costs of genomic analyses, it has become somewhat more efficient to identify genetic defects associated with human genetic defects and diseases. The use of these genetic screening approaches provides invaluable data and resources in the search for new genes involved in human craniofacial development and associated anomalies. The center collaborators reside in the Carver College of Medicine, and the Colleges of Dentistry, Pharmacy, and Public Health.

Craniofacial Clinical Research

For more than two decades, the College of Dentistry has offered outpatient research support for National Institutes of Health, Food and Drug Administration, and related federally supported research grants. Protocol-based studies are performed by faculty scientists and supported by oral health care industries. Scientists also engage in translational research that involves laboratory-to-clinical-research outcomes. College of Dentistry faculty use new technology to improve dental procedures and provide state-of-the-art methods to obtain the best outcomes for patients. A biorepository program helps researchers understand the causes of dental and oral diseases and genetic anomalies. It benefits Iowans by the potential diagnoses of diseases and their effects and provides new, improved patient treatment.

Through integrated research, education, and clinical programs, craniofacial clinical research facilitates the development of implants and their use as a therapeutic modality in dentistry. The program also integrates basic and clinical research with technology transfer to the clinical setting, enhancing predoctoral, postgraduate, and continuing education and expanding treatment options available to patients served by the college. Craniofacial Clinical Research also provides vital coordination of dental specialties that participate in this treatment modality.

Courses

Most College of Dentistry courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections. The college also offers the following nondepartmental courses.

College of Dentistry Courses

DENT:4000 Pre-Dental Academy 0 s.h.

Hands-on experience for undergraduate students interested in dentistry; interaction with faculty, residents, and current students in simulation clinic; didactic sessions; admissions information; changing health care environment, digital dentistry, dental esthetics, introduction to dental specialties, drilling and filling. Offered summer session.

DENT:8100 First-Year Continuing Session arr.

DENT:8200 Second-Year Continuing Session arr.

DENT:8300 Third-Year Continuing Session arr.

DENT:8371 Introduction to Quality Assurance 2 s.h.

Patient management, record writing skills, quality assurance concepts; students coordinate treatment, patient relations, issues of quality assurance for a group of patients; ethical, moral dilemmas in relation to dental practice.

DENT:8400 Fourth-Year Lectures and Clinics arr.

DENT:8485 Clinical Admissions Emergency 1 s.h.

Clinical evaluation, diagnosis, and treatment of patients with dental emergencies; patient assessment and referral to appropriate department for treatment.

DENT:8489 Advanced Topics in Quality Assurance 2 s.h.

Quality assurance from viewpoint of practicing dentist, dental educator, dental epidemiologist, court system; analysis of senior dental practice in relation to quality assurance criteria.

DENT:9000 Advanced Clinical Comprehensive Dentistry 0 s.h.

Clinical experience for professional improvement.
Requirements: dental degree.

Doctor of Dental Surgery

Professional degree: D.D.S.

Website: <https://www.dentistry.uiowa.edu/>

The Doctor of Dental Surgery program prepares students to practice general dentistry. The D.D.S. is a professional degree awarded by the College of Dentistry.

Dentistry Licensure Examination

The State of Iowa accepts clinical examination results from all Regional Dental Testing Services. Examinations are administered at several testing sites located at dental schools in the United States. A separate license application is then filed with the individual state board of dentistry.

For licensure, all states also require the National Boards, conducted by the American Dental Association. Many states, including Iowa, also require a jurisprudence examination.

Student Organizations

All dental students are members of the American Student Dental Association through its local chapter. The American Dental Education Association, the American Association of Dental Research (Student Research Group), the American Association of Women Dentists, the American Academy of Pediatric Dentistry Student Chapter, the American Association of Public Health Dentistry Student Chapter, the Student National Dental Association, the Hispanic Dental Association, and the Tau Sigma Military Student Organization also have local chapters.

Students who rank in the upper 12 percent of their senior class are eligible for election to Omicron Kappa Upsilon, a national scholastic honorary dental society.

The national dental professional fraternity, Delta Sigma Delta, has a chapter at Iowa. The fraternity provides academic and social activities for students and their spouses.

Programs

Professional Program of Study

Major

- Doctor of Dental Surgery [p. 1151]

Academic Rules and Procedures

Promotions, Graduation

Student promotions and graduation are determined by the Collegiate Academic and Professional Performance Committee (CAPP), which is made up of individuals appointed by the dean from the biomedical, preclinical, and clinical sciences and from other academic areas of the college. The performance committee may recommend to the executive associate dean that a student withdraw from the college or repeat specific courses when the student is deemed generally unprepared to be promoted or to enter the dental profession.

Committee for Appeals

When a student has been asked to withdraw from the college or wants special consideration of problems concerning promotion or graduation, the student may appeal to the dean. All appeals are heard by an ad hoc committee appointed by

the dean. The ad hoc committee investigates new information that has not been available previously or that has not been discussed as fully as the student feels it should have been. The committee determines whether this new information, or important new insights that may have been gained, could have influenced the Collegiate Academic and Professional Performance Committee's decision. The recommendation of the appeals committee is submitted to the dean for final action.

Doctor of Dental Surgery, D.D.S.

The Doctor of Dental Surgery (D.D.S.) is a professional degree awarded by the College of Dentistry. Admission requirements include 90 s.h. of undergraduate credit, including specific required courses, completed at an accredited college; see Admission [p. 1151] in this section of the Catalog.

Students working toward a bachelor's degree in the University of Iowa College of Liberal Arts and Sciences before being admitted to the College of Dentistry may be able to complete their bachelor's degree during their first year in dentistry; see "Bachelor's Degree/D.D.S." under Requirements [p. 1151] in this section of the Catalog.

Requirements

The Doctor of Dental Surgery requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry.

Course work during the first and second years in the College of Dentistry integrates the biomedical sciences with preclinical and clinical disciplines. The biomedical sciences include gross anatomy, biochemistry, general histology, microbiology, pathology, pharmacology, and physiology. Students also study topics specific to dentistry, such as principles of occlusion, anesthesia and pain control, operative dentistry, periodontics, prosthodontics, cariology, and preventive dentistry. During the latter part of the first year, students are introduced to their first clinical patient treatment situation.

Second-year dental students continue their study of biomedical sciences, take preclinical courses, have additional patient treatment experiences in restorative and preventive dentistry, and are introduced to aesthetic and implant dentistry.

Third-year dental students rotate through a series of clerkships that expose them to eight clinical disciplines: endodontics, operative dentistry, oral and maxillofacial surgery, oral pathology, pediatric dentistry, periodontics, prosthodontics, and oral radiology and medicine.

Fourth-year dental students deliver comprehensive dental care in conditions that closely approximate those in private dental practice. They also are exposed to varied community dentistry health programs throughout Iowa and other states that include hospitals, nursing homes, and special care clinics. They may choose to participate in the Colorado Migrant Worker Program, the Indian Health Service Program, or the Foreign Dental School Exchange Program. The community dentistry programs provide exposure to facets of dentistry usually not observable in an academic setting.

Biomedical Sciences in the Dental Curriculum

The following science courses are offered by University of Iowa departments outside the College of Dentistry and are a required part of the D.D.S. curriculum.

Code	Title	Hours
ACB:8120	Human Gross Anatomy for Dental Students	6
ACB:8121	General Histology for Dental Students	4

BIOC:8101	Biochemistry for Dental Students	3
MICR:8230	Dental Microbiology	3
MPB:8115	Human Physiology for Dental Students	4
OPRM:8240	Basic Pharmacology	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4

Dentistry nondepartmental courses are listed under Courses [p. 1148] in the College of Dentistry section of the Catalog. Courses offered by the college's departments are listed in each department's General Catalog section.

Bachelor's Degree/D.D.S.

The College of Liberal Arts and Sciences (CLAS) allows its students to count 30 s.h. of elective credit earned in any other University of Iowa college toward graduation with a bachelor's degree. Under this policy, CLAS students who enroll in the College of Dentistry before completing their bachelor's degree may be able to complete their degree during their first year in dentistry. Students planning to take advantage of this plan must satisfy the CLAS residence requirement in order to enroll in the College of Dentistry. They also must fulfill all requirements for the bachelor's degree, including the GE CLAS Core [p. 459] requirements and the requirements for a major. Contact the College of Liberal Arts and Sciences for more information.

Admission

Applicants must submit a completed AADSAS (Associated American Dental Schools Application Service) application form to the American Dental Education Association (ADEA). The AADSAS application must be completed online at the American Dental Education Association website.

Applications are accepted beginning June 1 of the year before the year of entry. Completed applications must be on file at ADEA by October 1. Applicants should apply as early as possible. Notifications of acceptance are sent beginning December 1.

Prospective dental students are encouraged to embark on an educational program that leads to a standard bachelor's degree. This ensures that students receive a well-rounded education.

Predental Studies

The basic academic requirement for admission to the College of Dentistry is completion of at least 90 s.h. of academic study at an accredited college. No more than 60 s.h. of credit is accepted from a junior college or two-year institution. The predental program of study should include the following.

English: satisfactory accomplishment in English composition, rhetoric, and speech commensurate with the academic requirements for a bachelor's degree at the college attended.

Physics: one year (equivalent to 8 s.h.), of which one-fourth must be laboratory work.

Chemistry: two years (equivalent to 16 s.h.), of which one year (equivalent to 8 s.h.) must be in organic chemistry; one-fourth of each year's study must be laboratory work.

Biological science: one year (equivalent to 8 s.h.), which must include appropriate laboratory work; the requirement

may be satisfied by a one-year course in principles of biology, with instruction in cell biology, metabolism, organismic biology, animal biology, genetics, development, ecology, and evolution. Preference is given to applicants who have completed more than 8 s.h. Courses in human anatomy and cell physiology are strongly recommended.

Gross anatomy: highly recommended.

Electives: sufficient course work in the social sciences, philosophy, psychology, history, world languages, business, and mathematics to provide a well-rounded educational background.

Grade-Point Average Requirement

Applicants should have a cumulative g.p.a. higher than 2.50 on a 4.00 scale; a g.p.a. above 3.50 is preferred. The admissions committee gives special consideration to the quality of applicants' course work in the predental sciences, in addition to the cumulative grade-point average.

Interviews

Personal interviews are required of applicants for admission to the College of Dentistry. After a complete AADSAS application is received by the admissions office, select applicants are contacted to arrange an interview.

Required Dental Admission Test

All applicants must complete the Dental Admission Test (DAT) sponsored by the Council on Dental Education of the American Dental Association. A computerized DAT is available throughout the year at designated Prometric Centers. Tests must be scheduled in advance.

Test application forms are available online or by mail from the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

Deposit by Accepted Applicants

Applicants accepted before February 1 are required to submit a \$500 deposit within 30 days after notification of admittance. Applicants admitted after February 1 must submit the deposit within two weeks after notification of admittance. This deposit is not refundable but is credited toward the first fee payment. Applicants who fail to make the deposit within the time specified forfeit their place in the entering class.

Additional Admission Considerations

Fulfillment of the specific requirements listed for admission does not ensure admission to the College of Dentistry. The admissions committee reviews applicants who meet the minimum requirements and selects those who appear best qualified for the study and practice of dentistry. The committee considers quantitative and qualitative components of the application, letters of recommendations, the interview, and other factors.

Financial Support

Financial assistance for dental students is based on need. Dental students who demonstrate need are eligible for Health Professions, Stafford, and Grad Plus loans. Students applying for loans must submit the Free Application for Federal Student

Aid (FAFSA). Loans are repayable over an extended period of time after the course of study is completed.

Collegiate short-term and long-term loans are available through the financial aid coordinator at the College of Dentistry.

Tuition scholarships are awarded each year to qualified entering dental students. The awards provide financial support up to \$15,000 per year for as many as four years, if the student maintains an appropriate level of academic and professional performance.

Information on financial assistance for dental students is available from the University's Office of Student Financial Aid as well as the College of Dentistry Office of Student Affairs.

Expenses

The College of Dentistry maintains the Supply-Instrument Management System (SIMS), which provides students with instruments and supplies necessary throughout their dental training. The SIMS usage fee for the D.D.S. is payable in installments over the four-year program.

A fee for expendable laboratory supplies is charged each of the first two years. A \$100 breakage fee also must be deposited; the deposit is refundable upon graduation or termination of enrollment.

Career Advancement

The Doctor of Dental Surgery program prepares students to practice general dentistry.

Endodontics

Head

- Fabricio Teixeira

Director, Graduate Program

- Anne E. Williamson

Professional certificate: endodontics

Faculty: <https://www.dentistry.uiowa.edu/endodontics-faculty>

Website: <https://www.dentistry.uiowa.edu/endodontics>

The Department of Endodontics provides education and training to predoctoral students and to professional students, who may work toward a graduate degree along with their professional training. Some students participate with departmental faculty in research that contributes to the knowledge base of the specialty. Faculty and advanced students in the department also provide care to patients at the College of Dentistry.

D.D.S. Student Training

Course work and clinical experiences in endodontics are of vital importance in the overall education of Doctor of Dental Surgery students. Preclinical endodontics, taught during the sophomore year, includes a didactic and a laboratory component. In clinical endodontics, taught during the junior year, students study both normal and pathological conditions of the dental pulp and periapex. Diagnosis of pulpal and periradicular disease and various specialized aspects of endodontic treatment are emphasized. Students treat endodontic patients under direct supervision of faculty and staff.

Programs

Professional Program of Study

Certificate

- Certificate in Endodontics [p. 1154]

Facilities

The Department of Endodontics is located in the west section (third floor) of the Dental Science Building (DSB). The Endodontic Clinic is adjacent to the west entrance.

Courses

Endodontics Courses

ENDO:5201 Update in Endodontics	0-1 s.h.
Recommended for second year certificate students.	
ENDO:5225 Endodontic Literature Review I	0,2 s.h.
Current and historical research.	
ENDO:5226 Endodontic Literature Review II	0,2 s.h.
Continuation of ENDO:5225.	
ENDO:5260 Current Literature in Endodontics	0-1 s.h.
Current literature relevant to endodontics, including diagnosis or treatment of endodontic cases; dental journals with endodontic-related content; landmark research.	
ENDO:5700 Endodontic Surgery Conference	0,2 s.h.
Attendance at Endodontic Surgery Conference.	

ENDO:5701 Advanced Clinical Endodontics	0,3 s.h.
Advanced study.	
ENDO:5710 Research in Endodontics	0 s.h.
ENDO:5720 Seminar in Endodontics I	0,2 s.h.
First in a series of lectures in endodontics.	
ENDO:5721 Seminar in Endodontics II	0,2 s.h.
Continuation of ENDO:5720.	
ENDO:6227 Endodontic Literature Review III	0,2 s.h.
Continuation of ENDO:5226.	
ENDO:6228 Endodontic Literature Review IV	0,2 s.h.
Continuation of ENDO:6227.	
ENDO:6701 Seminar in Endodontics III	0,2 s.h.
Continuation of ENDO:5721.	
ENDO:6702 Seminar in Endodontics IV	0,2 s.h.
Continuation of ENDO:6701.	
ENDO:8240 Endodontics Preclinical Didactic	1 s.h.
Basic principles, concepts, technical procedures for treatment of pulpal problems.	
ENDO:8241 Endodontics Preclinical Laboratory	1 s.h.
Basic technical procedures for treatment of pulpal problems.	
ENDO:8360 Clinical Endodontic Practice	arr.
Clinical experience in diagnosis and treatment of routine pulpal and periradicular pathology; emergency diagnosis; treatment of patients.	
ENDO:8365 Clinical Endodontic Seminar	1 s.h.
Tooth pain, anesthesia, pulpal and periradicular reactions, endodontic radiologic interpretation, trauma diagnosis and treatment, surgical endodontics, endodontic implants, bleaching, retreatment, apexification/apexigenesis.	

Endodontics, Professional Certificate

The professional Certificate in Endodontics requires a minimum of 24 months of full-time formal training. The certificate is a clinical specialty program designed to provide qualified dentists with the scientific knowledge and clinical skills they need to practice endodontics and/or pursue a career in dental education and research. The curriculum includes clinical and didactic courses. Students complete an original research project in endodontics and write a scientific paper on their research for submission to a refereed journal.

The program's goal is to develop competent diagnosticians and clinicians. Students learn the scientific and clinical basis of endodontics; develop clinical skills; gain knowledge of and experience in the educational process in order to function confidently as dental educators; and develop skills in designing, conducting, reporting, and publishing the results of original research.

The certificate program satisfies training requirements for eligibility for certification by the American Board of Endodontics. Students who complete the program are encouraged to seek board certification. Various activities throughout the course of study prepare students for the board examination process.

Once students enroll in the certificate program, they are not permitted to involve themselves in private dental practice enterprises outside the college. Failure to adhere to this policy may result in dismissal from the program.

Whenever possible, students should complete the certificate program without interruption. Students who demonstrate a need to discontinue the program temporarily should limit their time away to a maximum of one calendar year. Students must have permission from the endodontics graduate program director in order to interrupt their study.

Admission

Applicants to the endodontics certificate program must apply through the American Dental Education Association's Postdoctoral Application Support Services (ADEA PASS). Applicants must hold a D.D.S. or D.M.D. degree or a foreign equivalent and must meet the application requirements of the Graduate College. They should take the National Board Dental Examination, part one, and part two when it is available.

Applications should include official transcripts from all undergraduate and graduate institutions, an updated curriculum vitae, three letters of recommendation, a personal statement, and a photograph (two-inch head-and-shoulders view).

The certificate program begins July 1; ADEA PASS applications should be submitted no later than July 1 for admission the following summer. Finalists for admission are asked for a personal interview in July; admission decisions are made following interviews.

Graduate Study

Certificate students may work toward a Master of Science or a Doctor of Philosophy in oral science while earning the certificate. Both graduate degree programs provide students with in-depth knowledge in a scientific training discipline as preparation for careers in academia and research.

Students normally require three years of full-time study to complete the Certificate in Endodontics and the M.S. degree, or at least four years to complete the certificate and the Ph.D. degree. Both graduate degree programs require more didactic course work than the certificate program. The M.S. requires a thesis; the Ph.D. requires a dissertation. See Oral Science [p. 1167] in the Catalog.

Other graduate programs are available to endodontics certificate students, such as master's degrees in other disciplines, or a certificate in combination with a Ph.D. in a basic science area. Such programs are available by special arrangement, depending on a candidate's experience and goals. Consult the Department of Endodontics for more information.

Financial Support

Applicants to the certificate and graduate programs must be able to support themselves financially until they complete the programs.

Prospective students should plan to pay living expenses, tuition, and costs for books, specialized equipment (e.g., surgical operating microscope, notebook computer, and ultrasonic system), instrument usage, and other expenses.

Family Dentistry

Head

- David C. Holmes

Faculty: <https://www.dentistry.uiowa.edu/family-dentistry-faculty>

Website: <https://www.dentistry.uiowa.edu/family-dentistry>

The Department of Family Dentistry reinforces and refines the comprehensive approach to managing patients' oral health care needs.

D.D.S. Student Training

The senior year of the Doctor of Dental Surgery program integrates basic science knowledge, clinical skills, and dental laboratory experiences acquired during the first three years of dental school into a systematic approach to providing patient care.

Students who complete their education in family dentistry should:

- conduct themselves in a professional and ethical manner;
- understand the principles of comprehensive dental treatment planning;
- know the medical, ethical, and legal issues involved in patient care;
- be able to recognize the need for specialty consultation;
- be competent in coordinating and sequencing patient treatments;
- be effective members of the dental team;
- be prepared to enter general practice;
- be educated and trained for licensure examination; and
- appreciate the importance and value of lifelong learning.

Students spend five days a week in a clinical setting, where they gain experience in total patient management and care. Their didactic course work builds on their previous education. All areas of clinical and didactic instruction, patient awareness, and sensitivity to patients' needs are stressed.

The department's practice management curriculum prepares students to evaluate practice locations and manage the business aspects of a dental practice.

Courses

Family Dentistry Courses

FAMD:8484 Dental Practice Management 2 s.h.

Principles of dental practice management; delivery of comprehensive dental treatment in a simulated group-practice clinical setting, with chairside dental assistants.

FAMD:8487 Clinical Experiences: Comprehensive Care arr.

Clinical experiences in diagnosis, treatment planning, and delivery of integrated, comprehensive dental care.

FAMD:8488 Clinical Competencies: Comprehensive Care arr.

Refinement of clinical skills, judgment, and critical self-evaluation in the delivery of integrated, comprehensive dental care.

FAMD:8494 Topics in Family Dentistry 3 s.h.

Current techniques, findings; applications for general practitioner and graduate specialty programs.

FAMD:8495 Treatment Planning and Sequencing 2 s.h.

Documentation of diagnostic procedures used in developing a treatment plan and sequence for selected clinical patients; student presentations.

Geriatric and Special Needs Dentistry

Head, Department of Preventive and Community Dentistry

- Daniel J. Caplan

Coordinator, Geriatric and Special Needs Dentistry

- Howard Cowen

Professional certificate: geriatric and special needs dentistry

Faculty: <https://www.dentistry.uiowa.edu/preventive-geriatric-special-needs-certificate-program-faculty>

Website: <https://www.dentistry.uiowa.edu/preventive-geriatric-special-needs-certificate-program>

The certificate program in geriatric and special needs dentistry prepares dentists to be leaders and teachers in this critical area of practice. The multidisciplinary program incorporates medicine and psychiatry and blends clinical and didactic experiences in varied settings, such as acute, palliative, rehabilitative, and long-term care. Its goal is to provide dental professionals with the knowledge and skills they need to provide patient-centered, sound, and realistic treatment plans for their geriatric and special needs patients.

The Certificate in Geriatric and Special Needs Dentistry is administered by the Department of Preventive and Community Dentistry [p. 1178].

Programs

Professional Program of Study Certificate

- Certificate in Geriatric and Special Needs Dentistry [p. 1157]

Courses

Geriatric and Special Needs Dentistry Courses

GSND:5700 Advanced Clinical Geriatric Dentistry I 0,4 s.h.
Advanced clinical education in geriatric dentistry.

GSND:5702 Advanced Clinical Geriatric Dentistry II 0,4 s.h.

GSND:5703 Advanced Clinical Geriatric Dentistry III 0,4 s.h.

GSND:5704 Advanced Clinical Geriatric Dentistry IV 0,4 s.h.

GSND:5720 Outreach/Advanced Clinical Geriatric Dentistry I 0,3 s.h.

GSND:5721 Outreach/Advanced Clinical Geriatric Dentistry II 0,3 s.h.

GSND:5730 Interdisciplinary Geriatric Patient Assessment I 0,2 s.h.

GSND:5731 Interdisciplinary Geriatric Patient Assessment II 0,2 s.h.

GSND:5740 Advanced Topics in Geriatric Dentistry and Special Needs I 0,2 s.h.

GSND:5742 Advanced Topics in Geriatric Dentistry and Special Needs II 0,2 s.h.

GSND:5750 Geriatric Dental Case Study Seminar I 0,2 s.h.

GSND:5751 Geriatric Dental Case Study Seminar II 0,2 s.h.

GSND:5760 Teaching Practicum in Geriatric Dentistry I 0,2 s.h.

GSND:5770 Advanced Clinical Training for Developmentally Disabled Adults I 0,2 s.h.

GSND:5771 Advanced Clinical Training for Developmentally Disabled Adults II 0,2 s.h.

Geriatric and Special Needs Dentistry, Professional Certificate

The professional Certificate in Geriatric and Special Needs Dentistry requires a minimum of one year of full-time study. The program prepares dentists to evaluate and manage the oral health problems of older adults across the spectrum of geriatric health care services as well as adults with special needs. It also prepares professionals for scholastic positions in geriatric education. Successful graduates meet the educational requirements for eligibility to take the fellowship examination of the Special Care Dentistry Association.

Certificate students have opportunities to collaborate with medical residents and other allied health care professionals in providing a holistic approach to care of patients whose dental and medical needs are complex. They gain experience in the College of Dentistry's patient care clinics and Geriatric Mobile Dental Unit, at St. Luke's Hospital (Cedar Rapids, Iowa), and at University of Iowa Hospitals and Clinics.

Highlights of the curriculum include advanced clinical geriatric and special needs dentistry, interdisciplinary geriatric patient assessment, geriatric dentistry case studies, outreach, and teaching practicum.

Admission

Applicants must hold a D.D.S. or D.M.D. degree from an accredited dental school. International students should have at least three years of experience and/or postgraduate prosthodontics training and be licensed dentists. All applicants must meet the admission requirements of the Graduate College. Contact the Geriatric and Special Needs Dentistry Certificate Program to learn more.

Hospital Dentistry

Head

- Kirk L. Fridrich (Oral and Maxillofacial Surgery)

Director, Graduate Program

- Ryan W. Hill

Faculty: <https://gme.medicine.uiowa.edu/american-dental-association-general-practice-residency/our-people>

Website: <https://gme.medicine.uiowa.edu/hospital-dentistry-general-practice-residency>

The College of Dentistry operates a hospital dentistry clinical service at University of Iowa Hospitals and Clinics. The service includes divisions of general dentistry, maxillofacial prosthodontics, and oral and maxillofacial surgery, and it interacts with the college's specialties of orthodontics, periodontics, pediatric dentistry, endodontics, diagnosis, oral pathology, and prosthodontics.

The Hospital Dentistry Program offers a one-year general practice residency.

Residency

The general practice residency program prepares dentists for a broader scope of private practice in general dentistry. The program combines clinical and didactic training on an individual basis and meets fundamental requirements of the Commission on Dental Accreditation of the American Dental Association (ADA).

The residency covers one year of hospital-based training. Through postdoctoral clinical, didactic, and hospital experience, residents prepare to meet the oral health needs of a wide range of ambulatory and nonambulatory patients. Rotations and patient experiences are located at University of Iowa Hospitals and Clinics.

Residency training includes use of hospital resources, management of ambulatory patients, inpatients, same-day surgery patients, and emergency medical and dental patients. Residents participate in consultations with other hospital services and are assigned to appropriate hospital services to fulfill the objectives of the training program. They are appointed to the hospital's house staff and have the same privileges and responsibilities as residents in other professional education programs.

Admission

Applicants must be U.S. citizens or permanent residents and must be graduates of a dental school accredited by the American Dental Association. They also must be eligible for licensure to practice dentistry in the United States. Application deadline is October 1 for the following July 1. See the Hospital Dentistry-General Practice Residency Program website for admission and application requirements.

Operative Dentistry

Head

- Steven R. Armstrong

Professional certificate: operative dentistry

Faculty: <https://www.dentistry.uiowa.edu/operative-faculty>

Website: <https://www.dentistry.uiowa.edu/operative>

The Department of Operative Dentistry teaches the foundational concepts of dentistry to predoctoral dental students in caries diagnosis, prevention, repair, and restorative techniques. The primary departmental focus is to provide the knowledge, technical skills, critical thinking and judgment for the diagnosis, prevention, and management of dental caries, non-caries dental defects (attrition, abrasion, erosion, abfraction, developmental abnormalities, discoloration, and trauma), and elective esthetic smile enhancements. It also serves an equally important position to provide national leadership in dental research and advanced restorative technology in its collective faculty efforts and through the professional Certificate in Operative Dentistry.

D.D.S. Student Training

Course work and clinical experiences in operative dentistry are fundamental to the overall education of Doctor of Dental Surgery students. Operative dentistry course work covers roughly one quarter of curriculum time during the first three years of dental school as students progress toward competency in operative dentistry. The department's primary goal is to educate dental students, using best available evidence, to achieve and maintain optimal patient oral comfort, function, and aesthetics through risk-based diagnosis, prevention, and minimally invasive treatment of caries and hard tissue lesions of the teeth.

Programs

Professional Program of Study

Certificate

- Certificate in Operative Dentistry [p. 1160]

Courses

Operative Dentistry Courses

OPER:5126 Operative Dentistry Seminar 0-1 s.h.

Review and critical analysis of operative dentistry literature.

OPER:5140 Operative Dentistry Advanced Clinic 0-3 s.h.

Medical and surgical clinical management of dental disease; special emphasis on minimally invasive dentistry using advanced aesthetic principles.

OPER:5234 Selected Applications of Operative Dentistry 0-3 s.h.

Advanced techniques completed on simulated patients.

OPER:5245 Pre-Clinical Teaching 0-3 s.h.

Teaching predoctoral dental students on simulated patients.

OPER:6246 Clinical Teaching 0,2 s.h.

Clinical teaching instruction in operative dentistry clinics.

OPER:8120 Dental Anatomy 3 s.h.

Basic dental terminology and nomenclature, human tooth morphology, creation of tooth crowns with wax.

OPER:8122 Operative Dentistry I 6 s.h.

Principles and design of cavity preparations; placement of restorative materials using simulated patients.

OPER:8240 Operative Dentistry II 5 s.h.

Principles of caries and non-caries lesion management, design of cavity preparations, restoration of teeth, patient management, pain control; esthetic dentistry; tooth bleaching, tooth recontouring, esthetic buildups with dental composite; exercises on mannequins in simulation clinic and procedures performed on patients in operative clinic. Prerequisites: OPER:8122.

OPER:8370 Operative Dentistry III 4 s.h.

Combination of didactic and clinical aspects of operative dentistry; medical and surgical management of dental disease; emphasis on minimally invasive dentistry with advanced aesthetic principles.

Operative Dentistry, Professional Certificate

Students must earn the professional Certificate in Operative Dentistry in conjunction with an M.S. or Ph.D. in oral science. Completion of both programs requires 36 months of full-time study. The M.S. requires additional course work as well as a thesis and oral and written comprehensive exams. Students have some flexibility in their curriculum to take courses that particularly interest them; see Oral Science [p. 1167] in the Catalog.

The Certificate in Operative Dentistry is a professional clinical specialty program that provides dentists with advanced training for teaching, research, and the clinical practice of operative dentistry. The operative dentistry graduate program meets the educational requirements for application to take board certification examinations of the American Board of Operative Dentistry. Operative dentistry is recognized by the American Dental Association as an interest area in general dentistry.

Admission

Applicants to the certificate program must be graduates of accredited United States or recognized international dental schools and must meet the admission requirements of the Graduate College. The department may request an interview with an applicant.

Students must provide their own financial support for the certificate and degree programs, including research and thesis expenses.

For more information, visit the Graduate Program in Operative Dentistry web page.

Oral and Maxillofacial Surgery

Head

- Kirk L. Fridrich

Assistant Head

- Richard G. Burton

Director, Graduate Program

- Steven L. Fletcher

Professional certificate: oral and maxillofacial surgery

Faculty: <https://gme.medicine.uiowa.edu/oral-and-maxillofacial-surgery-residency/our-people/faculty>

Website: <https://gme.medicine.uiowa.edu/oral-and-maxillofacial-surgery-residency>

The Department of Oral and Maxillofacial Surgery combines clinical and didactic training to fit the individual interests, abilities, and development of students. Its training program for predoctoral students is based in the College of Dentistry, with some clinical assignments in the oral and maxillofacial surgery division at University of Iowa Hospitals and Clinics. Its certificate program is based primarily in the Oral and Maxillofacial Surgery Residency program at University of Iowa Hospitals and Clinics.

D.D.S. Student Training

The Doctor of Dental Surgery curriculum in oral and maxillofacial surgery is designed to develop a foundation of professional knowledge and surgical skills that will enable students to diagnose and manage surgical problems related to general dentistry practice. The program emphasizes high ethical standards and development of good surgical concepts and judgment.

The clinical portion of the curriculum allows students to develop surgical skills and apply the theoretical knowledge acquired in didactic courses. Theory and application of anesthesia-analgesia, intravenous sedation, and nitrous oxide analgesia techniques are presented through didactic and clinical experiences.

Programs

Professional Program of Study Certificate

- Certificate in Oral and Maxillofacial Surgery [p. 1162]

Facilities

The University of Iowa health sciences campus has outstanding basic and clinical science departments that stimulate and support scholarly research and superior clinical practice. Appropriate environments for residency training in oral and maxillofacial surgery are provided by University of Iowa Hospitals and Clinics, the College of Dentistry, and the Carver College of Medicine.

Courses

Oral and Maxillofacial Surgery Courses

OMFS:5208 Pain and Anxiety Control 0-3 s.h.

Nitrous oxide; intravenous, oral, intramuscular anxiety and pain control; pharmacology of agents; complications, their management.

OMFS:8115 Anesthesia and Pain Control I 1 s.h.

Principles, techniques of complete medical history, head and neck examination, cardiovascular and respiratory examination; neuroanatomical, psychophysiological aspects of pain; pharmacologic action and techniques for using local anesthetics.

OMFS:8230 Basic Oral and Maxillofacial Surgery 2 s.h.

Principles; indications, contraindications for extractions; evaluation of patient's related medical history; techniques of extraction, minor oral surgery procedures.

OMFS:8245 Anesthesia and Pain Control II 1 s.h.

Theory, application, instrumentation of nitrous oxide sedation; emphasis on cardiovascular, respiratory physiology; evaluation of patients, practical techniques for nitrous oxide sedation.

OMFS:8355 Advanced Oral and Maxillofacial Surgery 1 s.h.

History, examination, diagnosis, treatment of diseases and traumatic injuries of oral cavity.

OMFS:8360 Clinical Oral and Maxillofacial Surgery arr.

Clinical experience at the College of Dentistry, University of Iowa Hospitals and Clinics, Veterans Affairs Iowa City Health Care System.

Oral and Maxillofacial Surgery, Professional Certificate

Applicants must have graduated from an accredited college of dentistry, should be in the upper one-fourth of their graduating class, and must be eligible to be licensed to practice dentistry in the United States.

The department offers a four-year residency program that culminates in the professional Certificate in Oral and Maxillofacial Surgery. The program combines clinical and didactic training to prepare dentists for specialty practice. Every effort is made to adapt the program to the individual interests, abilities, and development of students, but it is essential that all students meet certain fundamental requirements.

Recommendations of the American Dental Association, the Committee on Graduate Training of the American Association of Oral and Maxillofacial Surgeons, and the American Board of Oral and Maxillofacial Surgery have been considered carefully in planning the structure and scope of training.

The residency period covers four years of hospital training, providing an orientation to hospital procedures, integration of basic and clinical sciences, acquisition of surgery principles, and familiarization with varied aspects of health services.

Competence in clinical oral and maxillofacial surgery requires knowledge of the basic medical sciences related to the specialty. In addition to hospital and clinical training, residents take advanced course work in subjects such as applied pharmacology, surgical anatomy, pathology, physiology, and microbiology. They also review closely related disciplines such as radiology, anesthesiology, physical diagnosis, and laboratory procedures. Development and implementation of a research project under staff supervision enhance the value of the residency training.

The assumption of increased responsibility and the opportunity for clinical and operating room experience are important aspects of residency training. Residents gain clinical training in anesthesia through an assigned rotation in the Department of Anesthesia (Carver College of Medicine). Previous advanced training in physical diagnosis, physiology, pharmacology, and pathology take on greater clinical significance, and increased responsibility in the operating room as first assistant and surgeon further develops surgical judgment and skills.

Senior residents may be given responsibility for major oral and maxillofacial surgical cases during rotations at University of Iowa Hospitals and Clinics. Each fourth-year resident is assigned to a rotation as a clinical and didactic coordinator and assumes responsibility to qualify for examination by the American Board of Oral and Maxillofacial Surgery. To learn more about Iowa's program, visit the Oral and Maxillofacial Surgery Residency website.

Admission

Students may begin the four-year certificate program only on July 1. Applicants are selected through a post-D.D.S. dental matching program sponsored by the American Association of Oral and Maxillofacial Surgeons. The application deadline for the match in oral and maxillofacial surgery is September 1 for admission the following July. Appointments are made after the match results are revealed and the staff elects to take official action. Appointments are offered on or before February 1 for the following July.

Oral Pathology, Radiology, and Medicine

Head

- John W. Hellstein

Professional certificates: oral and maxillofacial pathology; oral and maxillofacial radiology

Faculty: <https://www.dentistry.uiowa.edu/oral-pathology-radiology-medicine-faculty>

Website: <https://www.dentistry.uiowa.edu/oral-pathology-radiology-medicine>

The Department of Oral Pathology, Radiology, and Medicine educates predoctoral students and professional students, who may pursue graduate study along with their professional training. The department has diverse curricular responsibility and a faculty with widely varied disciplinary expertise.

D.D.S. Student Training

The Department of Oral Pathology, Radiology, and Medicine teaches Doctor of Dental Surgery and other health care students about diseases that manifest in and around the oral and maxillofacial region. Students learn about the clinical, radiographic, laboratory, histopathologic, and therapeutic management of these diseases and about their etiology and natural history. They also study identification of systemic diseases and the oral implications through physical evaluation of patients.

Programs

Professional Programs of Study Certificates

- Certificate in Oral and Maxillofacial Pathology [p. 1165]
- Certificate in Oral and Maxillofacial Radiology [p. 1166]

Facilities

Facilities reserved for the Department of Oral Pathology, Radiology, and Medicine include a radiology special procedures area, an interpretation room, a surgical oral pathology laboratory, a clinical pathology laboratory with areas for histopathology, and a seminar room for small groups of graduate and undergraduate students.

In addition, the College of Dentistry has joint-use research laboratories that are well equipped and staffed for conducting research involving histology, histochemistry, materials technology, radiobiology, ultrastructure, and electron probe analysis and quantification.

Courses

Oral Pathology, Radiology, and Medicine Courses

OPRM:5200 Stomatology Literature Review 0-3 s.h.

Current literature in oral and maxillofacial pathology and radiology; presentation of graduate student research; development of lectures or seminars for D.D.S. or graduate students, or continuing education for peers and practicing dentists.

OPRM:5225 Manifestations of Oral and Paraoral Disease 0-3 s.h.

Clinical experience in diagnosing, managing patients.

OPRM:5226 Oral Pathology for Graduate Students 0-1 s.h.

Head and neck diseases, abnormalities.

OPRM:5227 Surgical Oral Pathology 0-1 s.h.

Experience in day-to-day operations of surgical oral pathology laboratory; advanced training in histopathologic diagnosis of oral and maxillofacial diseases. Corequisites: OPRM:5240, if not taken as a prerequisite.

OPRM:5228 Introduction to Surgical Oral Pathology 0-1 s.h.

Day-to-day operations of surgical oral pathology laboratory; histopathologic diagnosis of oral and maxillofacial diseases.

OPRM:5230 Research in Oral Pathology, Radiology, and Medicine 0-3 s.h.

Includes thesis preparation.

OPRM:5238 Introduction to Histopathology 0-1 s.h.

Case studies; histopathologic diagnosis of diseases that affect oral and maxillofacial region.

OPRM:5240 Histopathology 0-1 s.h.

Case studies; advanced training in histopathologic diagnosis of diseases that affect oral and maxillofacial region. Corequisites: ORDN:5202, if not taken as a prerequisite.

OPRM:5241 Hospital Oral Pathology, Radiology, and Medicine 0-3 s.h.

Management of patient consultations, diagnosis, therapy at a hospital-based dental service.

OPRM:5242 Clinical Oral and Maxillofacial Radiology 0-3 s.h.

Radiologic manifestations of diseases; emphasis on craniofacial complex.

OPRM:5243 Practical Oral and Maxillofacial Radiology 0-3 s.h.

Clinic participation; supervision of dental and dental hygiene students, review of their cases; participation in clinical radiology conferences, laboratory exercises.

OPRM:5244 Technical Oral and Maxillofacial Radiology 0-3 s.h.

Experience with technical maintenance of darkroom, clinical equipment; troubleshooting under supervision of radiology staff.

OPRM:5245 Head and Neck Radiology 0-3 s.h.

Hospital-based rotation in diagnostic radiology with participation in interpretation sessions; CT, MRI, nuclear medicine, ultrasound.

OPRM:5246 Craniofacial Radiology 0-3 s.h.

Hospital-based rotation in diagnostic radiology; exposure to interpretive sessions on ultrasound, CT, MRI, nuclear medicine.

OPRM:5256 Advanced Oral Pathology 0-1 s.h.

Diseases involving orofacial organs; emphasis on bibliographic research, biodynamic analysis of pathologic processes, diagnostic interpretation; content adapted to student interests. Requirements: graduate standing in oral pathology.

OPRM:8120 Fundamentals of Oral Radiology 1 s.h.

Methods of clinical, radiographic examination, record keeping; correlation of basic, clinical sciences.

OPRM:8235 Oral Pathology 4 s.h.

Diseases involving orofacial organs.

OPRM:8240 Basic Pharmacology 3 s.h.

Principles of pharmacology, pharmacologic actions of drugs, and correlation with therapeutic uses.

OPRM:8245 Introduction to Clinical Oral Radiology 1 s.h.

Principles, techniques of diagnosis, radiology, clinical pathology in clinical practice.

OPRM:8355 Systemic Disease Manifestations 1 s.h.

Clinical medicine for dental students; basic information for patient evaluation.

OPRM:8360 Clinical Oral Diagnosis 1 s.h.

Diagnosis of orofacial diseases by clinical, laboratory, radiographic and treatment planning methods; clinical case analysis.

OPRM:8361 Clinical Oral Radiology arr.

Making and processing intraoral, extraoral radiographs; principles of radiographic interpretation.

OPRM:8365 Clinical Oral Pathology 1 s.h.

Oral and maxillofacial diseases: integration of the clinical, historical, radiographic features; therapeutic management.

OPRM:8368 Applied Dental Pharmacology 2 s.h.

Patients' medications and their implications for dental treatment; clinical use of medications that dentists may prescribe; guidelines for dental prescribing.

OPRM:8370 Application of Critical Thinking 1 s.h.

Continuation of DENT:8219; evidence-based dentistry, critical thinking, treatment planning sessions; online and small group sessions.

Oral and Maxillofacial Pathology, Professional Certificate

The department offers the professional Certificate in Oral and Maxillofacial Pathology. The educational requirements of the certificate program meet the requirements for preparation of dental specialists set by the Commission on Dental Accreditation, the American Board of Oral and Maxillofacial Pathology.

Oral science involves the study of structure, function, and diseases of the oral and maxillofacial region. Study methods include examination of related histories, evaluation of clinical signs and symptoms, and use of biochemical, microscopic, and radiologic procedures to establish a diagnosis and plan for therapeutic management.

The department's programs are diverse and flexible, allowing students to obtain advanced clinical, didactic, and research-related education while earning a professional certificate. Students working toward the certificate may pursue a Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

Admission

Applicants must have successfully completed an accredited program leading to the D.D.S. or D.M.D., or an international equivalent, and must meet the admission requirements of the Graduate College. They must have a cumulative g.p.a. of at least 3.00 (or international equivalent) to be considered for admission.

International applicants whose first language is not English must present a satisfactory score on the Test of English as a Foreign Language (TOEFL).

The department's faculty makes final decisions on acceptance of applicants who meet the requirements for admission. A personal interview is required.

Graduate Study

Students earning the department's certificate may pursue a Master of Science in oral science while they work toward the certificate. They pursue the M.S. track that corresponds with the certificate. Each program combines the minimum requirements of the M.S. and the certificate; completion time usually is 36 to 48 months.

All students in the combined programs pursue comprehensive study of basic biologic and health sciences in preparation for teaching and research. They must complete the courses listed below, including the core courses and the basic science and departmental courses listed for their M.S. track. They also must prepare, submit, and defend their thesis based on the results of research conducted during their course of study. See the M.S. in oral science [p. 1168] in the Catalog for additional information about requirements and admission.

Core Courses

Code	Title	Hours
OPRM:5200	Stomatology Literature Review	arr.
OPRM:5226	Oral Pathology for Graduate Students	arr.

OPRM:5242	Clinical Oral and Maxillofacial Radiology	arr.
ORSC:5200	Seminars in Dental Research	1
ORSC:5210	Dental Sciences Research Methodology	2
ORSC:5212	Statistical Methods for Dental Research	3
ORSC:5215	Research Design in Dentistry	2
ORSC:5600	Research in Oral Science (taken for a total of 9 s.h.)	9
OTO:8199	Basic Otolaryngologic Science	2

Track Courses

Code	Title	Hours
OPRM:5225	Manifestations of Oral and Paraoral Disease	arr.
OPRM:5227	Surgical Oral Pathology	1
OPRM:5240	Histopathology	1
OPRM:5256	Advanced Oral Pathology	arr.
DPH:6017	Teaching Methods and Evaluation	2
MED:8133	Mechanisms of Health and Disease II	7
MED:8134	Mechanisms of Health and Disease III	11
MED:8223	Mechanisms of Health and Disease IV	10
ORSC:5280	Advanced Dental Therapeutics	1

Oral and Maxillofacial Radiology, Professional Certificate

The department offers the professional Certificate in Oral and Maxillofacial Radiology. The educational requirements of the certificate program meet the requirements for preparation of dental specialists set by the Commission on Dental Accreditation and the American Board of Oral and Maxillofacial Radiology.

Oral science involves the study of structure, function, and diseases of the oral and maxillofacial region. Study methods include examination of related histories, evaluation of clinical signs and symptoms, and use of biochemical, microscopic, and radiologic procedures to establish a diagnosis and plan for therapeutic management.

The department's programs are diverse and flexible, allowing students to obtain advanced clinical, didactic, and research-related education while earning a professional certificate. Students working toward the certificate may pursue a Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

Admission

Applicants must have successfully completed an accredited program leading to the D.D.S. or D.M.D., or an international equivalent, and must meet the admission requirements of the Graduate College. They must have a cumulative g.p.a. of at least 3.00 (or international equivalent) to be considered for admission.

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Graduate Study

Students earning the department's certificate may pursue a Master of Science in oral science while they work toward the certificate. They pursue the M.S. track that corresponds with the certificate. Each program combines the minimum requirements of the M.S. and the certificate; completion time usually is 36 to 48 months.

All students in the combined programs pursue comprehensive study of basic biologic and health sciences in preparation for teaching and research. They must complete the courses listed below, including the core courses and the basic science and departmental courses listed for their M.S. track. They also must prepare and submit a thesis based on the results of research conducted during their course of study. See the M.S. in oral science [p. 1168] in the Catalog for additional information about requirements and admission.

Core Courses

Code	Title	Hours
OPRM:5200	Stomatology Literature Review	arr.
OPRM:5226	Oral Pathology for Graduate Students	arr.

OPRM:5242	Clinical Oral and Maxillofacial Radiology	arr.
ORSC:5200	Seminars in Dental Research	1
ORSC:5210	Dental Sciences Research Methodology	2
ORSC:5212	Statistical Methods for Dental Research	3
ORSC:5215	Research Design in Dentistry	2
ORSC:5600	Research in Oral Science (taken for a total of 9 s.h.)	9
OTO:8199	Basic Otolaryngologic Science	2

Track Courses

Code	Title	Hours
OPRM:5243	Practical Oral and Maxillofacial Radiology	arr.
OPRM:5244	Technical Oral and Maxillofacial Radiology	arr.
OPRM:5245	Head and Neck Radiology	arr.
FRRB:3110	Medical Physics I	2
FRRB:3130	Radiation Safety and Radiobiology	2
PATH:8133	Introduction to Human Pathology for Graduate Students	4

Oral Science

Director

- Jeffrey A. Banas (Pediatric Dentistry)

Graduate degrees: M.S. in oral science; Ph.D. in oral science

Website: <https://www.dentistry.uiowa.edu/dental-research-oral-science-program>

Graduate programs in oral science require that students complete courses from a core curriculum and conduct independent research leading to a thesis. The programs prepare graduates for careers in teaching and research.

Students must enroll in a professional certificate program offered by a College of Dentistry department in order to enroll in the Master of Science program in oral science. The following departments offer their certificate students the opportunity to earn M.S. degrees in oral science: endodontics, prosthodontics, operative dentistry, periodontics, and oral pathology, radiology, and medicine.

Programs

Graduate Programs of Study

Majors

- Master of Science in Oral Science [p. 1168]
- Doctor of Philosophy in Oral Science [p. 1169]

Courses

Oral Science Courses

ORSC:5200 Seminars in Dental Research 0-1 s.h.

ORSC:5210 Dental Sciences Research Methodology 0,2 s.h.

Practical, experimental procedures in dental research; literature and design; writing of research protocols. Offered summer session.

ORSC:5212 Statistical Methods for Dental Research 0,3 s.h.

Descriptive methods, elementary probability, distributions, populations and samples, methods for analyzing percentage data and paired and unpaired measurement data, regression, correlation, and analysis of variance.

ORSC:5215 Research Design in Dentistry 0,2 s.h.

Types of studies used in dentistry; design validity; sampling methodologies; major descriptive and experimental designs used in dental research; application of statistical tests to these designs. Offered spring semesters.

ORSC:5240 Pathophysiology of the Pulp-Dentin Complex 0-3 s.h.

Biology of tissue; emphasis on pathological changes. Offered spring semesters of even years. Prerequisites: ORSC:5210.

ORSC:5250 Current Concepts of Cariology 0,2 s.h.

Etiology of dental caries; pathogenesis, development of preventive measures. Offered spring semesters of odd years. Prerequisites: ORSC:5210.

ORSC:5260 Bone and Tooth Support Structure and Implants 0,2 s.h.

Biology of bone and periodontal structures; biologic basis for therapeutic use of dental implants. Offered fall semesters of odd years.

ORSC:5275 Oral Microbiology and Immunology 0,2 s.h.

Principles of microbiology and immunology, aspects of microbial community development in the oral cavity, basic concepts of host/parasite interactions related to development of oral diseases; biological, immunological, and clinical manifestations induced by major oral pathogens. Offered spring semesters of odd years. Requirements: microbiology, biochemistry, and biology. Recommendations: immunology.

ORSC:5280 Advanced Dental Therapeutics 0-1 s.h.

Antimicrobial, analgesic, related therapies; emphasis on drug/drug interactions, dental implications of chronic cardiovascular and central nervous system medications. Offered fall semesters.

ORSC:5600 Research in Oral Science arr.

Thesis research. Requirements: oral science M.S. or Ph.D. candidacy.

ORSC:5610 Independent Study 0-3 s.h.

Opportunity to pursue in-depth study in a particular area of interest; students meet with faculty member to design plan of study.

ORSC:5620 Oral Sciences Colloquium arr.

Presentations, seminars, and discussion sessions on research presentations; career and individual development plans for graduate and postdoctoral students in the oral sciences program.

Oral Science, M.S.

Requirements

The Master of Science program in oral science requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of course work, 9 s.h. of independent research leading to a thesis, and a final examination. M.S. students must spend at least two years in full-time residence at the University of Iowa.

Students pursuing the M.S. normally must be enrolled in a clinical specialty training program offered by a College of Dentistry department. Students should complete the M.S. and the clinical specialty training program in three years of study.

Admission

Applicants to the M.S. program must meet the admission requirements of the Graduate College. Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL); they also may be asked to take the Test of Spoken English.

A personal interview may be requested.

Programs normally begin July 1 each year.

Oral Science, Ph.D.

Requirements

The Doctor of Philosophy program in oral science requires a minimum of 72 s.h. of graduate credit, including advanced course work and original research that culminates in the successful defense of a dissertation. Students must pass a comprehensive examination, prepare and gain approval of a research project, and complete and successfully defend a dissertation that describes the results of their research. Completion of the program usually requires at least four years of full-time study.

Admission

Applicants to the Ph.D. program must meet the admission requirements of the Graduate College. Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL); they also may be asked to take the Test of Spoken English.

Applicants to the Ph.D. program are asked to submit a statement describing past research experience and current research interests, and stating how completion of the Ph.D. program fits their career goals.

Applications and transcripts are reviewed and accepted on a continuing basis. A personal interview may be requested.

Programs normally begin July 1 each year.

Orthodontics

Head

- Thomas E. Southard

Professional certificate: orthodontics

Graduate degree: M.S. in orthodontics

Faculty: <https://www.dentistry.uiowa.edu/orthodontics-faculty>

Website: <https://www.dentistry.uiowa.edu/orthodontics>

The Department of Orthodontics educates predoctoral, professional, and graduate students for careers as practicing dentists, orthodontists, researchers, and teachers. It delivers state-of-the-art treatment to its patients—adults, children, and adolescents with a range of orthodontic, craniofacial, and related issues. The department also conducts major research programs and receives significant funding from the National Institutes of Health (NIH).

The goal of the graduate program in orthodontics is to educate competent individuals to initially practice orthodontics and dentofacial orthopedics. Additional goals include providing clinical services for citizens of Iowa and educating students in methods of scientific inquiry. The programs' objectives are to provide students with an in-depth education in biological and biomechanical principles related to orthodontics; to teach students to diagnose, plan, and deliver comprehensive orthodontic health care service; and to develop students' research and service skills.

Opportunities are available for research and independent study in the department, and there are special facilities for research in biomechanics and craniofacial growth. Interaction with other departments provides learning and research opportunities in surgical orthodontics, cleft lip and palate treatment, speech pathology, animal experimentation, and human growth.

D.D.S. Student Training

The Department of Orthodontics prepares Doctor of Dental Surgery students to competently recognize malocclusions of teeth in preparation for decision making regarding treatment or referral. The lecture course guides D.D.S. students in learning concepts of dental development and facial growth to maturity, as well as treatment-oriented subject matter ranging from limited, interceptive treatment through possible comprehensive treatment options. In a laboratory course, case-based material is utilized to give students experience with evaluating diagnostic casts, radiographs, and clinical findings for space management decision-making purposes. Experience also is included in the basics of fabricating a limited range of orthodontic appliances.

Programs

Professional Program of Study Certificate

- Certificate in Orthodontics [p. 1172]

Graduate Program of Study Major

- Master of Science in Orthodontics [p. 1173]

Courses

Orthodontics Courses

ORDN:5200 Control Theory and Craniofacial Morphogenetic Systems	0-1 s.h.
ORDN:5201 Orthodontic Theory: Diagnosis and Treatment Plan	0,2 s.h.
Diagnosis, treatment planning implementation.	
ORDN:5202 Diagnosis and Treatment Planning	0,2 s.h.
Literature concerning orthodontic diagnosis; treatment of particular problems; case histories of patients treated in graduate clinic.	
ORDN:5203 Advanced Orthodontic Technique	0-3 s.h.
Skills for treatment of disfiguring malocclusions; use of edgewise biomechanical therapy; laboratory focus on typodont exercises.	
ORDN:5204 Biomechanics	0-3 s.h.
ORDN:5205 Facial Growth	0-2 s.h.
Theories, processes; use of accepted facial growth concepts in treatment of individuals with malocclusions during active growth period.	
ORDN:5207 Case Analysis	0-3 s.h.
Literature on diagnosis, treatment of mixed dentition patients; case histories of patients treated by serial extraction procedure.	
ORDN:5209 Orthodontic Practicum	0-3 s.h.
Clinical practice.	
ORDN:5210 Orthodontic Seminar	0-3 s.h.
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed orthodontic treatment.	
ORDN:5217 Cephalometrics	0-3 s.h.
Use of skull X-ray (lateral and/or postero-anterior) in formulating orthodontic diagnosis, treatment plans for malocclusions; cephalometrics as a tool for craniofacial structure research.	
ORDN:5220 Craniofacial Anatomy	0-3 s.h.
Literature on anatomy, phylogeny, ontogenesis, physiology of craniofacial structures.	
ORDN:5221 Surgical Orthodontic Seminar	0-1 s.h.
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed surgical-orthodontic treatment.	
ORDN:5400 Dental Treatment of Maxillofacial Deformities	0,2 s.h.
ORDN:5700 Orthodontics Clinic	0-1 s.h.
Clinical experience in orthodontics clinic.	
ORDN:6211 Problems: Orthodontics	0-3 s.h.
ORDN:6212 Research: Orthodontics	0-3 s.h.
ORDN:6215 Orthodontic Journal Club	0-3 s.h.
Current biological, technical publications.	
ORDN:6216 Practice Management	0-3 s.h.
Business management of orthodontic practice; solo practice, associateship, partnership, practice corporation.	
ORDN:8215 Growth and Development	1 s.h.
Normal human growth and development; emphasis on craniofacial region.	

ORDN:8235 Orthodontic Laboratory 1 s.h.

Limited care case diagnosis and treatment.

ORDN:8236 Orthodontic Treatment 1 s.h.

From patient management to use of appliances for correcting some malocclusions in the general practitioner's office.

Orthodontics, Professional Certificate

The professional Certificate in Orthodontics requires satisfactory completion of 24 months of intensive study, including lecture courses, seminars, clinical practicum, and a research paper.

Admission

Applicants must have a D.D.S. degree or equivalent and must meet the admission requirements of the Graduate College. Application deadline is September 1 for entry the following July 1. Applicants are required to come to the University of Iowa for interviews with department faculty.

Orthodontics, M.S.

Requirements

The Master of Science program in orthodontics requires a minimum of 30 s.h. of graduate credit. Students must satisfactorily complete a thesis based on an original research project to qualify for the M.S. degree. For more information, contact the Department of Orthodontics.

Admission

Applicants must have a D.D.S. degree or equivalent and must meet the admission requirements of the Graduate College. Application deadline is September 1 for entry the following July 1. Applicants are required to come to the University of Iowa for interviews with department faculty.

Pediatric Dentistry

Head

- Karin Weber-Gasparoni

Professional certificate: pediatric dentistry

Faculty: <https://www.dentistry.uiowa.edu/pediatric-faculty>

Website: <https://www.dentistry.uiowa.edu/pediatric>

The Department of Pediatric Dentistry instructs predoctoral and professional students in the prevention and treatment of dental diseases in children as well as individuals with special health care needs. Instruction combines didactic, laboratory, and clinical experiences and gives special consideration to reviewing current literature and managing dental problems of children with special health care needs. It also emphasizes efficient treatment through proper use of dental auxiliary personnel and record management.

D.D.S. Student Training

All second-year Doctor of Dental Surgery students participate in a one-semester lecture course that includes preclinical exercises in the Simulation Clinic. Third-year D.D.S. students participate in a clerkship, which includes a lecture course and a clinical course. During their fourth year, D.D.S. students participate in a rotation through the department's clinics.

Research Opportunities

Clinical and laboratory research projects have financial support from federal agencies and other sources. Major research areas include cariology, dental materials, dentistry for persons with special health care needs, growth and development, fluoride therapy, child behavior management, nutrition, prevention, and access to care.

Faculty

Faculty members hold numerous professional offices at national and state levels, committee memberships, consultantships, and honors in professional organizations. They serve as reviewers for professional journals and federal granting agencies. They also participate regularly in continuing education programs for dentists and other health science personnel. Fifteen of the department's faculty members are diplomates of the American Board of Pediatric Dentistry.

Programs

Professional Program of Study

- Certificate in Pediatric Dentistry [p. 1175]

Courses

Pediatric Dentistry Courses

PEDO:5220 Social, Cultural, and Public Health Issues in Pediatric Dentistry 0-1 s.h.

PEDO:5700 Advanced Didactic Pediatric Dentistry 0-1 s.h.
Lectures in advanced pediatric dentistry.

PEDO:5704 Pediatric Dentistry Grand Rounds 0-1 s.h.
Pediatric dentistry rounds.

PEDO:5706 Journal Review Practicum 0-1 s.h.
Review of journal material in pediatric dentistry.

PEDO:5724 Oral Health Care for People with Special Health Care Needs 0-1 s.h.
Providing oral health care for individuals with disabilities.

PEDO:5730 Advanced Clinical Pediatric Dentistry 0-2 s.h.
Advanced study in clinical pediatric dentistry.

PEDO:5732 Pediatric Physical Diagnosis 0-1 s.h.
Pediatric physical diagnosis for dental practice.

PEDO:5738 Clinical Application of Pediatric Conscious Sedation 0-1 s.h.

PEDO:6700 Research in Pediatric Dentistry 0-1 s.h.

PEDO:6710 Practical Teaching in Pediatric Dentistry 0-1 s.h.

PEDO:8240 Pediatric Dentistry Diagnosis and Treatment 3 s.h.
Growth and development, behavior management, diagnostic-preventive-restorative techniques for pediatric patients.

PEDO:8360 Clinical Pediatric Dentistry arr.
Comprehensive clinical management of pediatric patients.

PEDO:8365 Clinical Seminar in Pediatric Dentistry 1 s.h.
Patient management, case histories, treatment philosophies, issues in contemporary dentistry for children.

Pediatric Dentistry, Professional Certificate

The professional Certificate in Pediatric Dentistry is a two-year residency program that prepares students for certification by the American Board of Pediatric Dentistry. Certificate students are trained in all phases of pediatric dentistry and have career choices in private practice, education, or research. Special emphasis is placed on development of leadership skills and strategies for serving vulnerable populations.

The department's certificate program is accredited by the Commission on Dental Accreditation of the American Dental Association.

Approximately 60 percent of the certificate program is devoted to advanced clinical activity, 30 percent to didactic courses and practice teaching, and 10 percent to original research. The program includes a core of didactic, clinical, and research-oriented courses supplemented by electives determined by students' individual interests.

Close associations with the Stead Family Department of Pediatrics [p. 1649] in the Roy J. and Lucille A. Carver College of Medicine, the Center for Disabilities and Development, and University of Iowa Hospitals and Clinics permit emphasis on oral rehabilitation under general anesthesia, treatment of children with conscious sedation, instruction in physical diagnosis, and management of children with developmental disabilities.

Admission

Prospective students apply through the American Dental Education Association PASS program. Openings in the program are filled through the Postdoctoral Dental Matching Program. Applicants must meet the admission requirements of the Graduate College.

Financial Support

Stipends for the two-year program are provided by federal agencies and other sources.

Periodontics

Head

- Gustavo Avila Ortiz

Professional certificate: periodontics

Faculty: <https://www.dentistry.uiowa.edu/periodontics-faculty>

Website: <https://www.dentistry.uiowa.edu/periodontics>

The Department of Periodontics educates predoctoral students as well as professional students, who may elect to pursue graduate study along with their professional training. The department also provides interdisciplinary care for patients with complex treatment needs; generates new knowledge through its research programs; and provides professional service and leadership at all levels, local to worldwide.

D.D.S. Student Training

The periodontal program instructs Doctor of Dental Surgery students in the diagnosis and management of periodontal diseases. It combines didactic, laboratory, and clinical experiences and applies the biological concepts of periodontology to the comprehensive clinical management of patients.

Programs

Professional Program of Study

Certificate

- Certificate in Periodontics [p. 1177]

Facilities

The department has 22 modern, well-equipped operatories devoted exclusively to periodontics.

Research facilities include laboratories in histology, microscopy, biomaterials, quantitation, tissue culture, molecular biology and biochemistry, and microbiology. Other facilities are available by arrangement with University of Iowa Hospitals and Clinics, Eckstein Medical Research Building, and Medical Laboratories.

Courses

Periodontics Courses

PERI:5220 Periodontics Classic Literature Review arr.

Foundation of core concepts pertaining to the field of periodontology; includes review and critical analysis of landmark studies that have shaped the development of contemporary concepts in diagnosis and management of periodontal conditions and diseases and implant dentistry in a multidisciplinary context.

PERI:5700 Advanced Periodontology 0-1 s.h.

PERI:5710 Case Management Seminar 0,2 s.h.
Case management seminar in periodontics.

PERI:5720 Current Topics 0-1 s.h.
Current topics in periodontics.

PERI:5740 Periodontal Implant Provisionalization 0-1 s.h.

PERI:5750 Advanced Clinical Periodontics 0,2 s.h.

PERI:7208 Recent Advances in Periodontics 0-3 s.h.
Review of current literature.

PERI:7700 Practice Management 0-1 s.h.
Practice management in periodontics.

PERI:7701 Practice Teaching in Periodontics 0-2 s.h.

PERI:8120 Periodontic Methods I 2 s.h.
Normal periodontium, periodontal diseases, diagnosis etiology, epidemiology of periodontal diseases.

PERI:8230 Periodontic Methods II 1 s.h.
Periodontal treatment planning, prognosis, initial phase of periodontal therapy, treatment of acute periodontal problems, overview of surgical procedures.

PERI:8360 Periodontics Clinic arr.
Comprehensive clinical management of periodontal patients.

PERI:8365 Periodontology Seminar 1-2 s.h.
Comprehensive concepts of periodontology, clinical management of patients.

Periodontics, Professional Certificate

The professional Certificate in Periodontics requires 36 months of full-time study, including satisfactory completion of required didactic and clinical courses, satisfactory completion of comprehensive written and oral examinations, and an acceptable literature review or research paper. Opportunities are provided for experience in clinical and basic research.

Students working toward the Certificate in Periodontics may pursue the Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

The certificate program provides a sound foundation for the clinical practice of periodontics. It meets all requirements of the American Dental Association's Commission on Dental Accreditation for advanced dental education programs in periodontics. It also meets the educational requirements for application to take board certification examinations of the American Board of Periodontology.

Certificate students must be financially prepared for uninterrupted pursuit of their program of study.

Admission

Applicants to the periodontics certificate program must have a D.D.S. degree or the equivalent and must meet the admission requirements of the Graduate College. Visit Graduate Admissions College of Dentistry web page to learn more about applying to the certificate program.

Graduate Study

Students earning the Certificate in Periodontics may pursue a Master of Science in oral science concurrently while working toward certificate completion. The M.S. program requires 36 months of full-time study, including satisfactory completion of required and elective courses, preparation and defense of an acceptable thesis based on original research, and satisfactory completion of comprehensive written and oral examinations. See Oral Science [p. 1167] in the Catalog.

Preventive and Community Dentistry

Head

- Daniel J. Caplan

Director, Graduate Program

- John J. Warren

Graduate degree: M.S. in dental public health

Faculty: <https://www.dentistry.uiowa.edu/preventive-faculty>

Website: <https://www.dentistry.uiowa.edu/preventive>

The Department of Preventive and Community Dentistry educates future and practicing dental and oral health professionals, preparing them to understand and recognize:

- conditions that compromise patients;
- social, cultural, community, and political influences on dental practice;
- principles of preventive dentistry for individuals, groups, and communities; and
- considerations for preventing and treating oral disease in geriatric and special needs patients.

In addition to offering educational programs, the department provides patient care at the College of Dentistry and in a variety of off-campus settings. It also is home to research that advances dental public health. The department offers a Master of Science degree and the Certificate in Geriatric and Special Needs Dentistry [p. 1157].

D.D.S. Student Training

Predoctoral training in preventive, community, and geriatric dentistry is designed to increase Doctor of Dental Surgery students' awareness of preventive dental practices, aspects of dental practices affected by community factors, and care of compromised adult patients.

Community dentistry programs give students opportunities to interact with health care teams and the public in Iowa and around the world. The department conducts off-site community programs statewide, nationwide, and worldwide. It also operates the Geriatric and Special Needs Clinic, which is housed in the Dental Science Building.

Using the community dentistry programs as the classroom, D.D.S. students observe and participate in a variety of activities that nurture their awareness of the societal obligations they must assume in order to become effective practitioners.

Programs

Graduate Program of Study

- Master of Science in Dental Public Health [p. 1180]

Courses

- Preventive and Community Dentistry Courses [p. 1178]
- Dental Public Health Courses [p. 1179]

Preventive and Community Dentistry Courses

PCD:8116 Fundamentals of Clinical Dentistry 1 s.h.

Identification of health and disease in the mouth; practical methods of disease control, philosophy of preventive dentistry; patient assessment, clinical diagnosis.

PCD:8117 Cariology and Preventive Therapies 2 s.h.

Multifactorial etiology of dental caries; support data for use of fluorides, sealants, antimicrobials, and plaque control mechanisms in prevention of caries. Prerequisites: PCD:8116.

PCD:8118 Preventive Dentistry Assessment and Patient Care 3 s.h.

Patient oral assessment, communication, patient management skills; preventive dentistry risk assessment, oral hygiene instruction for collegiate recall patients; skills in instrumentation for detection, removal of calculus deposits. Prerequisites: PCD:8116 and PCD:8117.

PCD:8119 Behavioral Science I, Interprofessional Education, and Ethics 2 s.h.

Introduction to patient-centered care, interpersonal and professional communication with patient, information exchange, preventive treatment plan formulation in patient encounters, and ethics.

PCD:8120 Foundations for Critical Thinking I 2 s.h.

Problem and case-based small group sessions covering evidence-based dentistry and treatment planning integrating information taught concurrently in dental curriculum.

PCD:8218 Foundations for Critical Thinking II 1 s.h.

Continuation of PCD:8120; evidence-based dentistry, critical thinking and treatment planning sessions; online and small group sessions. Prerequisites: PCD:8120.

PCD:8219 Behavioral Science II and Interprofessional Education 2 s.h.

Continuation of PCD:8119; assessing patient understanding of practices for improving/maintaining oral health; overview of patient challenges to effective communication; application of behavioral science principles in dentistry and behavior theories. Prerequisites: PCD:8119.

PCD:8245 Clinical Preventive Dentistry 0,2 s.h.

Experience providing complete prophylaxis and preventive services for college patients; application of nutrition principles and communication skills in a clinic setting. Prerequisites: PCD:8118.

PCD:8319 Behavioral Science III 1 s.h.

Continuation of PCD:8219; standardized patient exercises with chairside feedback and evaluation of communication skills; participation in small group discussions regarding application of communication skills and behavioral science principles in patient encounters.

PCD:8355 Introduction to Geriatric Dentistry 2 s.h.

Biological, psychological, and social aspects of aging; normal aging and disease processes associated with aging; pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as ASP:8355.

PCD:8360 The Practice of Dentistry in the Community I 1-2 s.h.

Issues related to the role of the dental professional at a local and state level, including dental public health, health literacy, cultural competency, and forensic dentistry; the role of the state dental director.

PCD:8361 The Practice of Dentistry in the Community II 1-2 s.h.

Factors that affect the profession and practice of dentistry, including basics of health care systems in the U.S. and in other countries, Affordable Care Act, Medicaid and Medicare, dental insurance, health care delivery systems, legal and malpractice issues, dental utilization and dental workforce, and quality of care.

PCD:8485 Broadlawns Medical Center arr.

Dental care to low-income patients in a metropolitan hospital-based clinic; community-related assignments; student team experience in Des Moines.

PCD:8488 St. Lukes Dental Health Center arr.

Experience providing clinical and outreach services for low-income children and adults with developmental disabilities at St. Luke's Hospital, Cedar Rapids; operative and behavioral dental problems, hospital protocol, special needs of low-socioeconomic clients.

PCD:8489 Geriatrics and Special Needs Program arr.

Experience in Special Care Clinic and Geriatric Mobile Dental Unit; comprehensive care for medically, physically, cognitively compromised adults, including frail elderly nursing home residents with portable equipment, other underserved populations.

PCD:8494 Oral Health Field Clinic 5 s.h.

Extramural experiences developed according to student needs, extramural opportunities.

PCD:8498 International Outreach Program 0 s.h.

Participation in a two-week mission outreach program in Cambodia or Guatemala; requires successful completion of application process; for entering fourth-year dental students.

PCD:8499 International Exchange Program 10 s.h.

International extramural program; students learn about dentistry in an international dental program.

PCD:8500 Dental Student Research Honors Program arr.

Experience in conducting research. Requirements: D.D.S. enrollment and approval of mentor and program director.

Dental Public Health Courses

DPH:5000 Introduction to Dental Public Health 0,2 s.h.

Science, philosophy, practice of dental public health.

DPH:5001 Literature Review Methods: Dental Public Health 0,2 s.h.

Concepts and process of literature review, particularly in area of student's interest.

DPH:5005 Administration of Public Dental Programs 0,2 s.h.

Application of general management concepts; practical aspects of planning, financing, staffing, implementing, operating, evaluating dental public health programs at federal, state, local levels.

DPH:5006 Preventive Programs in Dental Public Health 0,2 s.h.

Prevention, control methods for major dental conditions, primarily dental caries, periodontal diseases; clinical efficacy, cost-effectiveness; development of comprehensive preventive oral health plan for a community.

DPH:5008 Field Experience in Dental Public Health arr.

Arranged with public and voluntary health agencies according to students' and agencies' needs.

DPH:5009 Advanced Field Experience in Dental Public Health 1-3 s.h.

Opportunity to research, develop, and implement programmatic objectives with local, state, national, and/or federal agencies and organizations on an issue that is both relevant to the student and the agency; may require off-site visits to agencies or organizations. Prerequisites: DPH:5008.

DPH:5014 Dental Care Policy and Financing 0,2 s.h.

Dental financing and policy issues: payment mechanisms for health care service providers, third-party prepayment plans, salaried and public-financed programs, Medicaid and Medicare programs, dental insurance systems, and care of the underserved.

DPH:5016 Introduction to Statistical Computing arr.

Use of statistical packages on a personal computer for data management and analysis. Offered summer session.

DPH:5031 Geriatric Care 0,2 s.h.

Issues and problems related to oral health care in older adults, especially the frail or functionally dependent.

DPH:6002 Research Protocol Seminar 0,2 s.h.

Development of a master's thesis protocol; identification of thesis topic, review of relevant literature, development of research methods, writing.

DPH:6003 Independent Study: Dental Public Health 1-3 s.h.**DPH:6004 Principles of Oral Epidemiology** 0-3 s.h.

Retrospective, prospective, cohort study designs; validity and reliability; distribution and determinants of oral diseases —caries, periodontal diseases, oral cancer, malocclusion, fluorosis, HIV infection, tooth loss, edentulism.

DPH:6011 Thesis: Dental Public Health arr.

Protocol preparation; data collection, analysis, organization; writing, defense of research.

DPH:6017 Teaching Methods and Evaluation 0,2 s.h.

Philosophies of dental education, teaching methodologies, evaluation; focus on learning to write educational objectives, writing and analyzing exam items.

DPH:6018 Clinical Teaching Practicum: Preventive Dentistry 0-3 s.h.

Teaching experience in preventive dentistry clinic setting with first-year dental students; outcomes focused on methods in clinical teaching, evaluation, and remediation.

Dental Public Health, M.S.

Requirements

The Master of Science program in dental public health requires 40 s.h. of course work and is designed to be completed in two academic years of full-time study. It prepares dentists and dental hygienists to be specialists in dental public health. The program emphasizes research and requires a research project culminating in the completion and defense of a thesis. Successful dentist graduates meet the educational requirements for eligibility to take the certifying examination of the American Board of Dental Public Health.

Admission

Applicants must meet the admission requirements of the Graduate College.

Prosthodontics

Head

- Julie A. Holloway

Professional certificate: prosthodontics

Faculty: <https://www.dentistry.uiowa.edu/prosthodontics-faculty>

Website: <https://www.dentistry.uiowa.edu/prosthodontics>

Prosthodontics is the dentistry specialty involving crowns, fixed partial dentures (bridges), removable partial dentures, complete dentures, maxillofacial prostheses, and implant prostheses.

D.D.S. Student Training

The Department of Prosthodontics instructs Doctor of Dental Surgery students in the basic principles, practices, and concepts of prosthodontics required for the practice of general dentistry. Students learn through laboratory projects and treatment of patients with differing prosthodontic needs.

Programs

Professional Program of Study

- Certificate in Prosthodontics [p. 1183]

Facilities

Most didactic, clinical, and laboratory instruction and patient treatment takes place in the Department of Prosthodontics, which is located in the Dental Science Building. The building also houses the Doctor of Dental Surgery (D.D.S.) program, training programs in specialties recognized by the American Dental Association, and the Iowa Institute for Oral Health Research.

The college and the department provide supporting technologies that include cone beam CT radiography, implant imaging software, laboratory CAD/CAM systems, laser surgery, clinical operating microscopes, and digital shade matching.

Advanced prosthodontic students spend time at University of Iowa Hospitals and Clinics, where they work closely with medical professionals in other disciplines to treat medically compromised prosthodontic patients and those who require maxillofacial rehabilitation.

Courses

Prosthodontics Courses

PROS:5700 Advanced Clinical Prosthodontics	0,2 s.h.
PROS:5710 Advanced Removable Prosthodontic Technique	0,2 s.h.
PROS:5720 Advanced Instrument Technique	0,2 s.h.
PROS:5730 Advanced Implant Techniques	0-2 s.h.
PROS:5740 Advanced Fixed Prosthodontics Technique	0,2 s.h.
PROS:5750 Clinical Issues and Treatment Planning in Prosthodontics	0-1 s.h.

PROS:6220 Fixed Prosthodontics Literature Review

I 0-4 s.h.

Fixed prosthodontic procedures; assigned readings, discussion of related research.

PROS:6221 Fixed Prosthodontics Literature Review

II 0-4 s.h.

Porcelain-fused-to-metal and ceramic restorations, color science and esthetics; assigned readings, discussion of related research.

PROS:6222 Implant Literature Review

0-4 s.h.

Implant prosthodontics; assigned readings, discussion of related research.

PROS:6223 Occlusion Seminar

0-4 s.h.

Occlusion and the temporomandibular system; assigned readings and discussion of related research.

PROS:6224 Graduate Restorative Materials

0,2 s.h.

Dental materials science; mechanical, physical, and chemical properties of restorative materials; selection and manipulation.

PROS:6225 Complete Denture Literature Review

0-4 s.h.

Complete denture prosthodontics; assigned readings, discussion of related research.

PROS:6226 RPD Literature Review

0-4 s.h.

Removable partial denture prosthodontics; assigned readings, discussion of related research.

PROS:6700 Maxillofacial Prosthodontics Seminar

0-1 s.h.

PROS:6710 Dental Implant Surgery for Prosthodontic Residents

arr.

Lecture and literature review covering implant surgery and complications for prosthodontics residents.

PROS:7700 Maxillofacial Prosthodontics Rotation

0-1 s.h.

PROS:8120 Treatment of Dentulous Patients: Introduction to Occlusion Lecture

1 s.h.

Introduction to principles of occlusion and their clinical application.

PROS:8121 Treatment of Dentulous Patients: Introduction to Occlusion Lab

1 s.h.

Patient simulation exercises demonstrating principles of occlusion.

PROS:8122 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Anterior Teeth Lecture

1 s.h.

Basic principles of fixed prosthodontics for single-unit anterior teeth; basic principles of tooth preparation, clinical steps, and digital procedures for fabrication of anterior single-tooth all-ceramic crowns and interim crowns. Prerequisites: PROS:8120 and PROS:8121.

PROS:8123 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Anterior Teeth Lab

1 s.h.

Patient simulation exercises in single anterior tooth preparation, and fabrication of single-unit anterior all-ceramic and interim restorations. Prerequisites: PROS:8120 and PROS:8121.

PROS:8124 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Posterior Teeth Lecture

1 s.h.

Basic biomechanical principles of fixed posterior single tooth prosthodontics; diagnosis and treatment planning for dentate patients including occlusion. Prerequisites: PROS:8120 and PROS:8121 and PROS:8122 and PROS:8123.

PROS:8125 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Posterior Teeth Lab 1 s.h.

Patient simulation exercises in single posterior tooth preparation and laboratory fabrication of single-unit posterior definitive and interim restorations. Prerequisites: PROS:8120 and PROS:8121 and PROS:8122 and PROS:8123.

PROS:8240 Treatment of Partially Edentulous Patients: Fixed Multi-Unit Prosthodontics Lecture 1 s.h.

Basic biomechanical principles of fixed prosthodontics for multiple-unit fixed prostheses; diagnosis and treatment planning for partially edentulous patient, including occlusion and esthetic concerns.

PROS:8241 Treatment of Partially Edentulous Patients: Fixed Multi-Unit Prosthodontics Patient Simulation I 1 s.h.

Patient simulation exercises in preparation and fabrication of a three-unit fixed partial dental prosthesis and interim restoration.

PROS:8242 Treatment of Partially Edentulous Patients: Single Tooth Implant Lecture 1 s.h.

Principles, clinical steps, materials, and laboratory procedures necessary for single tooth fixed implant treatment. Prerequisites: PROS:8240 and PROS:8241.

PROS:8243 Treatment of Partially Edentulous Patients: Single Tooth Implant Patient Simulation 1 s.h.

Clinical steps in laboratory procedures for single tooth implant surgical guide fabrication and restoration. Prerequisites: PROS:8240 and PROS:8241.

PROS:8244 Treatment of Partially Edentulous Patients: Removable Partial Prosthodontics Lecture 1 s.h.

Basic biomechanical principles of tooth replacement with removable partial prosthodontics; diagnosis and treatment planning for partially edentulous patients. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243.

PROS:8245 Treatment of Partially Edentulous Patients: Removable Partial Prosthodontics Patient Simulation 1 s.h.

Laboratory exercises in basic principles, clinical steps, and laboratory procedures necessary for fabrication of removable partial dentures. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243.

PROS:8246 Treatment of Edentulous Patients: Removable Complete Prosthodontics Lecture 1 s.h.

Fundamental principles of diagnosis and treatment planning for edentulous patients, surgical and prosthodontic protocols for oral rehabilitation of edentulism. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243 and PROS:8244 and PROS:8245.

PROS:8247 Treatment of Edentulous Patients: Removable Complete Prosthodontics Patient Simulation 1 s.h.

Laboratory exercises in basic principles, clinical steps, and laboratory procedures necessary for fabrication of complete dentures, including implant over-dentures. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243 and PROS:8244 and PROS:8245.

PROS:8360 Prosthodontic Clinic arr.

Experience supplemented by individual supervision, demonstration.

PROS:8365 Prosthodontic Seminar 2 s.h.

Knowledge in biological, basic sciences and technique applied to clinical fixed and removable prosthodontics procedures.

Prosthodontics, Professional Certificate

The professional Certificate in Prosthodontics requires a minimum of 36 months of study. It prepares individuals for specialty clinical practice in the discipline. The curriculum includes didactic courses and clinical training in all of the disciplines that make up the broad specialty of prosthodontics, including implant prosthodontics, maxillofacial prosthetics, and treatment of temporomandibular disorders. Patient care is completed in close collaboration with the other dental specialties. Clinically related basic science instruction complements the clinical curriculum.

Students working toward the Certificate in Prosthodontics must pursue the Master of Science or the Doctor of Philosophy in oral science in conjunction with the certificate; see "Graduate Study" below.

The certificate program is accredited by the Commission on Dental Accreditation of the American Dental Association. Successful completion of the program satisfies the formal training requirement for eligibility to take the American Board of Prosthodontics certification examination.

Graduate Study

Students earning the Certificate in Prosthodontics must pursue a Master of Science or a Doctor of Philosophy in oral science while they work toward the certificate. The graduate programs prepare individuals for careers in dental education and research and for independent study and professional growth.

Students must prepare and defend a thesis (M.S.) or dissertation (Ph.D.) based on original research. Facilities and support personnel for research are available through the college's Iowa Institute for Oral Health Research. See Oral Science [p. 1167] in the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College. They must hold a D.D.S. or a D.M.D. degree from a dental school accredited by the American Dental Association or an equivalent degree.

The certificate program begins around July 1 each year. Applications are made through Match, which places applicants into positions for their first year of training in postdoctoral dental education programs. A personal interview is required for qualified applicants.

College of Education

Dean

- Daniel L. Clay

Associate Dean, Academic Affairs and Graduate Programs

- Amanda H. Thein

Associate Dean, Research

- Saba Rasheed Ali

Associate Dean, Teacher Education and Student Services

- Nancy J. Langguth

Undergraduate major: elementary education (B.A.)

Undergraduate minors: educational psychology; human relations

Graduate degrees: M.A.; M.A.T.; M.S.; Ed.S.; Ph.D.

Graduate certificates: multicultural education and culturally competent practice; online teaching

Website: <https://education.uiowa.edu/>

The nation's first university-level professorial chair in education was established at the University of Iowa in 1872. The department became the School of Education in 1907; and the College of Education, structured largely as it is today, was founded in 1913. Since then, the college's growth has mirrored the growth of the University.

Over the years, College of Education faculty members have been leaders in a variety of educational fields. Particularly noteworthy have been their contributions in the fields of educational testing and measurement. These contributions helped lay the foundation for today's testing and measurement industry, making Iowa City one of the best-known centers for this educational specialty.

The college has four departments: Educational Policy and Leadership Studies [p. 1194], Psychological and Quantitative Foundations [p. 1213], Rehabilitation and Counselor Education [p. 1231], and Teaching and Learning [p. 1245].

Extramural Education

Through Distance and Online Education, selected College of Education courses are offered at off-campus sites and hours outside the traditional schedule. If taken after formal admission to a specific program, some of these courses may be applied to meet requirements for degrees. Students who plan to complete a degree program should apply for admission to the Graduate College and satisfy all application requirements for the degree program they wish to enter.

Special regulations govern such course work. Students should obtain prior approval from their program advisor before registering in extramural courses. Students not regularly admitted to the University of Iowa also may register in extramural courses, but credit earned before admission does not count toward residency requirements.

Honors in Education

The College of Education Honors Opportunity Program is open to sophomores, juniors, and seniors who have maintained a g.p.a. of at least 3.50. Students with lower grade-point averages who have demonstrated research potential also

may be accepted, based on the recommendations of faculty and/or staff members and the education honors advisor. Honors Opportunity Program students must take EHOP:4100 Honors Seminar in Education, EHOP:4101 Senior Honors Project, and complete five additional honors experiences. Successful completion of the program results in recognition of the student as a College of Education honors graduate. The Honors Opportunity Program is housed in and administered by the Belin-Blank Center.

Faculty

All tenure-track faculty members hold earned doctorates in their teaching fields, and many have had teaching or administrative experience in the public schools. Several hold joint appointments in the College of Liberal Arts and Sciences.

Programs

Undergraduate Programs of Study

Major

The College of Education offers the undergraduate major in elementary education for students earning a Bachelor of Arts degree. See the Department of Teaching and Learning [p. 1245] for details about the major.

Teacher Education Program

Students interested in teacher licensure complete a Teacher Education Program (TEP) approved by the State of Iowa through the College of Education. Students complete the TEP related to the subject area in which they would like to teach in addition to their College of Liberal Arts and Sciences degree with corresponding major program of study. See TEP/Licensure [p. 1186] in this section of the Catalog.

Minors

The College of Education offers two undergraduate minors for students who wish to be better informed about education and related fields: one in educational psychology and one in human relations, offering students an overview of various educational areas beyond, but supportive of, traditional education programs. The minors may help support students' future career objectives and benefit students in their roles as parents, taxpayers, or future members of local boards of education. View the minor in educational psychology [p. 1221] (Psychological and Quantitative Foundations) and the minor in human relations [p. 1238] (Rehabilitation and Counselor Education) to learn more.

Graduate Programs of Study

Graduate study in the College of Education is guided by the policies of the Graduate College, with additional requirements set by the College of Education's faculty. Graduate students in education enroll in the Graduate College and receive their degrees from that college. See the Manual of Rules and Regulations of the Graduate College.

Degree Programs Offered

The College of Education offers the following graduate degrees and programs.

Department of Educational Policy and Leadership Studies

M.A., Ed.S., and Ph.D. in educational policy and leadership studies; the following programs are available:

- Educational leadership (offered in the M.A., Ed.S., and Ph.D.)
- Higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.)
- School curriculum and assessment policy (offered in the Ed.S.)
- Schools, culture, and society (offered in the M.A. and Ph.D.)

Department of Psychological and Quantitative Foundations

M.A., Ed.S., and Ph.D. in psychological and quantitative foundations; the following programs are available:

- Counseling psychology (offered in the M.A.—Hong Kong and Ph.D.)
- Couple and family therapy (offered in the Ph.D.)
- Educational measurement and statistics (offered in the M.A. and Ph.D.)
- Educational psychology (offered in the Ph.D.)
- Learning sciences (offered in the M.A.)
- School psychology (offered in the Ed.S. and Ph.D.)

Department of Rehabilitation and Counselor Education

M.A. and Ph.D. in rehabilitation and counselor education; the following programs are available:

- Clinical mental health counseling (offered in the M.A.)
- Counselor education and supervision (offered in the Ph.D.)
- Rehabilitation counseling program (offered in the M.A.)
- School counseling (offered in the M.A.)

Department of Teaching and Learning

M.A., M.A.T., M.S., and Ph.D. in teaching and learning; the following programs are available:

- Art education (offered in the M.A.)
- Developmental reading (offered in the M.A.)
- English education (offered in the M.A. and M.A.T.)
- Foreign language and English as a Second Language (ESL) Education (offered in the M.A., M.A.T., and Ph.D.)
- Language, literacy, and culture (offered in the Ph.D.)
- Mathematics education (offered in the M.A., M.A.T., and Ph.D.)
- Science education (offered in the M.S., M.A.T., and Ph.D.)
- Social studies education (offered in the M.A., M.A.T., and Ph.D.)
- Special education (offered in the M.A. and Ph.D.)
- STEM education (offered in the M.S.)
- Teaching, leadership and cultural competency (offered in the M.A.)

Master of Arts

The College of Education offers a Master of Arts. Some of the college's M.A. programs are offered with thesis as well as without thesis. Nonthesis programs usually provide more specialized course work than do thesis programs. Although a nonthesis program is not necessarily terminal, students

who expect to continue their studies in a doctoral program are urged to select a thesis program in order to gain more experience in research procedures. Students who complete a nonthesis M.A. and are admitted to a Ph.D. program may be asked to submit evidence of writing and research skills to their advisor or department during the early part of their doctoral program. For information about programs that offer a thesis option, see the program descriptions under "Graduate Programs of Study" in College of Education department sections of the Catalog.

Course work completed more than 10 years before the session in which the degree is to be conferred must be evaluated to determine how much credit may be accepted toward the degree requirements. Students must earn at least 24 s.h. in University of Iowa courses after formal admission to a master's degree.

Master of Arts in Teaching

The M.A.T. program is designed for academically superior liberal arts and sciences graduates who completed few or no professional education courses in their undergraduate programs. It is a nonthesis program with requirements that range from 45 s.h. to 67 s.h. of credit. See the M.A.T. in Teaching and Learning [p. 1274] in the Catalog.

The program leads to a master's degree and licensure as a secondary teacher in the fields of English, foreign languages, mathematics, science education, and social studies education. Admission to the program requires a g.p.a. of at least 3.00 in undergraduate course work. The program includes 18 s.h. of graduate course work in the student's teaching field. Students must complete a minimum of 20 s.h. of graduate work in education to satisfy licensure requirements.

Combined B.A./M.A.T. (Science Education Subprogram)

Bachelor of Arts students interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduate students majoring in biology, chemistry, environmental sciences, mathematics, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "Combined B.A./M.A.T." under Science Education [p. 1277] in the Master of Arts in Teaching section of the Catalog. Interested students should consult an advisor.

Master of Science

The College of Education offers a Master of Science in teaching and learning with a science education subprogram (without thesis). The degree requirements are similar to those for a Master of Arts. It also offers the Master of Science in teaching and learning with a STEM education subprogram (with thesis).

Specialist in Education

The Ed.S. is granted upon completion of a prescribed two-year postbaccalaureate program designed for students preparing for professional work in fields such as administration and supervision, and special services. Of the minimum 60 s.h. required for the degree, 28 s.h. must be in the specialization area; the rest may be earned in cognate fields, supervised

experience, research, and elective courses. The research must culminate in a written report.

Other requirements for the Ed.S. are the same as for the master's degree, except that an Ed.S. requires students to complete 30 s.h. of resident work on campus after admission to the program. Course work completed 10 years before the final examination must be evaluated to determine the amount of credit that may be accepted toward program requirements.

Not all programs offer an Ed.S. degree. For a list of programs and degrees offered, see "Graduate Programs of Study" above.

Doctor of Philosophy

The Ph.D. is the most advanced academic degree. It is conferred upon students who have demonstrated superior scholarship and mastery of research skills in course work as well as in the preparation and defense of a dissertation. Ph.D. students must complete at least 39 s.h. while registered in the University of Iowa Graduate College and after formal program admission.

Certificates

The Certificate in College Teaching requires 12 s.h. of graduate credit. The certificate program is open to all University of Iowa students working toward a Ph.D. or other terminal graduate degree. The certificate program complements discipline-oriented graduate programs and prepares students for careers in postsecondary education. It requires course work, supervised teaching experience, and preparation of a teaching portfolio. To learn more or to apply, see the Certificate in College Teaching [p. 1455] in the Catalog (Graduate College).

The Certificate in Online Teaching requires 12 s.h. of graduate credit and is offered completely online. The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students. The certificate program develops students' skills in using technology to solve instructional problems associated with distance and time. The certificate's online format uses the techniques and approaches that the program teaches. To learn more or apply, see the Certificate in Online Teaching [p. 1212] in the Catalog.

Professional Improvement

Students who are interested in taking courses as nondegree students should apply for nondegree status to the Graduate College. They can then be admitted by a department on a nondegree basis by contacting the department. Students must be admitted to a department in order to complete a program objective such as teacher licensure.

TEP/Licensure

Teacher Education Programs (TEP) and Student Teaching

The College of Education offers teacher preparation programs in elementary education and in secondary education for students earning bachelor's degrees. It offers the major in elementary education with a Teacher Education Program (TEP) for students earning a Bachelor of Arts. It offers a secondary education TEP for students earning bachelor's degrees with certain majors from the College of Liberal Arts and Sciences.

The college also provides a number of specialized elementary and secondary teaching endorsement programs.

Graduate and postbaccalaureate students also may complete a TEP; see "Graduate and Postbaccalaureate Admission to TEPs" below and the Teaching and Learning [p. 1245] section of the Catalog.

Preparation for special education teaching is offered primarily at the graduate level. In addition, an instructional strategist program is available as an added endorsement for undergraduate students admitted to an elementary education program.

Undergraduate students admitted to a TEP in a secondary education field must complete all requirements for graduation from the College of Liberal Arts and Sciences, including the GE CLAS Core [p. 459]. They must satisfy the GE CLAS Core Quantitative or Formal Reasoning requirement with a college-level mathematics course.

The Office of Student Services provides information on TEPs; offers assistance with admission, student field experiences, and teacher licensure/certification; and serves as a liaison with other University units and external agencies. For more information, visit the office's website.

Undergraduate Admission to TEPs

Undergraduate applicants to the University of Iowa who wish to become teachers may indicate their interest in the elementary education major or a secondary-level Teacher Education Program on their application for admission. Application materials for TEPs are available from the Office of Student Services or on the office's website.

Acceptance to a TEP is prerequisite to registration for most College of Education undergraduate courses.

Application Deadlines

Students must be admitted to the TEP in order to register for certain courses, to participate in field experiences/practicums, and to student teach. The priority admission deadline for fall semester is March 1, with applications accepted on a rolling basis until May 1. The priority admission deadline for spring semester is October 1, with applications accepted on a rolling basis until December 1. The ideal time to apply is by the priority deadline, so that students who are admitted to the program can be cleared for advising and registration in a timely manner. Applications are only considered by the faculty when all requirements (including test score minimums) are complete. Faculty members in each program area review and select applicants to be admitted to their program. Some program areas may reach capacity for acceptance before the final deadlines. Applicants are notified of admission decisions by email following faculty review.

General Requirements

Admission to TEPs is selective. Admission requirements may vary by program area. In order to be considered for admission to a TEP, an undergraduate student must satisfy the following requirements: admission to the University of Iowa; a minimum amount of credit for college-level work; a minimum grade-point average; minimum scores on a preadmissions test; and a preadmission volunteer field experience in a regular K-12 classroom setting. There may be additional requirements. TEP application materials and current minimum application requirements are available on the Office of Student Services website.

TEP admission is based on a faculty review of all application components. Meeting the minimum criteria does not ensure program admission. Selection is determined by academic achievement as reflected in grade-point average and test scores, aptitude as reflected by recommendations and personal statements, and the ability of the given program area to provide quality instruction and clinical and field experiences.

Direct Admissions Policy

The College of Education offers direct admission into the elementary TEP. First-year students who present an American College Test (ACT) composite score of 27 or higher and a final high school g.p.a. of at least 3.80 are eligible for the direct admission track into the elementary TEP. Students in this track must submit qualifying Praxis Core Academic Skills for Educators Tests (Core) scores and a qualifying 10-hour preadmission school field experience verification form by a selected deadline within their first year at the University of Iowa in order to validate the admission. The faculty and administration of the elementary TEP reserve the right to cap enrollment in the direct admission track.

The College of Education also offers direct admission into the music TEP. First-year students who, upon graduation from high school, have a high school g.p.a. of 3.00 or higher and have been accepted into a music studio will be directly admitted into the K-12 music TEP. This admission is conditional until the minimum admission requirements are complete. The requirements include admission to the School of Music, completion of an essay in 500 words or less on why the applicant wishes to be a music teacher, completion of the 10-hour preadmission school field experience verification form, and completion of the Praxis Core with qualifying scores.

Graduate and Postbaccalaureate Admission to TEPs

Students who have completed a baccalaureate degree may be admitted to a TEP as graduate or undergraduate students. Students must apply to the TEP and to the Graduate College or the College of Liberal Arts and Sciences. In some programs they may apply for a master's degree objective—either a Master of Arts in Teaching (M.A.T.) or in selected majors, a Master of Arts (M.A.).

Students who choose to pursue a graduate-level TEP must be eligible for admission to the Graduate College, which requires a g.p.a. of at least 3.00 in all previous college course work. They must submit an official Graduate Record Exam (GRE) General Test score report, with scores that meet the minimum score requirement. They also must submit a complete application to the TEP; see the Graduate Admissions website.

Students also may apply to the College of Liberal Arts and Sciences as postbaccalaureate students with senior standing. Students who choose this option must apply to the appropriate TEP, following the undergraduate admissions procedure, and must meet the general requirements for undergraduate admission to the University of Iowa; see the Undergraduate Admissions website.

Priority application deadlines for graduate students and postbaccalaureate students with senior standing are March 1 and October 1.

TEP Standards and Policies

Students in the TEP must meet grade-point average requirements each semester. Students who do not meet the

requirements are placed on probation; those who fail to meet the requirements in a successive semester may be removed from the TEP or denied admission to student teaching. For more information on standards and policies, consult the Office of Student Services.

Electronic Portfolio

Students in the TEP document their achievement of professional standards on ePortfolio, a web-based program in which they collect instructional artifacts and performances assigned in all their courses. Students receive instruction on the ePortfolio requirement beginning with the required course EDTL:3002 Technology in the Classroom (teacher education) and EPLS:4180 Human Relations for the Classroom Teacher (educational leadership). Students in the TEP also document completion of INTASC standards-based signature assignments through Taskstream-Tk20, a web-based assessment tool.

Teacher Leader Professional Development Program

Teachers from the University of Iowa are distinguished by their preparation with world-class faculty researchers and clinical practitioners and a one-of-a-kind professional development program that highlights contemporary issues in 21st-century education. All requirements must be completed prior to student teaching. All teacher education students are required to participate.

Student Teaching

The final phase of the TEP is the professional semester, devoted to supervised student teaching and directed observation in a variety of situations. The student teaching semester is a full-time, all-day, experience. Faculty members, professional staff, and advanced graduate students who are experienced teachers serve as supervisors.

Periodic seminars provide for discussion and evaluation of student teachers' experiences. Transfer credit may not be used to satisfy the student teaching requirement.

To be admitted to the student teaching semester, students must submit a separate application to the Office of Student Services in the College of Education. All course work in education, for the major, and for the degree must be completed before the student teaching semester. Applications are submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and April 15 for students planning to student teach the following spring semester.

Admission to student teaching requires program area faculty approval as well as verification of satisfactory progress in meeting both College of Education professionalism standards and program area standards, which are set at the time of admission to the TEP. In some programs, standards are higher than the college's required g.p.a. of at least 2.70. Students should consult with their advisors regarding specific requirements for the program areas.

For more information, contact the Office of Student Services.

Waivers

Students who have completed courses that they wish to substitute for program requirements should consult with their advisors.

Urban Student Teaching

Students who want to advance their educational interests through student teaching in an urban setting may apply through the Office of Student Field Experiences. The urban districts include Chicago Public Schools; Aldine, Texas (Houston area); and Rialto, California (Los Angeles area). These options are open to all education majors who meet the requirements established for these student teaching sites. For more information about this and other programs, contact the Office of Student Services.

International Student Teaching

International student teaching experiences are available primarily through Global Gateway for Teachers, an Indiana University Program working in collaboration with the University of Iowa. Sites include Australia, China, Costa Rica, Ecuador, England and Wales, Greece, India, Ireland, Italy, Japan, Kenya, New Zealand, Norway, Russian Federation, Scotland, Spain, and Tanzania.

Interested students must meet the regular requirements for student teaching and must have the approval of their advisor and the appropriate program coordinator. In most locations, students are assisted with housing by the on-site coordinator.

International assignments are for eight weeks. Students complete an eight-week assignment in a stateside placement followed by an eight-week assignment in an international placement. Secondary education students in some program areas (for instance, English education) are required to complete a full semester of student teaching in the United States before student teaching at an international site.

For more information about international student teaching opportunities, contact the Office of Student Services.

Program Completion Assessment

As a requirement for completion of an approved TEP for initial teaching licensure, the state of Iowa requires a program completion assessment. University of Iowa student teachers must pass the edTPA assessment of their program as a requirement for program completion.

Course Substitutions

Students who have completed courses that they wish to substitute for program requirements should consult with their advisors.

All University of Iowa students seeking an Iowa teaching license must complete EPLS:4180 Human Relations for the Classroom Teacher and EDTL:4900 Foundations of Special Education, or approved substitutes. Human relations courses offered through community colleges are not accepted.

Teacher Licensure/Certification

The Iowa Board of Educational Examiners issues teacher, support service, and administrator licenses on the recommendation of Iowa colleges and universities whose programs have been approved by the Iowa Department of Education. All University of Iowa preparation programs have Iowa Department of Education approval.

Licensure/certification requirements across the nation are subject to change. Students who plan to seek employment in a state other than Iowa should make every effort to be informed about current requirements in that state. Generally, students who apply out-of-state should first secure Iowa licensure.

To be recommended by the University of Iowa, applicants must complete all requirements of the appropriate approved program. A minimum of 20 s.h. of course work applied to meet program requirements must be earned at the University of Iowa.

The Iowa Board of Educational Examiners requires a national background check with fingerprinting for all new applicants for Iowa licensure. In the State of Iowa, applicants must be at least 21 years old to be granted a teaching license. Applicants who have been found guilty of a felony are barred from receiving an Iowa teaching license. Appeals may be filed directly with the Iowa Board of Educational Examiners.

The College of Education Office of Student Services provides Iowa application forms, fingerprinting procedures, and licensure/certification assistance to all students completing approved programs offered by the college. It also provides assistance to individuals interested in adding endorsements to their Iowa license based on completion of State of Iowa minimum licensure requirements.

Resources

Baker Teacher Leader Center

The Baker Teacher Leader Center (TLC) helps students in the Teacher Education Program (TEP) realize their career and professional goals and become leaders as 21st-century teachers. The center provides students with access to key individuals in the TEP and offers core student support in one central location. Its technology-enhanced Learning Commons has collaborative work spaces for students, faculty, and staff. The facility models new and innovative technologies in education and supports seminars, workshops, and presentations. Community partnerships with area education agencies, community organizations, and schools provide access to classrooms where future teachers can innovate, improve, collaborate, develop, and discover their identities as teacher leaders.

Belin-Blank Center for Gifted Education and Talent Development

The Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development conducts research, training, and service in gifted education and disseminates information on the education of gifted students.

Located in the Blank Honors Center, its programs and services include the Belin-Blank Fellowship Program in Gifted Education, practicum and internship experiences, and course work in gifted education (including coordinating the state endorsement). Precollege student programs include: Invent Iowa, Scholastic Art & Writing Awards, above-level testing for students in grades 2-9, precollege summer and academic year programs for high-ability students in grades 2-11, and programs for international students. The center also administers the Iowa Online Advanced Placement Academy and the Wallace Assessment and Counseling Clinic, which specializes in twice-exceptionality; and the Acceleration Institute, which is dedicated to the study of curricular acceleration for academically talented children.

In addition to the honors program for College of Education students, the center administers the Bucksbaum Early Entrance STEAM Academy, a highly selective early entrance program for students who have completed their sophomore or

junior year in high school and are ready to enroll as full-time University of Iowa Honors students.

The center also provides practicum and internship experiences for undergraduate and graduate students and coordinates course work for the Iowa Talented and Gifted Endorsement. For more information, contact the Belin-Blank Center.

Blommers Measurement Resources Library

The Paul Blommers Measurement Resources Library includes books, journals, research reports, and reference materials related to educational and psychological measurement, testing, assessment, and evaluation, as well as an extensive collection of published and unpublished tests. The library supports the teaching and research needs of faculty, staff, and students at the University of Iowa, primarily serving the College of Education.

Center for Advanced Studies in Measurement and Assessment

The Center for Advanced Studies in Measurement and Assessment (CASMA) pursues interdisciplinary research-based initiatives that lead to advances in the methods and practice of educational measurement and assessment. CASMA performs, promotes, fosters, and disseminates research in measurement and psychometric methodologies that respond to contemporary needs and initiatives in testing.

Currently, the center devotes considerable resources to research on equating, scaling, and generalizability theory; it also offers workshops and training sessions on those topics. Extensive free suites of computer programs are available on the CASMA website. The site also features research reports and technical notes on measurement topics such as generalizability theory, equating methods, and linking with item response theory.

Center for Evaluation and Assessment

The Center for Evaluation and Assessment (CEA) provides third-party program evaluation, assessment, and other research services to a broad range of clients working in multiple programmatic areas. The center's mission is to provide high quality program evaluation and research services to support data-driven decision-making, to train graduate students, and to advance evaluation theory and practice.

Center for Research on Undergraduate Education

The Center for Research on Undergraduate Education (CRUE) is dedicated to the study of undergraduate education in America, from how academic and social experiences affect students to the methods schools use to improve students' chances for success in the classroom and beyond graduation. CRUE brings a methodologically balanced approach to the study of undergraduate education.

College of Education Writing Resource

The Writing Resource provides academic writing support for graduate students at the College of Education. Students sign up to work collaboratively with a writing tutor throughout the composing processes—from conceptualizing ideas to polishing and publishing/finalizing the paper. The mission is to facilitate each student's individual growth as a writer and to foster a collaborative writing community. Services are free to graduate students in the College of Education.

Cooperating Schools Program

The Cooperating Schools Program (CSP) is a University-wide service that facilitates placement of research projects and service-learning projects conducted by faculty, staff, and students in public schools throughout Iowa. The program provides information to help researchers obtain permission to conduct research in Iowa schools. The Cooperating Schools Program was instituted at the request of school administrators charged with the responsibility of approving research projects in their schools.

Education Technology Center

The Education Technology Center (ETC) provides computer services to College of Education faculty, staff, and students. In addition to internet access, services include collegiate file and application servers; standard office tools; specialized applications such as media production tools and qualitative and quantitative analysis programs; secure folders and directories; and electronic mailing lists for faculty, staff, and student groups. The ETC also provides website and digital signage (kiosk) development for College of Education departments, offices, and groups.

The Education Technology Center provides faculty with technical and design support for courses, research technologies, distance education, multimedia, and ePortfolio production.

SMART Boards and SMART Podiums, and wireless access are available throughout the college. Every classroom and conference room has a digital presentation system, and five classrooms are outfitted for videoconferencing and distance education instruction.

Faculty members and students can check out wireless laptops, web cameras, computer projectors, digital audio recorders, digital video cameras, iPads, and other devices from the center. In all, the College of Education supports more than 850 computers, laptops, PDAs, and smartphones as well as seven servers.

Grants and Research Services Center

The Grants and Research Services Center (GRSC) provides grant and research-related support services for the college's faculty, staff, and students. GRSC staff members help identify internal and external funding sources, prepare and submit grant proposals and application materials, provide grant accounting services, and help in the preparation of applications for Human Subjects/Institutional Research Board review. The college also provides limited funds for faculty research, professional development, and travel.

Institute on Disability and Rehabilitation Ethics

The Institute on Disability and Rehabilitation Ethics (IDARE) is a cross-disciplinary, cross-institutional online community of scholars. Its goal is to use research, education, and consultation to improve the quality of ethical practice experienced by people with disabilities who receive services from rehabilitation, health, mental health, and social service professionals. IDARE works to influence disability policy and practice development nationally and locally and to influence professional organizations' consideration of ethical issues that affect people with disabilities and other marginalized populations.

Iowa Center for Assistive Technology Education and Research

The Iowa Center for Assistive Technology Education and Research (ICATER) helps to ensure equal access and opportunities for people of all ages with disabilities by advancing assistive technology through research, education, and service. ICATER's primary purpose is instructing preservice teachers and others in education about technology that can help struggling students and students with disabilities to access the general education curriculum. The center collaborates with College of Education, University, and community programs to provide technical assistance that enhances the services and resources available to educators and persons with disabilities. It also sponsors courses, workshops, and education programs. The center's assistive technology laboratory is available for student and faculty use, demonstrations, consultations, and research.

Iowa Supports Education and Resources for Veterans and Enlisted

Iowa Supports Education and Resources for Veterans and Enlisted (I-SERVE) was created to help facilitate successful transitions for veterans and enlisted service members into higher education at the University of Iowa. The center is located in the Teacher Leader Center, on the first floor of the North Lindquist Center. The program assists veterans with accessing benefits, the application process, completing course work, preparing for and searching for jobs, and achieving overall career success. I-SERVE also offers educational consultation, workshops, special programs, and presentations that enhance knowledge, skills, and attitudes of teachers and other professionals who work with veterans, military children, and families.

Iowa Testing Programs

Iowa Testing Programs (ITP) provides assessment expertise to schools in the State of Iowa and consultation to the Iowa Department of Education and to area education agencies. Its faculty and staff develop standardized educational tests, such as the widely used Iowa Assessments, for use in elementary and secondary schools, as well as other assessment tools to support instruction and learning. Iowa Testing Programs also conducts research studies in educational measurement and evaluation, publishes the results of these studies, sponsors lectures and symposia, provides consulting and in-service training to educators and school systems, and provides

training experience for graduate students in educational measurement and evaluation.

Libraries

University of Iowa Libraries provides a wide variety of resources in print and online. Course reserve materials are available at the Main Library. An education librarian is available to help students with their research projects and assist faculty members and teaching assistants with their research and instructional needs.

Office of Graduate Teaching Excellence

The Office of Graduate Teaching Excellence (OGTE) is dedicated to excellence in college teaching and the preparation of future faculty. The office facilitates opportunities for research, teaching, and service. Through the Iowa Education Fellows Program (i-fellows), OGTE develops and conducts workshops and seminars that address the developmental needs of College of Education doctoral students, from their first semester on campus through completion of their degrees. The office also guides students through the process of earning the graduate Certificate in College Teaching (Graduate College).

Office of Student Services

The Office of Student Services assists students, faculty, staff, and the general public in graduate and undergraduate admission, Graduate College examinations, student field experiences, and teacher licensure/certification. It also serves as a liaison with other University units, including the Graduate College, the College of Liberal Arts and Sciences, the Office of Admissions, and the Office of the Registrar, and with external agencies, including the Iowa Department of Education, out-of-state teacher licensure/certification departments, and school district personnel in Iowa and outside of the state. A variety of application and information materials are available at the office and on its website.

Statistics Outreach Center

The Statistics Outreach Center (SOC), a service of the College of Education and Iowa Testing Programs, helps the college's faculty, staff, and students use quantitative statistical methods to produce high-quality research. The center offers short-term consulting on statistical data analysis and grant proposals to the College of Education at no charge and provides services to departments and grants outside the college on a fee basis. The SOC also offers a variety of educational opportunities involving statistical software. Information on course schedules, events, resources, and an appointment request form is available on the Statistics Outreach Center website.

UI Helping Professional Workshops

The UI Helping Professionals Workshops (IHELP) program provides affordable workshops intended to enhance the personal and professional development of helping professionals. The program offers Continuing Education Units (CEU's) for community, agency, and education practitioners working with or interested in individuals, groups, families, and organizations.

Financial Support

College of Education students may be eligible for scholarships, awards, or graduate assistantships. Information about financial support for students is available at Scholarships and Awards on the college's website. The Graduate College posts a list of open assistantships on its website; see Graduate Assistantships and Grants.

Students interested in employment opportunities in the college's support units and special resources should contact the director of each facility and indicate their interests, their academic and experience records, and their career or degree goals at the University of Iowa.

Graduate Assistantships

Individual academic programs provide opportunities for teaching, research, or service assistantships as well as for fellowships and related employment opportunities. Inquiries should be addressed to the chair of the department or the director of the program in which students believe they can provide service or achieve an outstanding academic record. Assistantship appointments are usually, but not always, made by the program area.

Special Graduate Research Assistantships in Education

The Iowa Testing Programs provides funds to support a limited number of special graduate assistantships in education, in which students do research work under the direction of a faculty member of their choice. Students must be enrolled for at least 6 s.h. but not more than 12 s.h. per semester; assistantships are for the academic year and are renewable for a limited number of years. Students admitted to or pursuing any advanced degree program offered by the College of Education are eligible to apply, provided they are committed to a professional career in the United States.

Applicants must submit transcripts of all completed college work (undergraduate and graduate), recommendation forms specific to the assistantship, and scores on the Graduate Record Exam (GRE) General Test. For assistantship application forms, contact the Iowa Testing Programs director. Application deadline is late February.

Scholarships and Awards

The College of Education presents a number of awards funded by donors; recipients must meet the criteria established by the donors for their awards. Recipients are presented with their award at a spring semester luncheon. For more information, see Scholarships and Awards on the college's website.

Duane D. Anderson Memorial Scholarship: awarded to a transfer student from an Iowa community college who is currently enrolled in a program in the College of Education.

Jack Bagford Elementary Education Scholarship: presented to an undergraduate or graduate student in elementary education who will be student teaching during the academic year following the award; recipient must be a resident of Iowa.

David and Connie Belin Honors Award: presented to graduating seniors who have completed all requirements for the Honors Opportunity Program.

Blommers-Hieronymus-Feldt Fellowship: presented to doctoral students in educational measurement and statistics.

Lowell Brandt Rehabilitation Counseling Award: presented to graduate students pursuing a master's degree in the rehabilitation counseling program.

Barry Bratton Memorial Award: presented to graduate students who have completed course work that reflects a commitment to the systematic design and improvement of instructional processes and materials.

Robert L. Brennan Graduate Student Award: presented to a graduate student in the educational measurement and statistics program based on their research.

Dr. Bettye M. Caldwell and Dr. Fred T. Caldwell Scholarship: presented to undergraduate students interested in pursuing careers in early childhood development including the fields of education, sociology, psychology, and other related academic programs.

Jake and Kimberly Chung Scholarship: presented to a teacher education student for their student teaching semester.

Debra Clausen Memorial Scholarship: presented to a graduate student in the College of Education who will work at the Hospital School (now the Center for Disabilities and Development) to evaluate and develop learning programs for students with mental disabilities, including Down Syndrome, or to students pursuing careers in special education.

T. Anne Cleary Psychological Research Scholarship: presented to students in the Department of Psychological and Quantitative Foundations.

Laurie Jane Croft Scholarship: presented to deserving undergraduate or graduate students in the College of Education who are pursuing an endorsement certificate in gifted education.

Beulah A. and Robert L. Darrow Scholarship: presented to deserving students in the College of Education.

John Leonard Davies Scholarship: presented to a student who is a first- or second-semester senior in the Department of Teaching and Learning who is viewed as being creative and having outstanding potential for success in the field of K-12 education.

Harvey H. Davis Memorial Scholarship: presented to outstanding graduate students in educational leadership with preference given to students interested in the financing of education.

College of Education Dean's Scholars: presented to high achieving students who desire to become teachers.

Dr. Mary Agnella Gunn Memorial Scholarship: presented to worthy undergraduate or graduate students in education.

John H. Haefner Memorial Scholarship: presented to a student who will be student teaching in the area of social studies.

Gladys and Margaret Harvey Education Scholarship: presented to students who show financial need and are enrolled in the College of Education.

Hemphill/Jones Higher Education Masters Student Award: presented to deserving students in the College of Education with preference given to historically underrepresented students of color working toward an M.A. degree in higher education and student affairs.

Emma E. Holmes Education Scholarship: presented to an outstanding undergraduate or graduate student in any program in the College of Education; based on merit and need, the recipient must be a U.S. citizen with first preference for a student in the top 20 percent of their class, second preference for a student with demonstrated financial need.

Albert Hood Promising Scholar Award: presented to a doctoral student in the Department of Rehabilitation and Counselor Education and a student in the higher education and student affairs program with an approved prospectus.

H.D. Hoover Excellence Scholarship: presented to a graduate student working on mathematics achievement testing in the elementary grades.

Howard K. and Mathilda Ihrke Student Success Scholarships: presented to first-generation undergraduate and graduate students in the Teacher Education Program.

Kyle C. and Eula B. Jones Scholarship: presented to undergraduate and graduate students planning careers in elementary and secondary education and administration.

Charlotte and Ruby Junge Scholarship: presented to undergraduate or graduate students in elementary or secondary education who will be student teaching for a full semester.

Paul Larson Military/Veteran Student Scholarship: presented to College of Education student veterans and military students to help them achieve success in their studies in the College of Education.

Daniel G. Loetscher Memorial Science Education Scholarship: presented to students pursuing secondary education with an emphasis in the sciences, with preference given to those pursuing an emphasis in chemistry.

Perry Eugene McClenahan Memorial Scholarship: presented to an outstanding graduate student in educational administration.

Sheila E. McFarland Memorial Scholarship: presented to a student who will be student teaching for a full semester in the area of elementary education, preference for this award will be given to an Iowa resident.

Leonard A. Miller Memorial Scholarship: presented to an outstanding first-year M.A. student in rehabilitation counseling.

Helen Mackin Nichol Memorial Scholarship: presented to students from Iowa who are in secondary education and plan to teach and work with mentally and emotionally disturbed children.

Melvin R. Novick Award in Educational Measurement and Statistics: presented to a third- or fourth-year doctoral student in educational measurement and statistics who has at least a year of study remaining.

Paul Opstad Scholarship: presented to a full- or part-time graduate student in the College of Education whose career or scholarly interests focus on the concerns and needs of international students.

Margaret P. Park Scholarship: presented to deserving students in the College of Education with preference given to students from St. Louis County, Minnesota; Rock Island County, Illinois; or Iowa.

Ernest T. Pascarella Military Veteran Promise Award: presented to a graduate student veteran in the College of Education who demonstrates exceptional career promise.

Guy and Gladys Peterson Scholarship: presented to students admitted to the Teacher Education Program who have completed at least 12 s.h. of education course work.

Betty Piercy Award: presented to a deserving student in the field of reading.

Kathleen M. Ramsay and Family Scholarship: presented to deserving students in the College of Education with preference given to third-year or higher-level students, or to students who have a focus in elementary or secondary education, and demonstrate financial need.

Ann Ramsey and Richard E. Posey Scholarship: presented to a student who is a junior pursuing a career in teaching or education.

Rolland Ray Award: presented to doctoral students completing a dissertation concerned with measurement in mathematics education, science education, social studies education, or English education.

Mary Maxine Redmond Scholarship: presented to undergraduate students from Iowa enrolled in the College of Education.

Albert and Martha Ruffalo First Generation Education Scholarship: presented to deserving students in the College of Education who are first-generation college students.

Judith Young Saunders Scholarship: presented to an undergraduate or graduate student who is pursuing a degree in teacher education, with preference given to students with severe visual impairments.

Judy Skalsky Memorial Scholarship: presented to an undergraduate or graduate student majoring in art education.

Margaret A. Sloan Scholarship: presented to undergraduate or graduate students in the College of Education.

Lloyd and Diane Smith Memorial Scholarship: presented to students in elementary social studies.

Maureen Medberry Snell Education Award: presented to outstanding students in the College of Education.

Carol M. and Ed Stenson Scholarship in Education: presented to undergraduate students pursuing a special education certification or degree in general teacher education who exhibit both financial need and academic merit.

Drs. Andrew and Jeanne Stevenson Scholarship: presented to students in the College of Education with preference to students studying science education who plan to one day teach science education.

Franklin D. Stone and Louise P. Stone International Scholarship: presented to an outstanding international student pursuing a Ph.D. in the College of Education.

James and Coretta Stroud Fellowship: presented to an outstanding graduate student in educational psychology.

Grace Phelps Stucker Scholarship: presented to an undergraduate or graduate teacher education student.

Student Teaching Abroad Scholarship: presented to students who are doing their student teaching in a foreign country.

Edgar M. and Evelyn Benzler Tanruther Scholarship: presented to undergraduate and/or graduate students in elementary education.

University High School Innovative Development in Education Award (IDEA): presented to students during their secondary student teaching experience.

Emily C. Wagner Scholarship: presented to an undergraduate student in secondary education with an English education teaching degree who will be student teaching in the academic year following the award, preference for students who are residents of Iowa with a g.p.a. of at least 3.00 and demonstrated financial need.

Erwin and Louise Wasta International Scholarship: presented to an international student in the College of Education.

Ernest L. and Janet M. Yeakey Education Scholarship: presented to a deserving student in the College of Education with preference given to a student who is from the state of Iowa and pursuing math education.

Courses

- Education Interdepartmental Courses [p. 1193]
- Education Honors Opportunity Program Courses [p. 1193]

Most College of Education courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections.

The college also offers the following interdepartmental courses.

Education Interdepartmental Courses

EALL:4081 ePortfolio Design and Production 1-2 s.h.
Experience producing an ePortfolio and uploading it to the internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser, accessing the internet, and using a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as EDTL:4081, EPLS:4081, PSQF:4081, RCE:4081.

EALL:4130 Introduction to Grant Writing 3 s.h.
Comprehensive training in grant proposal writing; basics of project development and management; core principles for writing small and large proposals to public and private funding sources; finer points of grant writing to increase competitiveness of future proposals and applications; for students with limited grant writing experience. Same as MUSM:4150.

EALL:5150 Introduction to Educational Research 3 s.h.
Principles of empirical educational research; logic of inquiry for both quantitative and qualitative research methodologies.

EALL:7387 Introduction to Online Post-Secondary Course Design and Facilitation 3 s.h.
Knowledge of distance learning and teaching at the post-secondary level; instructional design principles relevant to development of online courses.

EALL:7475 Ph.D. ePortfolio in College Teaching 3 s.h.
Framework for connecting authentic evidence of scholarly work and teaching competencies; use of advanced web and multimedia technologies to link artifacts to ePortfolio templates.

Education Honors Opportunity Program Courses

EHOP:4100 Honors Seminar in Education 2 s.h.
Research in education and related professions in collaboration with a College of Education faculty member of student's choice; preparation for senior honors project.

EHOP:4101 Senior Honors Project 1-2 s.h.
Collaboration with a faculty member on research project; written report. Prerequisites: EHOP:4100.

Educational Policy and Leadership Studies

Chair

- David B. Bills

Program Coordinator, Educational Leadership

- Liz Hollingworth

Program Coordinator, Higher Education and Student Affairs

- Jodi Linley

Program Coordinator, Schools, Culture, and Society

- Brian P. An

Graduate degrees: M.A. in educational policy and leadership studies; Ed.S. in educational policy and leadership studies; Ph.D. in educational policy and leadership studies

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/epls>

The Department of Educational Policy and Leadership Studies offers academic programs that prepare administrators, professional personnel, teachers, and researchers in the fields of educational leadership, higher education and student affairs, and schools, culture, and society. The department also offers combined programs with other College of Education departments and with other University of Iowa colleges.

The department offers graduate degree programs in three major areas within educational policy and leadership studies:

- educational leadership (offered in the M.A., Ed.S., and Ph.D.), including an interdisciplinary program in school curriculum and assessment policy (offered in the Ed.S.);
- higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.); and
- schools, culture, and society (offered in the M.A. and Ph.D.).

The areas are described below under "Graduate Study Areas," followed by information about each degree program.

Applicants for admission to graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Graduate Study Areas

Educational Leadership

Study in educational leadership prepares individuals for leadership positions. In addition to graduate degree programs, the area includes principal licensure and superintendent endorsement. See the Master of Arts [p. 1200], Specialist in Education [p. 1203], and the Doctor of Philosophy [p. 1204] in this section of the Catalog.

Licensure

To be eligible for recommendation by the University of Iowa for licensure in Iowa as a principal or superintendent/area education agency administrator, students must complete

the appropriate program. The specific requirements for each program are available from the Department of Educational Policy and Leadership Studies and the Office of Student Services. Students who hold an M.A. must satisfy all core requirements and must complete at the University of Iowa the minimum semester-hour program for each licensure level they seek. Because each administrative license has specific requirements, candidates are required to plan their programs with their advisors' approval.

Superintendent Endorsement

The superintendent endorsement curriculum is designed to prepare individuals for licensure as a school superintendent (pre-K-12) as well as for other school district leadership positions; for the chief administrator position in Iowa's area education agencies (AEA) as well as other AEA leadership positions; and for leadership positions in state or federal departments of education and related agencies. The superintendent endorsement requires a total of 30 s.h. of credit.

Students in the endorsement program must have an Iowa administrator license. They obtain the superintendent endorsement (State of Iowa endorsement 171) upon completing the required Ed.S. course work and at least three years of principal experience.

School Curriculum and Assessment Policy

The interdisciplinary program trains graduate students to become school leaders who know how to use assessment information for accountability purposes and curriculum evaluation. See the Specialist in Education [p. 1203] in this section of the Catalog.

Higher Education and Student Affairs

Advanced study in higher education and student affairs draws upon diverse perspectives from varied disciplines and professional fields to analyze critical issues and policies and their effects on students, faculty, administrators, staff, and other members of the higher education community. It also explores the complex interactive relationships among institutions of higher education, the external environment, and society at large.

The higher education and student affairs (HESA) program coalesces around a shared sense of responsibility to produce research and spark innovative thinking that addresses the contemporary challenges and persistent inequities permeating higher education. HESA offers educational leaders, scholars, and practitioners comprehensive expertise built from a range of intellectual traditions. Faculty have diverse philosophies, methods, disciplinary training, and personal backgrounds, ensuring students gain a deep understanding and interconnected view of the field.

Graduate degree programs in higher education and student affairs prepare professionals and scholar practitioners to serve as administrators, researchers, educators, and analysts in institutions of higher and postsecondary education and in related public and private agencies. The programs provide opportunities for concentrated study in student affairs administration; higher education policy and leadership; teaching, learning, and curriculum; and diversity, equity, and foundations of higher education. See the Master of Arts [p. 1200], Specialist in Education [p. 1203], and the Doctor of Philosophy [p. 1204] in this section of the Catalog.

Schools, Culture, and Society

Schools, culture, and society is an interdisciplinary area that enhances students' ability to analyze the influence of social, historical, and philosophical factors that frame contemporary issues in the formal social enterprise of education. See the Master of Arts [p. 1201] and the Doctor of Philosophy [p. 1206] in this section of the Catalog.

Programs

Graduate Programs of Study

Majors

- Master of Arts in Educational Policy and Leadership Studies [p. 1200]
- Specialist in Education in Educational Policy and Leadership Studies [p. 1203]
- Doctor of Philosophy in Educational Policy and Leadership Studies [p. 1204]

Courses

Educational Policy and Leadership Studies Courses

EPLS:1029 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

EPLS:2098 The Student Affairs Profession 3 s.h.

Introduction to field of student affairs in context of higher education; focus on foundations of profession, including a brief history of field, professional associations, institutional differences, professional and ethical standards, functional areas in higher education, student learning and developmental theory, overview of graduate preparation, and current topics.

EPLS:3000 Foundations of Education 3 s.h.

Overview of American education, preschool through secondary; aims, history, philosophy of education; professional ethics, legal responsibilities; school curriculum, organization, finance, school law, political and social issues.

EPLS:4081 ePortfolio Design and Production 1-2 s.h.

Experience producing an ePortfolio and uploading it to the internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser, accessing the internet, and using a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as EALL:4081, EDTL:4081, PSQF:4081, RCE:4081.

EPLS:4110 Administration and Policy in Gifted Education 2 s.h.

Policy, administrative, evaluation issues in developing and maintaining gifted programs in a school setting; participants develop gifted program and policies for a school; for school executives and coordinators of gifted programs.

EPLS:4111 Evaluation of Gifted Programs 1 s.h.

Fundamentals of program evaluation essential for exemplary gifted programs.

EPLS:4113 Staff Development for Gifted Programs 1 s.h.
Planning, content, and delivery of staff development regarding gifted students and their needs.

EPLS:4150 Leadership and Public Service I 3 s.h.

Preparation for providing public service to a local community; leadership skills for effective mentoring of children in grades 6-10.

EPLS:4151 Leadership and Public Service II 2 s.h.

Preparation to provide leadership and public service to a local community agency; being a leader and a public servant in the context of societal oppressions such as racism, sexism, able-bodiedism; part of the human relations minor. Prerequisites: EPLS:4150.

EPLS:4180 Human Relations for the Classroom Teacher 3 s.h.

Influence of social factors such as discrimination, diversity, equity, racism, sexism, and ethnic and socioeconomic pluralism on American schools and classrooms; for teacher education candidates. GE: Values and Culture.

EPLS:4200 Diversity and Inclusion in Athletics 3 s.h.

Diversity and inclusion as major issues for coaches, sports managers, physical activity professionals, and athletic administration staff in their workplaces; define, discuss, and analyze effects of diversity and inclusion in the athletic organizational environment; experience of underrepresented groups in sport settings, covering differences of religion, race, ethnic origins, gender, sex, ability, appearance, and age; understanding power differences, based on diversity within an organizational environment, that help future leaders implement successful practices inclusive of all persons. Requirements: undergraduate standing and enrollment in interscholastic athletics/activities director certificate program.

EPLS:4240 Perspectives on Minority Education in the United States arr.

In-depth focus on one specific minoritized group, centering on the nature of their educational experience in the U.S.; may cover historical, cultural, legal, and sociological perspectives that have contributed to access, inclusion, policies, and legal realities; content may include PK-12, private, religious, and higher education settings.

EPLS:5090 Instructional Coaching for Teaching Excellence 3 s.h.

Dynamics of coaching to improve K-12 classroom teaching; appropriate for aspiring teacher leaders. Requirements: admission to the online M.A. in teaching program.

EPLS:5100 Issues and Policies in Higher Education 3 s.h.

Development of the idea of a university; selected functions, issues, policies of American higher education.

EPLS:5102 History of American Education 3 s.h.

Purposes of public education, diversity, and control of schooling from a historical perspective; emphasis on conflicting interpretations of pivotal events and educational movements; connections between educational policies and larger historical developments.

EPLS:5123 History of Ethnic/Minority Education 2-3 s.h.

Educational histories of American ethnic and minority groups; comprehensive understanding of American educational history, context for contemporary educational policy discussions.

EPLS:5126 Twentieth-Century Educational Movements 2-3 s.h.

Current educational policy debates concerning diversity and equity, historical roots of these policies; historical context for 20th-century equal education opportunity movements.

EPLS:5130 Sociology of Education 3 s.h.

Effects of school and school organization on educational outcomes; course-taking patterns and tracking, desegregation, differences in school sector; focus on entire span of student's academic career; examination of school and organizational effects at the primary, secondary, and postsecondary levels of education. Same as SOC:5130.

EPLS:5131 Race, Class, and Gender Inequalities in Education 3 s.h.

Role of ascribed characteristics (e.g., race, class, gender) on educational opportunities and outcomes; achievement gaps, school desegregation, social and cultural capital, peer influence, family attributes, neighborhood influence, influence of significant others, course-taking patterns, and educational destinations. Same as SOC:5165.

EPLS:5134 Education and the World of Work 2-3 s.h.

Relationship between education and work in individual and organizational behavior, and between educational and economic systems; economics, psychology, sociology, education.

EPLS:5142 Sociology of Higher Education 3 s.h.

Sociological approach to study of higher education; issues of inequality and stratification in higher education; focus on relationship between higher education and larger economic and demographic processes; college access, college destinations, attainment, and returns to a college degree. Same as SOC:5680.

EPLS:5154 Education, Race, and Ethnicity 2-3 s.h.

Role of education in ethnic and racial groups in contemporary and/or historical context.

EPLS:5156 Philosophies of Education 2-3,5 s.h.

Principal educational philosophers and philosophies that have influenced Western education; emphasis on how philosophical ideas and conflicts have shaped the educational scene.

EPLS:5157 Ethics in Education 3 s.h.

Major theories of the nature of ethical action and of value judgment; theoretical accounts related to the practical decision making contexts of teaching.

EPLS:5158 John Dewey and Education 2-3 s.h.

Dewey's philosophy of instrumentalism, with emphasis on his theories of knowledge, valuation, aesthetics, especially as applied to educational theory and practice.

EPLS:5165 Introduction to Program and Project Evaluation 3 s.h.

Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as PSQF:5165.

EPLS:5210 Education and Social Change 2-3 s.h.

Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as SOC:5810.

EPLS:5240 Topics in Education arr.

Seminar for intensive study of one problem, issue, or work field.

EPLS:5245 The American Professoriate 3 s.h.

Research on college and university faculty members; perspectives on faculty careers, values, beliefs, role in shared governance; tenure process and policies; issues unique to faculty members of color and women faculty members.

EPLS:5247 Multiculturalism in Higher Education 3 s.h.

Theory and application of multicultural competency in higher education.

EPLS:5250 Introduction to Higher Education and Student Affairs 3 s.h.

Foundations of student affairs work; overview of institutional cultures, legal issues, ethical principles, standards of practice in student affairs.

EPLS:5251 College Students and Their Environments 3 s.h.

Characteristics of college students and issues they face; students' institutional, social, cultural environments; impact of environments on student learning, development.

EPLS:5252 Administration of Higher Education and Student Affairs 3 s.h.

Administrative structures and processes in higher education settings. Requirements: higher education and student affairs major.

EPLS:5253 Research, Assessment, and Evaluation in Higher Education 3 s.h.

Theories, practices, and issues relevant to assessment of student outcomes and institutional effectiveness in higher education; basic overview of research, assessment, and evaluation; elements of assessment design, including methods for data collection and analysis; relevant ethical and political dilemmas; practical assessment activities. Requirements: M.A. standing in higher education and student affairs program.

EPLS:5278 Helping Skills in Student Affairs Work 3 s.h.

Development of ability to identify, understand, and intentionally apply the active attending and influencing skills; readings and class presentations.

EPLS:6201 Foundations of School Administration 3 s.h.

Organization and administration of American public education; principles and concepts of leadership and organizations; socioeconomic, political, and professional factors relating to education and school administration.

EPLS:6206 Research Process and Design 3 s.h.

Research process, with emphasis on fundamentals of experimental design, internal and external validity, correlational designs, and statistical inference.

EPLS:6209 Survey Research and Design 3 s.h.

Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: EPLS:6206 or PSQF:4143. Same as PSQF:6209.

EPLS:6216 Finance in Higher Education 3 s.h.

Theory, research, policy, and practice related to public and private funding of higher and postsecondary education.

EPLS:6217 Theory and Practice of Leadership 2-3 s.h.

Theory-based literature and critiques of leadership as applied to educational institutions.

EPLS:6218 The Law and Higher Education 3 s.h.

The role of law as it affects postsecondary institutions; analysis of case law in specific areas of concern to administrators, faculty, staff, students.

- EPLS:6220 History of Higher Education** 3 s.h.
History of postsecondary education in the United States; emphasis on conflicting interpretations of pivotal developments; consideration of access, curriculum, student life, academic freedom, role of universities in society, and balance of teaching, research and service from a historical perspective.
- EPLS:6221 The College Curriculum** 3 s.h.
Issues, principles, policies, and practices in college curriculum development; diverse philosophical, historical, cultural, social, psychological, political foundations of contemporary college curricula; perspectives on and models of college curriculum, related processes of teaching and learning; principles and practices that guide design and change of higher education curriculum.
- EPLS:6222 Introduction to Educational Policy** 3 s.h.
Theoretical and technical approaches to analysis and evaluation of contemporary public policies.
- EPLS:6224 Organizational Theory and Administrative Behavior** 3 s.h.
Theories and concepts of organizational behavior applied in structural, organizational, administrative contexts of American education.
- EPLS:6225 Higher Education Policy** 3 s.h.
Overview of state level higher education structures and policies; research on state level policy processes.
- EPLS:6226 Educational Management** 2-3 s.h.
Literature and research on management; emphasis on American education.
- EPLS:6228 K-12 Education Finance and Policy** 3 s.h.
Emphasis on policy funding and finance for administration and management in education and other settings.
- EPLS:6236 Administration of Students with Special Needs** 3 s.h.
Foundation for and skill practice in tasks performed by directors of special education and others administering to needs of special education students, and economically and socially deprived students; for prospective school administrative personnel. Same as ECTL:6936.
- EPLS:6237 History of the Teaching Profession** 3 s.h.
History of public school teaching, and teachers' problematic professional status; teacher education in the 19th and 20th centuries; formation and activities of teacher unions in the 20th century.
- EPLS:6238 Gender and Education in Historical Perspective** 3 s.h.
Gender in context of history of education in the United States; coeducation in common schools, academies, and high schools; women's arrival and experiences as college students; masculinity in higher education; single-sex versus coeducation; emphasis on conflicting historical interpretations. Same as GWSS:6238.
- EPLS:6242 Research for Effective School Leaders** 3 s.h.
Fundamental language of contemporary research; identification and application of basic research components to contemporary educational leadership problems; applicability of research toward effective decision making.
- EPLS:6260 Contemporary Management Strategies for the Pre-K-12 Principal** 3 s.h.
Leadership skills and management techniques for daily organization and operation of schools; emphasis on climate, communication, group processes, conflict resolution, curriculum management.
- EPLS:6265 Standards-Based Education and Accountability** 3 s.h.
Standards-based education; academic content standards, K-12 articulation, alignment studies, use of standardized test results to evaluate academic programs.
- EPLS:6266 Program Evaluation** 3 s.h.
Theoretical issues and considerations in evaluation of educational and social programs; evaluation design, methodology; metaevaluation; evaluation utilization. Same as PSQF:6265.
- EPLS:6270 Policy and Politics** 3 s.h.
Current issues from academic journals, states, think tanks, consortia.
- EPLS:6273 The College Student** 3 s.h.
Overview of theories, research, practices, and issues relevant to understanding students in institutions of higher education. Requirements: Ph.D. standing in Higher Education and Student Affairs program.
- EPLS:6275 Diversity and Equity in Higher Education** 3 s.h.
Historical, contemporary, theoretical, and empirical aspects of diversity and equity in higher education; unique experiences of members of historically under-represented groups; challenges of transforming institutions to make them more responsive to the experiences of diverse groups.
- EPLS:6285 School and Community Relationships** 3 s.h.
Community analysis, politics and education, power groups and influences, school issues and public responses, public relations strategies.
- EPLS:6290 Master's Project** arr.
Research for the nonthesis program; topic approved by advisor.
- EPLS:6293 Individualized Instruction** arr.
Readings, special projects, and/or studies that reflect joint instructor/student interest.
- EPLS:6298 Legal Aspects of School Personnel** 3 s.h.
Teacher and student: liability, negotiations, rights, privileges, responsibilities of school personnel; principles of law derived from court decisions; constitutional and statutory provisions; for teachers and administrators.
- EPLS:6301 Professional Seminar I** 1 s.h.
Orientation to field; writing and academic support.
- EPLS:6302 Professional Seminar in Student Affairs II** 1 s.h.
Working with groups in higher education.
- EPLS:6303 Professional Seminar in Student Affairs III** 1 s.h.
Consulting, training, and curriculum development in student affairs.
- EPLS:6304 Professional Seminar in Student Affairs IV** 1 s.h.
Professional identity, job search support.
- EPLS:6305 Higher Education and Student Affairs Capstone** 3 s.h.
Completion of an applied project that synthesizes the full M.A. curriculum.
- EPLS:6311 Seminar: Research Topic in Education** 2-3 s.h.
Topic submitted by students, faculty.

EPLS:6315 Orientation to the Superintendency 3 s.h.

Leadership theory and research of the superintendent's role of increasing student achievement; personal goals for communication; ethics, integrity, flexibility, reflective, and collaborative leadership; expectations of the superintendent by the board of directors; defining one's role; developing an entry plan; dealing with social/emotional isolation of superintendency; and influences in the larger political, social, economic, legal, and cultural context.

EPLS:6317 Operational Leadership and Management 1 s.h.

Managing fiscal and physical resources responsibly, efficiently, and effectively; effective communication of school operations; leadership and management of nutrition program, transportation program, facilities, construction; board policy, legal issues; state reporting, ethical decision-making; relationship building, problem solving amidst barriers and various stakeholder groups.

EPLS:6319 Human Resources Leadership 2 s.h.

Leadership theory and research of the superintendent's role of aligning human resources practice and increasing student achievement; employment law; contract negotiations process/collective bargaining; contract maintenance; recruiting, selecting, developing, and retaining employees; working with labor unions and Public Employee Relations Board; special education law; Evaluator 2 Training. Requirements: Evaluator 1 Training.

EPLS:6321 Social Advocacy Summit 1 s.h.

Summit format; challenges and opportunities in Iowa's K-12 schools with changing demographics; opportunity for K-12 school districts and higher education institutions to engage in conversation on how to meet the needs of students and local school districts.

EPLS:6323 School Finance 2 s.h.

Manage fiscal and physical resources; communicate effectively with internal and external audiences regarding school operations; comply with state and federal mandates and local board policies; align educational programs, plans, actions, and resources with the district vision and goals.

EPLS:6325 Organizational and Educational Leadership 2 s.h.

Facilitate connections of students and families to health and social services that support a focus on learning as a district level leader in a school district; collaboratively establish a culture that welcomes and honors families and community and seeks ways to engage them in students learning; AEA structure, compliance and regulatory functions including special education.

EPLS:6329 Legislative Summit 1 s.h.

Collaborate with families and community members, respond to diverse community interests and needs, and mobilize community resources as a district level leader in a school district; work with legislators, build advocacy groups in a community, engage stakeholders, how to lobby legislators and meet with local senate and house representatives to participate in lobbying.

EPLS:6332 College Student Psychosocial and Identity Development 3 s.h.

Theoretical models of psychosocial and identity development in college students; applications to student affairs work.

EPLS:6333 Practicum in Higher Education and Student Affairs arr.

Small-scale research projects; supervised experience in planning, design, management, analysis, reporting of research activities; assignments to current and personal faculty research projects; student assumes major responsibility.

EPLS:6334 College Student Learning, Cognitive, and Moral Development 3 s.h.

Learning and development of college students; theoretical models of learning, cognitive development, moral development; applications to student affairs work.

EPLS:6336 Impact of College on Students 3 s.h.

Introduction to literature; career and economic returns, educational attainment and persistence, values and attitudes, learning and cognitive development, college student theory, assessment and methodological issues of studying college outcomes. Recommendations: introductory graduate-level research design course.

EPLS:6370 Quantitative Methods for Policy Analysis 3 s.h.

Methodological strategies for quantitative research; analysis of secondary data to investigate educational issues and policies; recoding variables, summation scaling and factor analysis, missing data, sample design and survey estimation, model building; implementation of linear and binary regression, regression diagnostics; hands-on experience conducting statistical analysis of social data. Prerequisites: PSQF:4143 and PSQF:6243.

EPLS:6381 Analysis and Appraisal of Curriculum 3 s.h.

Comprehensive investigation of systematic procedures and resources for identifying and evaluating essential features and constituent elements of a given school district's curricular offering; state and federal requirements of the curricular program; for persons in administration, curriculum, and supervision programs or positions.

EPLS:6383 Supervision and Evaluation 3 s.h.

Data collection and management skills; data-driven leadership; coaching and feedback techniques; teacher quality legislation; research and best practice regarding teacher evaluation, supervision; teaching standards.

EPLS:6400 Early Childhood Leadership Clinical 3 s.h.

Classroom instruction and supervised experience with problems in early childhood educational administration; organization, planning, evaluation, decision making.

EPLS:6401 Elementary Leadership Clinical 3 s.h.

Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.

EPLS:6402 Secondary Leadership Clinical 3 s.h.

Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.

EPLS:6403 Special Education Leadership Clinical 3 s.h.

Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.

EPLS:6404 Central Administration Clinical 3 s.h.

Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.

EPLS:6405 Superintendent Entry Plan and Portfolio Development**1 s.h.**

Creating an effective entry plan, and where applicable, a professional portfolio as part of the series of clinical expectations for the superintendent preparation program; development of plan helps to create prior mutual expectation among the superintendent, board, staff, and community. Requirements: in final semester of superintendent endorsement program.

EPLS:6415 Orientation to the Superintendency: Clinical**2 s.h.**

Clinical experience aligned with course topics and assignments in a K-12 school or other educational organization; development of a clinical plan with the guidance of a university professor and local school district mentor based on course requirements, career goals, and interests.

EPLS:6417 Operational Leadership Clinical**1 s.h.**

Clinical experience aligned with course topics and assignments in the operational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.

EPLS:6419 Human Resources Leadership Clinical**2 s.h.**

Clinical experience aligned with course topics and assignments in the human resources leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.

EPLS:6425 Organizational and Educational Leadership Clinical**1 s.h.**

Clinical experience aligned with course topics and assignments in the organizational and educational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.

EPLS:7373 Qualitative Research Design and Methods**3 s.h.**

Theory and practice of qualitative research design and methodology; exploratory field experience in collection and analysis of data; individual and focus group interviews, participant observation. Requirements: Ph.D. standing.

EPLS:7380 Practicum in College Teaching**arr.**

Supervised college teaching experience in courses related to major academic areas; collaboration with faculty course instructors.

EPLS:7385 Teaching and Learning in Higher Education**3 s.h.**

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as EDTL:7385, GRAD:7385, PSQF:7385, RCE:7385.

EPLS:7392 Mixed Methods Research**3 s.h.**

Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identification and processing arguments for and against mixed methods research; extend understanding of research in education; how to assess strengths and weaknesses of published mixed methods studies; investigation of one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: EALL:5150. Requirements: formal introduction to quantitative and qualitative research methods, and familiarity with basic steps of research process. Recommendations: direct experience conducting research studies not required. Same as EDTL:7410.

EPLS:7395 Educational Specialist Research**arr.**

Individual instruction in the design, research, and writing of a research project of significant quality for upper-level graduate work.

EPLS:7432 Multicultural Initiatives**3 s.h.**

Impact of culture, race, ethnicity, and intersection of identity in higher education, student affairs, and community agency settings; knowledge, skills, and competencies needed by teachers, student affairs professionals, social workers, counselors, and educational administrators to facilitate individual empowerment through relationships; focus on different ways to design multicultural initiatives to various professional work settings to promote diversity. Requirements: Ph.D. standing or advanced-level M.A. standing. Recommendations: introductory course on issues of race, culture, gender and/or any course on sociopolitical issues or structural oppression strongly recommended.

EPLS:7433 Current Issues in Higher Education and Student Affairs**3 s.h.**

Current issues related to higher education; opportunity to clarify perspectives; review of literature in a particular area of interest; readings, class discussions, independent research, consultations with professionals in the field, student presentations. Requirements: higher education and student affairs Ph.D. standing.

EPLS:7444 Advanced Practicum in Student Affairs**arr.**

Supervised work experience in student affairs settings.

EPLS:7493 Ph.D. Thesis**arr.**

Supervision of research, design, and writing of Ph.D. thesis; individual instruction.

Educational Policy and Leadership Studies, M.A.

Educational Leadership

The Master of Arts program in educational policy and leadership studies with an educational leadership subprogram requires a minimum of 36 s.h. of graduate credit. The program prepares individuals for appointments as school principals and for positions in area education agencies and state departments of education. Upon completion of this degree, students will have completed the requirements to earn a master's degree and to obtain pre-K-12 principal and pre-K-12 supervisor of special education endorsement (State of Iowa endorsement 189). In order to obtain the State of Iowa endorsement, an individual must have at least three years of teaching at the pre-K-12 level.

With the aid of an advisor, each M.A. student prepares a plan of study that includes the following core requirements.

Code	Title	Hours
Core Requirements		
EPLS:6201	Foundations of School Administration	3
EPLS:6236	Administration of Students with Special Needs	3
EPLS:6242	Research for Effective School Leaders	3
EPLS:6260	Contemporary Management Strategies for the Pre-K-12 Principal	3
EPLS:6285	School and Community Relationships	3
EPLS:6298	Legal Aspects of School Personnel	3
EPLS:6381	Analysis and Appraisal of Curriculum	3
EPLS:6383	Supervision and Evaluation	3

For Iowa licensure as a principal, students must hold an Iowa teacher license, have taught for three years, and meet the human relations requirement of the State of Iowa. Students must complete the core requirements listed above and the following required clinical courses.

Code	Title	Hours
Clinical Courses		
EPLS:6400	Early Childhood Leadership Clinical	3
EPLS:6401	Elementary Leadership Clinical	3
EPLS:6402	Secondary Leadership Clinical	3
EPLS:6403	Special Education Leadership Clinical	3

Students earning an M.A. without principal licensure are not required to complete the clinical courses. Instead, they complete a series of electives (12 s.h.) approved by their advisors. For more detailed information, see the Educational Leadership web page.

Comprehensive Examination

Students in the M.A. program with licensure or the M.A. program without licensure will be required to take comprehensive examinations at the end of their program of study. The M.A. comprehensive examination for students consists of two parts: a general written examination in educational leadership covering material from all courses in the program, and a written examination that focuses on content from one of the courses in the program. Students must be registered in the Graduate College during their comprehensive examination semester if they plan to graduate at the end of that semester.

Admission

Applicants to the M.A. program in educational leadership must meet the admission requirements of the Graduate College. Admission decisions are made through a faculty review process. Factors considered include recommendations, grade-point average, Graduate Record Examination (GRE) General Test scores, an essay demonstrating writing ability, and other evidence of academic ability and professional promise.

Higher Education and Student Affairs

The Master of Arts program in educational policy and leadership studies with a higher education and student affairs subprogram requires a minimum of 40 s.h. of graduate credit. The program prepares individuals for careers in higher education, including academic administration, policy analysis, first-year programs, student activities and leadership, enrollment management, program evaluation, multicultural affairs, academic and career advising, residence life, and international student services.

The higher education and student affairs (HESA) program curriculum consists of course work in postsecondary administration, college students and their environments, college student development, and current and emerging issues in higher education, as well as in research and assessment. The curriculum integrates theory and practice and is designed to be completed in two years of full-time study or equivalent part-time study.

The curriculum includes the HESA core, a supervised practice, and integrative experiences. Elective course work is subject to advisor approval. An internship at an approved site is required for full admission to the program.

The M.A. in educational policy and leadership studies with a higher education and student affairs subprogram requires the following work.

Curriculum

Requirements

Code	Title	Hours
Common Core		
All of these:		
EPLS:5100	Issues and Policies in Higher Education	3
EPLS:5247	Multiculturalism in Higher Education	3
EPLS:5250	Introduction to Higher Education and Student Affairs	3

EPLS:5251	College Students and Their Environments	3
EPLS:5252	Administration of Higher Education and Student Affairs	3
EPLS:5253	Research, Assessment, and Evaluation in Higher Education	3
EPLS:6332	College Student Psychosocial and Identity Development	3
EPLS:6334	College Student Learning, Cognitive, and Moral Development	3

Integrative Experiences

All of these:

EPLS:6301	Professional Seminar I	1
EPLS:6305	Higher Education and Student Affairs Capstone	3
EPLS:6333	Practicum in Higher Education and Student Affairs (required once; students may enroll a maximum of 3 times; those with appropriate professional experiences may, with faculty approval, waive this requirement)	3

Electives

Students choose elective course work in consultation with their advisor 9-12

EPLS:5278	Helping Skills in Student Affairs Work	3
EPLS:6206	Research Process and Design	3
EPLS:6216	Finance in Higher Education	3
EPLS:6218	The Law and Higher Education	3
EPLS:6220	History of Higher Education	3
EPLS:6224	Organizational Theory and Administrative Behavior	3
EPLS:6225	Higher Education Policy	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:6293	Individualized Instruction (may be taken once up to 3 s.h.)	3
EPLS:6336	Impact of College on Students	3
EPLS:7380	Practicum in College Teaching (may be taken once up to 3 s.h.)	3
EPLS:7385	Teaching and Learning in Higher Education	3
EPLS:7432	Multicultural Initiatives	3

Courses from other departments also may be approved; students should consult their advisor.

Admission

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average, Graduate Record Examination (GRE) General Test scores, and

promise for professional growth. Transcripts, GRE scores, a résumé or curriculum vita, three letters of recommendation, and a personal statement are required. The statement of purpose (one to three pages) should include professional goals, whether the applicant plans to enroll full- or part-time, and how the applicant's goals and experiences are consistent with the higher education and student affairs program's mission and values.

Application deadline is December 15 for admission the following fall. Applicants who are recommended for admission are invited to come to campus on spring Campus Visit Day, during which they interview for internships. Full-time students must be employed at an approved site (usually in an approved internship).

Combined M.A./M.A. or M.S. in Urban and Regional Planning

The combined M.A. in educational policy and leadership studies with a higher education and student affairs subprogram (HESA)/M.A. or M.S. in urban and regional planning fills a growing need for higher education academic administrators with knowledge and understanding of planning and sustainability principles and methods.

The combined program reduces the total semester hours required to earn both degrees from 90 to 68. Students can complete course work for both programs in three years. All students are expected to meet the admission requirements of each respective program, take the required admission exams, and provide appropriate admission materials. The two programs make admission decisions independently.

Students may begin one program in advance of the other or begin the two programs concurrently. All requirements for each degree must be satisfied separately, which includes passing the final examination for each program. For more information, see the M.S. in urban and regional planning [p. 1499] (Graduate College) in the Catalog.

Schools, Culture, and Society

The Master of Arts program in educational policy and leadership studies with a schools, culture, and society subprogram requires a minimum of 32 s.h. of graduate credit and is offered without thesis. The program develops students' ability to analyze the influence of social, historical, and philosophical factors that frame contemporary issues in education.

Students complete at least 24 s.h. in schools, culture, and society courses in three disciplinary areas: sociology, history, and philosophy. They earn 12 s.h. in one of the disciplinary areas and 6 s.h. in each of the other two areas. The remaining 8 s.h. of course work must be in a concentration area appropriate to the student's career and academic goals.

Students must satisfactorily complete a six-hour comprehensive examination covering the program's three disciplinary areas and the student's concentration area. The examining committee may elect to hold an oral examination after the exam.

Admission

Applicants must meet the admission requirements of the Graduate College. A personal interview with one or more members of the program's faculty is recommended. Undergraduate and/or graduate emphases in education, sociology, and the humanities (philosophy, history, and so

forth) provide good background for graduate study of schools, culture, and society, although other emphases also may be useful.

Applicants must submit a personal statement explaining their professional goals, experiences, and research plans; undergraduate and graduate grade-point averages; undergraduate and graduate transcripts; three letters of recommendation; a résumé; and scores on the Graduate Record Exam (GRE) General Test. Application deadline is February 15 for admission the following fall.

Educational Policy and Leadership Studies, Ed.S.

Educational Leadership

The Specialist in Education program in educational policy and leadership studies with an educational leadership subprogram requires 36 s.h. of graduate credit. The program prepares candidates to be superintendents in Iowa or to hold other district-level leadership positions in K-12 school districts. It also prepares them for appointments as area education agency chief administrators and for jobs in state or federal departments of education.

Students must complete 26 s.h. of course work. They also must complete 10 s.h. of clinical work and must maintain an entry plan/portfolio. Many educational leadership courses are offered by distance education; see MyUI for information about courses offered during current semesters. At the conclusion of the program, students are required to submit a portfolio and a first-year entry plan. For detailed information, refer to Ed.S. programs on the Educational Leadership web page.

Students seeking superintendent endorsement must have an Iowa administrator license. They obtain the superintendent endorsement (State of Iowa endorsement 171) upon completing the required Ed.S. course work and at least three years of principal experience.

Admission

Applicants must meet the admission requirements of the Graduate College and of the educational leadership program. Required application materials include transcripts, official Graduate Record Examination (GRE) General Test scores, three letters of recommendation, and a personal statement of career goals. Admission is based on grade-point average and GRE scores, promise for scholarly and professional growth, and recommendations. Application deadline for fall semester is July 1; for spring semester, December 1; and for summer session, April 30. Complete applications are reviewed as they are received.

School Curriculum and Assessment Policy

The Specialist in Education program in educational policy and leadership studies with a school curriculum and assessment policy subprogram requires 36 s.h. of graduate credit beyond the master's degree (required credit may vary depending on a student's academic background, experiences, needs, and interests).

The interdisciplinary program trains graduate students to become school leaders who know how to use assessment information for accountability purposes and curriculum evaluation.

The program offers concentrations in policy, measurement and statistics, and curriculum and draws on course work from across the College of Education. Graduates are qualified to serve as educational leaders in the areas of school policy, assessment, and curriculum at federal, state, and district levels.

For more information on the school curriculum and assessment policy programs, see the Department of Educational Policy and Leadership Studies.

Admission

Applicants must meet the admission requirements of the Graduate College and of the school curriculum and assessment policy program. Factors considered include recommendations, grade-point average, Graduate Record Examination (GRE) general test scores, one to two page statement of goals, and other evidence of academic ability and professional promise. Application deadline for fall semester is July 1; for spring semester, December 1; and for summer session, April 30.

Higher Education and Student Affairs

The Specialist in Education program in educational policy and leadership studies with a higher education and student affairs subprogram requires 60 s.h. of graduate credit. The program provides advanced graduate study in administration, policy studies, and specializations developed in consultation with an advisor.

The Ed.S. also may be awarded upon completion of a combined program of graduate work in higher education and another academic field, or upon completion of a higher education sequence following a master's degree program in a different field.

Required Courses

The Ed.S. program of study must include the following.

Code	Title	Hours
Professional Education and Related Field Courses		18
Specialization Area Courses		28
Electives (approved by a student's advisor)		10
EPLS:7395	Educational Specialist Research	4
Total Hours		60

Depending on the student's career goals, the program may include an appropriate structured and supervised internship, determined in consultation with the advisor.

Comprehensive Examination

A culminating experience is required of all students, the nature of which will be contracted with the advisor. An oral examination of the culminating experience may be required.

Related Field

Students majoring in another field who want to complete a related field in higher education and student affairs should consult with a higher education and student affairs faculty member early in their study. Plans of study are developed individually.

Admission

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average, Graduate Record Exam (GRE) General Test scores, and promise for professional growth. Transcripts, GRE scores, three letters of recommendation, and a statement of educational goals are required.

Educational Policy and Leadership Studies, Ph.D.

Educational Leadership

The Doctor of Philosophy program in educational policy and leadership studies with an educational leadership subprogram requires a minimum of 90 s.h. of graduate credit. The program prepares scholarly professionals for leadership positions in a wide range of educational and public sector settings. Students acquire strong backgrounds in leadership, policy, and research. They equip themselves to discover, integrate, and apply knowledge as transformational leaders.

The Ph.D. in educational policy and leadership studies with an educational leadership subprogram requires the following work.

Code	Title	Hours
Common Courses		12
Cognate Courses		9
Electives		29
Concentration Area Courses		12
Research Courses		18
Dissertation		10
Total Hours		90

Students also complete the comprehensive examination and a dissertation, described below.

Many educational leadership courses are offered by distance education; see MyUI for information about courses offered during current semesters.

For more detailed course work information, see Educational Leadership on the Educational Policy and Leadership Studies website.

Research Courses

All educational leadership Ph.D. students must complete either EALL:5150 Introduction to Educational Research or EPLS:6206 Research Process and Design during the first year of their Ph.D. program. They also must complete a minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the College of Education website.

Comprehensive Examination

Students must satisfactorily complete a written take-home comprehensive examination consisting of three parts. The first part covers a student's major area of study, and the second covers two additional concentration areas. The third is on the student's outside area of study and is prepared by faculty members outside the Department of Educational Policy and Leadership Studies. The written exams are followed by an oral examination.

Dissertation

Students must write a dissertation based on an original research project in an area of educational leadership. Students must earn 10 s.h. of credit for dissertation research. The doctoral program culminates with a final oral defense of

the dissertation. Students must be registered at the University of Iowa during the session in which they graduate.

Admission

Applicants must meet the admission requirements of the Graduate College and of the educational leadership program. They also must satisfy the residency requirement of two full-time (at least 9 s.h.) registrations. Required application materials include transcripts, official Graduate Record Examination (GRE) General Test scores, three letters of recommendation, and a personal statement of career goals. Admission is based on grade-point average and GRE scores, promise for scholarly and professional growth, and recommendations. Complete applications are reviewed as they are received.

Higher Education and Student Affairs

The Doctor of Philosophy program in educational policy and leadership studies with a higher education and student affairs (HESA) subprogram requires 90 s.h. of graduate credit. At least 39 s.h. must be earned while registered in the Graduate College at the University of Iowa, and after formal program admission.

The doctoral program prepares individuals to be leaders in student affairs and academic administration, graduate faculty at research universities, leaders in conducting research about college students and higher education, policy analysts in postsecondary institutions and public or private agencies, and teachers and academic leaders at two-year and four-year colleges.

The HESA program integrates the academic experience with the cocurricular learning experiences of students and studies the outcomes of both. The curriculum is organized around three core areas: higher education administration and policy; teaching, learning, and the college experience; and diversity, equity, and foundations of higher education. Students take courses in each area and specialize in one.

The higher education administration and policy area studies organizational policy, leadership, and change. It helps administrators develop expertise in planning, evidence-based decision making, and effective leadership and organizational management. Individuals interested in enrollment management and institutional research should find this area appealing.

The teaching, learning, and the college experience area studies college teaching and learning and the ways in which college affects students. It enables educators to become more effective in designing, implementing, and evaluating powerful curricular and cocurricular initiatives. It should appeal to teaching faculty, institutional researchers, faculty development professionals, and leaders of student success initiatives.

The diversity, equity, and foundations of higher education area helps educators prepare to lead social change within their organizations and to facilitate difficult dialogues designed for interpersonal growth and development. It should appeal to chief diversity officers and other administrators called upon to develop curricula around social justice and to individuals interested in the empirical study of diversity in higher education.

The Ph.D. in educational policy and leadership studies with a higher education and student affairs subprogram requires the following course work.

Code	Title	Hours
	Substantive Common Core Courses	24
	Research Core Courses	17
	Specialization Area Courses	12
	Graduate Electives	25
	Dissertation	12
	Total Hours	90

Substantive Common Core

The substantive common core provides foundational understanding of higher education and general knowledge that all students must master, regardless of their career goals and interests. All courses in the core (24 s.h.) must be completed at the University of Iowa.

Code	Title	Hours
All of these:		
EPLS:6216	Finance in Higher Education	3
EPLS:6220	History of Higher Education	3
EPLS:6221	The College Curriculum	3
EPLS:6224	Organizational Theory and Administrative Behavior	3
EPLS:6225	Higher Education Policy	3
EPLS:6273	The College Student	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:7432	Multicultural Initiatives	3

Research Core

The research core (17 s.h.) assures that a student achieves scholarly autonomy and initiative.

Basic Research Methods

Code	Title	Hours
Both of these are required (6 s.h.):		
EPLS:6206	Research Process and Design	3
EPLS:7373	Qualitative Research Design and Methods (or approved substitute)	3

Statistics/Linear Regression

Code	Title	Hours
All of these (8 s.h. taken in this order):		
EPLS:5240	Topics in Education (when topic is data coding and management)	1
PSQF:6243	Intermediate Statistical Methods	4
EPLS:6370	Quantitative Methods for Policy Analysis	3

Advanced/Specialized Research Methods

Students should work with their advisor to choose one course (at least 3 s.h.) appropriate to their dissertation design.

Qualitative Methods

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is introduction to historical methodology)	3
EPLS:7392	Mixed Methods Research	3
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
RCE:7444	Qualitative Research in the Multicultural Context	3

Another comparable research methods course approved by advisor and higher education and student affairs program

Quantitative Methods

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is multilevel modeling)	3
EPLS:6209	Survey Research and Design	3
POLI:7003	Advanced Methodology	4
PSQF:6246	Design of Experiments	4
SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

Another comparable research methods course approved by advisor and higher education and student affairs program

Specialization Area

The specialization area gives students the opportunity to develop expertise in one area. Most students complete the common core before declaring one of the following three specializations: higher education administration and policy; teaching, learning, and the college experience; or diversity, equity, and foundations of higher education. Each specialization has its own course requirements and options.

Graduate Electives

Students choose 25 s.h. of elective graduate course work in consultation with their advisors. A student and their advisor may determine that some of the graduate elective work may be drawn from appropriate previous graduate course work that complements other aspects of the student's doctoral program.

Comprehensive Examination

The Ph.D. comprehensive examination consists of a question written by the student in consultation with their advisor, and formally approved by the HESA faculty. Students are expected to construct a well-supported argument informed by knowledge of the theory, research, and practice that constitutes the field of higher education based on the substantive core and the student's specialization. The written examination is followed by an oral examination.

Dissertation

The dissertation is a major research study planned in collaboration with the student's advisor. Students must write a formal dissertation proposal and submit it for approval, first to their advisor and then to the members of their doctoral committee. Students and their advisors determine when the proposal is complete. Students must earn 12 s.h. of dissertation research credit. The doctoral program culminates with a final oral defense of the dissertation.

Students must be registered at the University of Iowa each fall and spring semester from the semester in which they complete their comprehensive examination through the semester in which they defend their dissertation and graduate.

Admission

Applicants must meet the admission requirements of the Graduate College. Each applicant must submit a personal statement, undergraduate and graduate grade-point averages, undergraduate and graduate transcripts, three letters of recommendation, a résumé or curriculum vita, and scores on the Graduate Record Exam (GRE) General Test. The statement of purpose (one to three pages) should include an indication of specialization, professional and/or research interests, whether the applicant plans to enroll full- or part-time, and how the applicant's goals and experiences are consistent with the higher education and student affairs program's mission and values. Application deadline is December 1 for admission the following fall.

For more information on higher education and student affairs programs, see the Department of Educational Policy and Leadership Studies.

Schools, Culture, and Society

The Doctor of Philosophy program in educational policy and leadership studies with a schools, culture, and society subprogram requires a minimum of 90 s.h. of graduate credit. The program develops students' ability to analyze the influence of social, historical, and philosophical factors that frame contemporary issues in education.

The Ph.D. in educational policy and leadership studies with a schools, culture, and society subprogram requires the following course work.

Code	Title	Hours
	Common Core Courses	12
	Disciplinary Foundation Courses	12
	Interdisciplinary Focus Courses	9
	Cognate Courses	28
	Research Tools	17
	Dissertation	12
	Total Hours	90

Common Core

Students must complete all four courses in the common core (12 s.h.).

Code	Title	Hours
EPLS:5102	History of American Education	3
EPLS:5126	Twentieth-Century Educational Movements	3

EPLS:5130	Sociology of Education	3
EPLS:5156	Philosophies of Education	3

Disciplinary Foundation

Students choose one of three disciplinary foundation areas: sociology, history, or philosophy. They complete 12 s.h. in the area by taking three courses offered by the Department of Educational Policy and Leadership Studies (prefix EPLS) and one course offered by the corresponding department in the College of Liberal Arts and Sciences: sociology (prefix SOC), history (prefix HIST), or philosophy (prefix PHIL). The following lists provide examples of courses appropriate for the three disciplinary foundation areas.

Sociology

Code	Title	Hours
EPLS:5131	Race, Class, and Gender Inequalities in Education	3
EPLS:5134	Education and the World of Work	3
EPLS:5142	Sociology of Higher Education	3
EPLS:5210	Education and Social Change	3
EPLS:5240	Topics in Education (when topic is sociology of education)	arr.

History

Code	Title	Hours
EPLS:5123	History of Ethnic/Minority Education	3
EPLS:5240	Topics in Education (when topic is history of education)	arr.
EPLS:6220	History of Higher Education	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6238	Gender and Education in Historical Perspective	3

Philosophy

Code	Title	Hours
EPLS:5157	Ethics in Education	3
EPLS:5158	John Dewey and Education	3
EPLS:5240	Topics in Education (when topic is philosophy of education)	arr.

Interdisciplinary Focus

Students choose one of two interdisciplinary focus areas: diversity and equity, or policy contexts. They take three courses in that area (total of 9 s.h.) chosen from the corresponding list. At least two of the courses (6 s.h.) must be from outside their disciplinary foundation area (see "Disciplinary Foundation" above).

Diversity and Equity

Code	Title	Hours
EPLS:5123	History of Ethnic/Minority Education	3

EPLS:5154	Education, Race, and Ethnicity	3
EPLS:5157	Ethics in Education	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6238	Gender and Education in Historical Perspective	3
EPLS:6275	Diversity and Equity in Higher Education	3

One relevant course from another department, with advisor's approval

Policy Contexts

Code	Title	Hours
EPLS:5134	Education and the World of Work	3
EPLS:5157	Ethics in Education	3
EPLS:5210	Education and Social Change	3
EPLS:6225	Higher Education Policy	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6270	Policy and Politics	3

One relevant course from another department, with advisor's approval

Cognate Courses

Students must complete at least 28 s.h. of additional graduate-level course work in a field or fields that are relevant to their scholarly and professional goals. Students commonly complete some or all of the 28 s.h. with relevant graduate-level course work from other University of Iowa programs or with approved transfer credit from other institutions. A student's advisor, in consultation with other faculty members in the program, determine which course work to accept.

Research Tools

Students must take at least 17 s.h. in research methods.

Basic Research Methods

Code	Title	Hours
The following two courses are required:		
EPLS:6206	Research Process and Design	3
EPLS:7373	Qualitative Research Design and Methods	3
With approval, students may substitute course above for one of the following:		
EDTL:7070	Introduction to Qualitative Methods in Literacy Research	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is qualitative educational research methods)	3
RCE:7338	Essentials of Qualitative Inquiry	3

Intermediate Statistics and Linear Regression

Code	Title	Hours
All students must take the following three courses:		
EPLS:5240	Topics in Education (when topic is data coding and management)	1
PSQF:6243	Intermediate Statistical Methods	4
EPLS:6370	Quantitative Methods for Policy Analysis	3

Advanced and/or Specialized Research Methods

Students consult with their advisor to choose one course appropriate to their dissertation design from the "Qualitative or Non-Quantitative Courses" list or the "Quantitative Courses" list.

Qualitative or Non-Quantitative Courses

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is historical methodology in education or analysis of philosophical argumentation)	3
EPLS:7392	Mixed Methods Research	3
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7751	Advanced Qualitative Data Analysis	3
PSQF:6265	Program Evaluation	3
RCE:7444	Qualitative Research in the Multicultural Context	3
Other comparable research methods courses approved by student's advisor and schools, culture, and society program		

Quantitative Courses

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is multilevel modeling)	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
POLI:7003	Advanced Methodology	4
PSQF:6249	Factor Analysis and Structural Equation Models	3
SOC:5160	Research Design and Methods	3
SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

Other comparable research methods courses approved by student's advisor and schools, culture, and society program

Students who want to enroll in an advanced/specialized course not listed above, and wish to receive credit toward their program requirements, must obtain prior approval from their advisor and from the schools, culture, and society program.

Comprehensive Examination

The comprehensive examination consists of three take-home exams, each with a maximum of 12 pages. The first exam covers the common core, the second covers the student's interdisciplinary focus area, and the third covers the student's disciplinary foundation area.

Dissertation

After completing the comprehensive examination, students write a formal dissertation prospectus and submit it for approval first to their dissertation advisor and then to the members of their dissertation committee. The dissertation prospectus must be formally approved by the dissertation advisor and the dissertation committee before a student may begin dissertation research.

Students must earn 12 s.h. of dissertation research credit. The dissertation process culminates with a final oral defense of the dissertation. Students must register at the University of Iowa each fall and spring semester until the dissertation is successfully defended and the Ph.D. is awarded.

Admission

Applicants must meet the admission requirements of the Graduate College. A personal interview with one or more members of the program's faculty is recommended. Undergraduate and/or graduate emphases in education, sociology, and the humanities (philosophy, history, and so forth) provide good background for graduate study of schools, culture, and society, although other emphases also may be useful. Applicants must submit a personal statement explaining their professional goals, experiences, and research plans; undergraduate and graduate grade-point averages; undergraduate and graduate transcripts; three letters of recommendation; and scores on the Graduate Record Exam (GRE) General Test. Admission is for fall semester entry. Application deadline is January 15 for admission the following fall.

For more information on schools, culture, and society programs, see the Department of Educational Policy and Leadership Studies.

Multicultural Education and Culturally Competent Practice

Academic Coordinator

- Diana Sproles

Graduate certificate: multicultural education and culturally competent practice

Website: <https://www.grad.uiowa.edu/ogi>

The certificate program in multicultural education and culturally competent practice helps students develop culturally competent practice as they continue in their academic and professional careers. The program raises awareness of how worldview, values, beliefs, and biases shape the ways in which individuals and groups interact, interpret, and learn from each other. It is based on the need for a proactive and sustained approach to educational reform, advocacy, and social justice.

Programs

Graduate Program of Study

Certificate

- Certificate in Multicultural Education and Culturally Competent Practice [p. 1210]

Multicultural Education and Culturally Competent Practice, Graduate Certificate

The graduate Certificate in Multicultural Education and Culturally Competent Practice program of study has closed; for certificate requirements, see the 2016-17 General Catalog.

Online Teaching

Interim Chair, Department of Psychological and Quantitative Foundations

- Saba Rasheed Ali

Coordinator, Online Teaching

- Kathy L. Schuh (Psychological and Quantitative Foundations)

Graduate certificate: online teaching

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/all-academic-programs/educational-psychology-learning-sciences/certificate-online-teaching>

The growth of online teaching presents a need to address course quality, instructor training, assessment of teaching effectiveness and student learning, and retention. The Certificate in Online Teaching is an online graduate program designed to prepare students for the realities of online teaching and to help them expand their career options.

The Certificate in Online Teaching is administered by the Department of Psychological and Quantitative Foundations [p. 1213] and is granted by the Graduate College.

Programs

Graduate Program of Study Certificate

- Certificate in Online Teaching [p. 1212]

Online Teaching, Graduate Certificate

The graduate Certificate in Online Teaching requires 12 s.h. of graduate credit and is offered completely online. Certificate courses may not be taken pass/nonpass. The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

The certificate program develops students' skills in using technology to solve instructional problems associated with distance and time. The certificate's online format uses the techniques and approaches that the program teaches.

The Certificate in Online Teaching requires the following course work.

Code	Title	Hours
PSQF:6205	Design of Instruction	3
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6215	Web-Based Learning	3
PSQF:6216	Tools and Utilities for Online Teaching	3

For more information, visit Certificate in Online Teaching on the College of Education website.

Psychological and Quantitative Foundations

Interim Chair

- Saba Rasheed Ali

Undergraduate minor: educational psychology
Graduate degrees: M.A. in psychological and quantitative foundations; Ed.S. in psychological and quantitative foundations; Ph.D. in psychological and quantitative foundations

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/pq>

The Department of Psychological and Quantitative Foundations offers programs in these areas: counseling psychology, couple and family therapy, educational measurement and statistics, educational psychology, learning sciences, and school psychology. These programs have two general goals: to help students acquire the knowledge and skills that are necessary to function effectively in settings that require the application of psychological and quantitative principles, and to extend knowledge and understanding of the teaching/learning process as it occurs in a variety of settings. The department's degree programs incorporate both goals, but the Master of Arts and Specialist in Education programs emphasize the first goal, and the Doctor of Philosophy programs emphasize the second.

The department offers graduate degree programs in the following major areas within psychological and quantitative foundations:

- counseling psychology (offered in the M.A. and Ph.D.);
- couple and family therapy (offered in the Ph.D.);
- educational measurement and statistics (offered in the M.A. and Ph.D.);
- educational psychology (offered in the Ph.D.);
- learning sciences (offered in the M.A.); and
- school psychology (offered in the Ed.S. and Ph.D.).

In addition to the graduate degrees and the undergraduate minor offered as programs of study, the department offers PSQF:1020 Elementary Statistics and Inference, which is approved for the Quantitative or Formal Reasoning area of the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Effective spring 2019, PSQF:2115 Introduction to Counseling Psychology will be approved for GE CLAS Core [p. 459] status in the Social Sciences area.

Applicants for admission to the graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Programs

Undergraduate Program of Study

Minor

- Minor in Educational Psychology [p. 1221]

Graduate Programs of Study Majors

- Master of Arts in Psychological and Quantitative Foundations [p. 1222]
- Specialist in Education in Psychological and Quantitative Foundations [p. 1224]
- Doctor of Philosophy in Psychological and Quantitative Foundations [p. 1225]

Courses

Students may receive credit for only two of these three courses: STAT:1010 Statistics and Society, STAT:1020 Elementary Statistics and Inference (same as PSQF:1020 Elementary Statistics and Inference), and STAT:1030 Statistics for Business. Credit for STAT:1010 is given only if the course is taken before STAT:1020 (same as PSQF:1020) or STAT:1030.

Psychological and Quantitative Foundations Courses

PSQF:1020 Elementary Statistics and Inference 3 s.h.
 Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction; logic of statistical inference, elementary probability models, estimation and tests of significance. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning. Same as STAT:1020.

PSQF:1027 Mindfulness Foundations in the Helping Professions 3 s.h.
 Training in Mindfulness-Based Practices; application to personal and professional life.

PSQF:1029 First-Year Seminar 1 s.h.
 Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

PSQF:1039 Undergraduate Excellence Seminar 1 s.h.
 Designed to enhance student's ability to successfully navigate the undergraduate experience by providing an opportunity to develop new skills and behaviors, as well as reflect on attitudes, in order to achieve academic and personal success.

PSQF:1050 Learning Online Successfully 2 s.h.
 Experiences in an online environment and opportunities to engage with digital materials for learning to develop skills and strategies for future classes; assess resources for successful online learning, participate in a variety of online learning environments including online discussions and collaborations, develop strategies for reading and marking digital materials, managing time for working and studying online, and plan for future courses that may be online or include digital course materials.

PSQF:1075 Educational Psychology and Measurement 3 s.h.
 Principles and classroom applications of cognitive and social development, learning and cognition, motivation, and assessment.

PSQF:2115 Introduction to Counseling Psychology 3 s.h.
 Historical and philosophical foundations of counseling psychology; theories, application, and work of counseling psychologists.

PSQF:2116 Applied Child and Adolescent Psychology 3 s.h.

Overview of child and adolescent development, psychopathology, and basic-level intervention; foundation for working in applied child and adolescent mental health settings; typical areas of psychological difficulty, including developmental disorders, ADHD, depression, anxiety, substance use; contextual and environmental factors, including abuse, poverty, neglect.

PSQF:3028 Mindfulness for Educators: Psychological Foundations, Applications, and Practices 1-2 s.h.

Exploration of research-based implications for teaching, learning, and daily living; skillful engagement of demands educators face in personal and professional lives; mindfulness as paying attention in present moment and relating wisely to what is occurring; specific mindfulness practices that integrate awareness into daily living; how research and program evaluations throughout the world document that consistent practice of mindfulness improves attention and concentration; ability to respond skillfully to stress, self-regulation of emotion, physical and mental health, communication, life satisfaction.

PSQF:3075 Brain Behavior 3 s.h.

Course is applied in nature, so that students not only learn brain behavior and anatomy, but also learn how these are directly related to neurological and neurobehavioral disorders; helps to understand the biological aspects of disorders that are needed to treat in practice settings; for students in applied psychology or other applied programs of study. Prerequisites: PSY:2701 and PSQF:2115 with a minimum grade of C-.

PSQF:3103 Early Childhood Guidance 4 s.h.

Effective communication, understanding child development and behavior, appropriate limits and rules, structuring problem solving and consequences, fostering self control, organizing classroom environment and curriculum to support child behavior, methods to address persistent and challenging behaviors; nurturance and child guidance via parenting, child rearing practices, and child-family relations.

PSQF:3104 Multicultural Issues in Counseling and Psychology 3 s.h.

Introduction to multicultural competencies and its importance to counseling, psychology, and helping professions; psychological concepts and research pertaining to privilege; racism, race, culture, sexual orientation, social class and classism, and their application in culturally adapted psychotherapy interventions; how these matters and other cultural identities and constructs are handled and used in applied psychology and counseling; focus on intersection of research and practice.

PSQF:3191 Asian American Experiences 3 s.h.

Aggregate experiences of Asian Pacific Americans, starting from developments in countries of origin to their contemporary issues; histories of various Asian Pacific American groups (e.g., Chinese, Korean, Filipino, Japanese, Asian Indian, Hawaiians, Vietnamese, etc.), as well as culture, politics, the media, and stereotypes; similarities among the different Asian Pacific American groups, as well as a comparative look at how African, Latino, and Native American experiences help shape and contribute to Asian Pacific America.

PSQF:3700 Introduction to Understanding Trauma and Resilience 3 s.h.

Introduction to understanding key concepts of trauma-informed systems of care in multiple settings; identification of various types of trauma along with behaviors and responses seen in survivors of trauma; students trace effects of historical trauma of marginalized communities and multiple trauma survivor groups to understand the consequences of trauma and its impact in the culture; resilience and strategies to offset consequences of trauma. Same as SSW:3700.

PSQF:4081 ePortfolio Design and Production 1-2 s.h.

Experience producing an ePortfolio and uploading it to the internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser, accessing the internet, and using a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as EALL:4081, EDTL:4081, EPLS:4081, RCE:4081.

PSQF:4106 Child Development 3 s.h.

Theories and research findings about typical course of child development, differences in development. Requirements: junior standing.

PSQF:4111 Human Motivation 3 s.h.

Principles of motivation and their application to applied settings, especially to the classroom as teachers try to motivate students. Requirements: junior standing.

PSQF:4120 Psychology of Giftedness 3 s.h.

Theories of learning, child development, motivation; issues unique to gifted education. Same as RCE:4120.

PSQF:4121 Identification of Students for Gifted Programs 3 s.h.

Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as RCE:4121.

PSQF:4122 Math Programming for High Ability Students 1 s.h.

Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as EDTL:4022.

PSQF:4123 Academic Acceleration: Providing Excellence and Equity in Education for High Ability Students arr.

Acceleration as an effective curricular intervention for high-ability students; forms of acceleration, research evidence for acceleration, and process of implementing acceleration; reasons for persistent negative attitudes about acceleration; advocacy for acceleration; skills for effective practice and implementation. Requirements: computer with internet access, sound card, Adobe Reader, and Adobe Flash Player.

PSQF:4125 Counseling and Psychological Needs of the Gifted 1 s.h.

Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as RCE:4125.

PSQF:4126 Cognitive and Affective Needs of Underachieving Gifted 1 s.h.

Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as RCE:4126.

PSQF:4128 Neuroscientific Implications for Gifted 1 s.h.
Neurology of behavior and neurodegenerative disease; the psychology of learning and memory, its application to gifted education.

PSQF:4129 Creativity: Issues and Applications in Gifted Education 1 s.h.

Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as RCE:4129.

PSQF:4130 Early Adolescent Development 3 s.h.

Psychological growth and development of the early adolescent (ages 10-14), including the physical, cognitive, social, emotional, and sexual development of the middle-school aged child.

PSQF:4133 The Adolescent and Young Adult 3 s.h.

Psychological and social aspects of adolescence and young adulthood; emphasis on theory, research, and practical applications.

PSQF:4134 Parent-Teacher Communication 1-3 s.h.

Realities of working with parents; interpersonal skills; options for parent support services. Same as EDTL:4934.

PSQF:4136 Home/School/Community Partnerships 3 s.h.

Issues related to collaboration among families, educators, community members in implementing school programs. Same as EDTL:4936.

PSQF:4143 Introduction to Statistical Methods 3 s.h.

Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as STAT:4143.

PSQF:4145 Marriage and Family Interaction 3 s.h.

Contemporary American couple, marriage, and family relationships; mate selection. Same as RCE:4145.

PSQF:4150 Introduction to Educational Measurement 3-4 s.h.

Test development procedures, reliability, validity, item writing, evaluation of item and test characteristics; classroom assessment methods; interpretation of scores from standardized achievement and aptitude tests; no background in statistics assumed.

PSQF:4162 Introduction to Couple and Family Therapy 3 s.h.

Evolution of the family therapy movement and issues related to functional and dysfunctional family systems; significant models of family therapy and specific techniques. Same as RCE:4162.

PSQF:4520 Bayesian Statistics 3 s.h.

Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as IGPI:4522, STAT:4520.

PSQF:4740 Issues in K-12 Assessment 3 s.h.

Examination of research, policies, and practices related to classroom and large-scale educational assessment; focus on use and construct of formative and summative assessments for classroom teaching and basics of educational measurement; coverage of educational assessment including development of plans that integrate teaching and assessment; use of formative assessment strategies and providing effective feedback to students; crafting objective, performance, and portfolio assessments; evaluation of students; interpretation of state-mandated tests and standardized achievement tests.

PSQF:4750 Learning Environments: Design, Context, and Activity 3 s.h.

Students explore the design of learning environments and the kinds of activities that take place there; includes a general background on design of learning environments; emphasis on project- and problem-based learning (considered to be keys to 21st-century learning), media inclusion, and how teacher facilitation/questioning and cooperative learning are foundational for success.

PSQF:4760 Participatory Learning and Media: Creating, Remixing, Making, and Education 3 s.h.

Teaching and learning with 21st-century digital media; pedagogical approaches characterized by participatory learning that expands and blurs boundaries of the classroom; remixing educational, social, and entertainment-based media toward pedagogical ends that meet instructional goals; engagement with social media, web-based video, interactive media, podcasts, games, and simulations.

PSQF:5150 Introduction to Counseling and Skills 3 s.h.

Introduction to the field of counseling and psychology; provides students with clinical foundational skills; students explore the counseling process, how to conduct interviews, and how to integrate theory into their assessment and clinical work; introduction to basic concepts of working relationship and alliance, common factors, and interventions; practice provides students with experiences needed to understand concepts.

PSQF:5151 Health and Wellness Counseling Psychology 3 s.h.

Introduction to the concepts of health psychology and wellness in counseling and psychology; focus on psychological, biological, and ecological factors impacting health and wellness in multiple cultural contexts; research on psychological and holistic interventions, prevention strategies for clients across the lifespan.

PSQF:5152 Assessment and Diagnosis 3 s.h.

Group and individual appraisal techniques used to support career, educational, and personal planning and development; exploration of standardized and non-standardized data and information gathering methods, validity, reliability, psychometric statistics, factors influencing appraisals, use and interpretation of appraisal results with varied populations; assessment techniques and interviews connected to psychological diagnosis through standardized diagnostic frameworks, such as the DSM and ICD.

PSQF:5165 Introduction to Program and Project Evaluation 3 s.h.

Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as EPLS:5165.

PSQF:5193 Special Readings and Projects arr.
Supervised individual study. Requirements: senior standing.

PSQF:5194 Continuing Education Individual Study arr.
Supervised individual study.

PSQF:5199 Topical Workshop in Psychological and Quantitative Foundations arr.

School, educational, and counseling psychology and allied disciplines; for professionals and graduate students in education, mental health, social services, related fields.

PSQF:5218 Foundations of School Psychology 3-4 s.h.
Introduction to field of school psychology; becoming competent practitioners and leaders in school and community settings; roles and functions of school psychologists; ethical standards and issues in the profession of psychology; legal issues involved in practice of school psychology; current topics and trends. Corequisites: PSQF:7224.

PSQF:5226 Assessment of Giftedness 3 s.h.
Training and practice in assessment of gifted children. Same as RCE:5226.

PSQF:5262 Advanced Couple and Family Therapy 3 s.h.
Review and critique couple and family therapy theory, ethics, and techniques as applied to problems of couple and family over the life span; multicultural considerations. Requirements: advanced graduate standing. Recommendations: PSQF:4162.

PSQF:5265 Research Methods in Couple and Family Therapy 3 s.h.
Review and analysis of pertinent literature in area of research methods in couple and family therapy; exploration of stages of clinical trials and the process of federal funding of intervention research in couple and family therapy and family psychology; commonly used research methods in couple and family therapy reviewed and critically analyzed; students use these methods to survey research literature in top journals of the field.

PSQF:6200 Educational Psychology 3 s.h.
Psychology of the learning/instruction process: theoretical perspectives on learning, instruction, motivation, and assessment; developmental concepts, social processes, individual variation, learning and technology, biological basis of learning.

PSQF:6203 Tools and External Representations in Learning Processes 3 s.h.
Theories and issues in the use of technology in learning and teaching; project to design a technology-supported learning solution for an educational problem.

PSQF:6204 Foundations of the Learning Sciences 3 s.h.
Foundations of Interdisciplinary science of learning; theory and method of study of cognition in sociocultural context; design-based approaches to research on learning.

PSQF:6205 Design of Instruction 3 s.h.
Introduction to processes used to design, develop, implement, and evaluate effective instruction; projects.

PSQF:6206 Advanced Child Development 3 s.h.
Theories of social and cognitive development; in-depth study of several current issues in the field.

PSQF:6208 Designing Educational Multimedia 3 s.h.
Theory, design, and evaluation of instructional software.

PSQF:6209 Survey Research and Design 3 s.h.
Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: EPLS:6206 or PSQF:4143. Same as EPLS:6209.

PSQF:6211 Universal Design and Accessibility for Online Instruction 3 s.h.

Universal Design for Learning (UDL) framework; introduction to accessibility for online learning environment; use of UDL with any curriculum to provide more students with access to learning, including online learning environment.

PSQF:6214 Design of Learning Environments: Theory, Practice, and Method 3 s.h.

Theory, practice, and research method of the design of learning environments; broadly conceived understanding of technology-based learning environments; includes a semester-long project to design or evaluate the design of a learning environment, technology-based or otherwise.

PSQF:6215 Web-Based Learning 3 s.h.

Theory and practice of designing websites to support or deliver instruction; student project to create an instructional website that integrates the theory and principles from class readings.

PSQF:6216 Tools and Utilities for Online Teaching 3 s.h.

Guidance for future online teachers in making well-informed decisions on what technologies need to be adopted and applied for high quality, successful online educational programming in a variety of environments (e.g., K-12, higher education, business and industry); choosing, learning, evaluating, and using different types of technologies to produce online instruction; how to learn; initiating and managing learning and professional development for effective online teaching. Corequisites: PSQF:6205, if not taken as a prerequisite.

PSQF:6217 Seminar in College Teaching 1-3 s.h.

Preparation for college teaching; for graduate students planning to teach. Same as GRAD:6217.

PSQF:6220 Quantitative Educational Research Methodologies 3 s.h.

Procedures for planning, conducting, and reporting research; evaluation of current methods in educational research; quantitative designs and methods. Prerequisites: PSQF:4143 or STAT:4143.

PSQF:6223 Introduction to Counseling Psychology Practice/Research I 3 s.h.

Historical, theoretical, professional, scientific traditions associated with counseling psychology; professional ethical principles.

PSQF:6225 Introduction to Counseling Psychology Practice/Research II 3 s.h.

Learning and performance of basic helping skills; integration of these skills with counseling theories, broader counseling strategies; laboratory-based.

PSQF:6230 Research in Educational Psychology 1-3 s.h.

Design, implementation, and presentation of an educational psychology empirical research project. Requirements: graduate standing in educational psychology.

PSQF:6233 Ethics for Behavioral Psychologists 1 s.h.

Ethics that are unique to applied behavior analysis; ethical considerations.

PSQF:6235 Multicultural Counseling 3 s.h.

Theoretical and practical aspects of the cultural adaptation process; implications for interventions in diverse populations; issues. Requirements: counseling skills introductory course.

PSQF:6238 Assessment of Learning Differences 3-4 s.h.

PSQF:6242 Selected Applications of Statistics 3 s.h.

Application and interpretation of correlation techniques, chi-square, t- and f-tests, interval estimation, simple cases of analysis of variance. Prerequisites: PSQF:4143.

PSQF:6243 Intermediate Statistical Methods 4 s.h.

Foundation for more advanced applied courses; logic of statistical inference, chi-square, and other tests of statistical hypotheses; small sample error theory, interval estimates, introduction to analysis of variance, selected nonparametric methods. Requirements: for PSQF:6243—PSQF:4143; for STAT:6513—STAT:4143. Same as STAT:6513.

PSQF:6244 Correlation and Regression 4 s.h.

Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Requirements: for PSQF:6244—PSQF:6243; for STAT:6514—STAT:6513. Same as STAT:6514.

PSQF:6245 Applied Multivariate Analysis 3 s.h.

Multivariate descriptive statistics, multivariate normal distribution, Hotelling's T-squared, MANOVA, multivariate regression, principal components, discrimination and classification, cluster analysis. Prerequisites: STAT:3200 and STAT:3210. Requirements: facility with matrix algebra. Same as STAT:6540.

PSQF:6246 Design of Experiments 4 s.h.

Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Requirements: for PSQF:6246—PSQF:6243; for STAT:6516—STAT:6513. Same as STAT:6516.

PSQF:6247 Nonparametric Statistical Methods 3 s.h.

Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Same as STAT:6547.

PSQF:6248 Research Synthesis and Meta-Analysis 3 s.h.

Rationale and methods for research synthesis and meta-analysis; conceptual issues in quantitative research synthesis in the social sciences and other disciplines, including medicine; thorough understanding of concept of sampling distribution is needed to understand the statistical methods introduced. Prerequisites: PSQF:6246 or PSQF:6244.

PSQF:6249 Factor Analysis and Structural Equation Models 3 s.h.

Foundations of exploratory and confirmatory factor analysis methods; least squares and maximum likelihood approaches; problems in factor extraction, rotation, interpretation; structural equation models via LISREL; assumptions and limitations of alternative approaches. Prerequisites: PSQF:6244 and PSQF:6246.

PSQF:6250 Computer Packages for Statistical Analysis 1-3 s.h.

Computer programs and systems designed to execute statistical analysis (SAS, SPSS, BMDP, and others); lectures on regression techniques, analysis of variance, multivariate techniques; practice in entering data, calling up desired programs, interpreting computer output. Prerequisites: PSQF:6243. Requirements: elementary knowledge of computer programming.

PSQF:6252 Introduction to Multivariate Statistical Methods 3 s.h.

Selected topics in multivariate analysis, including multivariate significance tests, principal components and factor analysis, discriminant analysis, canonical correlation, multivariate analysis of variance (MANOVA). Prerequisites: PSQF:6244 and PSQF:6246.

PSQF:6255 Construction and Use of Evaluation Instruments 3 s.h.

Design and construction of measures used in educational evaluation: achievement tests, attitude scales, performance measures, questionnaires; emphasis on methods of instrument development and evaluation of instrument characteristics. Prerequisites: PSQF:4143 and PSQF:6257.

PSQF:6257 Educational Measurement and Evaluation 3 s.h.

Evaluation and use of standardized tests and inventories in individual and group assessment; analyzing reliability, validity, normative data; interpreting measures of achievement, intelligence, aptitude, interests, attitudes, personality; current issues; for counselors, administrators, teachers, measurement specialists. Corequisites: PSQF:4143.

PSQF:6258 Theory and Technique in Educational Measurement 3 s.h.

Mathematical foundations, principal results, and applications of classical test theory; perspectives on conditional error variance; binomial error model and applications; introduction to generalizability theory; advanced measurement topics. Prerequisites: PSQF:6243 and PSQF:6257.

PSQF:6259 Scaling Methods 3 s.h.

Unidimensional and multidimensional scaling techniques; item response theory with a focus on polytomous models; introduction to available computer programs for scaling; applications in educational and psychological research. Prerequisites: PSQF:6262. Corequisites: PSQF:6249 and PSQF:6252.

PSQF:6262 Item Response Theory 3 s.h.

Theoretical foundations and practical applications; mathematical models and estimation techniques; emphasis on current applications and issues in testing; computer estimation programs. Prerequisites: PSQF:6243 and PSQF:6257.

PSQF:6263 Consultation Theory and Practice 3 s.h.

Review of concepts and practice of consultation and collaboration in educational and human services settings; focus on mental health, organizational, behavioral, and instructional models. Same as RCE:6263.

PSQF:6265 Program Evaluation 3 s.h.

Theoretical issues and considerations in evaluation of educational and social programs; evaluation design, methodology; metaevaluation; evaluation utilization. Same as EPLS:6266.

PSQF:6275 Constructivism and Design of Instruction 3 s.h.

Theoretical foundations of constructivism; application of constructivist principles to the design of instruction.

PSQF:6281 Cognitive Theories of Learning 3 s.h.

Theories of learning and cognition as they relate to education; development of expertise, transfer of learning, design of learning environments, use of learning technologies. Prerequisites: PSQF:6200.

PSQF:6292 Supervised Research in Educational Psychology 1-3 s.h.

Identification of research problems, development of research designs and materials, conducting of research studies; faculty-guided activity or seminars.

PSQF:6293 Individual Instruction in Psychological and Quantitative Foundations arr.**PSQF:6299 M.A. Project: Portfolio/Internship/Practicum** 3 s.h.

Individual portfolio/internship/practicum project; reflection, revision, and presentation of educational psychology portfolio.

PSQF:6312 Psychopathology Across the Lifespan 3 s.h.

DSM IV categories, related diagnostic issues.

PSQF:7201 Counseling Psychology Research Writing 3 s.h.

How to write scientifically in counseling psychology; qualitative and quantitative research writing, literature reviews, methodologies, discussions; APA style.

PSQF:7224 Introduction to School Psychology Practice 1-3 s.h.

Introduction to the practice of school psychology; framework for understanding role and function, legal and ethical boundaries, professional requirements; preparation for practicum.

PSQF:7237 Beginning Practicum in School Psychological Service arr.

Supervised practicum in psychological and educational evaluation in school settings. Prerequisites: PSQF:6238 and PSQF:6251.

PSQF:7245 Evaluation of Children with ADHD and LD arr.

Clinical experience in conducting pediatric neuropsychology examinations in the Pediatric Attention/Learning Disorders Clinic. Requirements: course on psychological testing (including IQ) and graduate psychology standing (school, counseling, rehabilitation, clinical). Same as PEDS:7245.

PSQF:7305 Psychotherapy I: Dynamic and Phenomenological Approaches 3 s.h.

Major psychodynamic and existential-phenomenological theories of personality; emphasis on implications for psychotherapy.

PSQF:7306 Psychotherapy III: Work Psychology and Career Interventions 3 s.h.

Foundations of career interventions; emphasis on major assessment instruments (vocational interests, values, abilities/skills, personality) and career counseling processes, skills, techniques.

PSQF:7309 Personality Assessment 3 s.h.

Standardized and projective techniques for personality assessment; preparation for competent administration and interpretation of varied tests and measures.

PSQF:7310 Intelligence Assessment 3 s.h.

Standardized intelligence testing; preparation to administer and interpret intelligence tests for children and adults.

PSQF:7313 Psychopathology in Childhood 3 s.h.

Current theories regarding the development of psychopathology in children and adolescents; current approaches to treatment for disorders in children and adolescents.

PSQF:7315 Social and Emotional Assessment of Children and Adolescents 3 s.h.

Link between personality theory, child and adolescent assessment; interpretation, integration of assessment information; record reviews, interviews, objective tests, projective techniques. Prerequisites: PSQF:6238.

PSQF:7320 History and Systems of Psychology 3 s.h.

Philosophical underpinnings of psychology, early systems in psychology, developments in the 20th century.

PSQF:7331 Seminar: Educational Psychology I - Current Topics arr.

Intensive investigation of a specific research topic.

PSQF:7337 Advanced Practicum in School Psychology arr.

Supervised experience in psychological interventions, consultation, counseling in school and clinic settings. Prerequisites: PSQF:6238 and PSQF:7237.

PSQF:7342 Research Project in School Psychology arr.

Experience in research facilities on campus; writing research questions, planning a research study, writing a research article.

PSQF:7345 Academic Interventions 3 s.h.

Interventions used by school and support system personnel to address academic skill deficits among children, adolescents; instructional design and delivery problems associated with deficits.

PSQF:7346 Behavioral Interventions 3 s.h.

Interventions used by school and support system personnel to address behavioral and social/emotional status of children, adolescents.

PSQF:7347 Home/School/Community: System Interventions 3 s.h.

Interventions used by school and support system personnel; focus on work with parents, siblings. Same as RCE:7347.

PSQF:7350 Seminar in Evaluation 2-3 s.h.

In-depth examination of selected topics. Prerequisites: PSQF:5165 or EPLS:5165 or PSQF:6265 or EPLS:6266. Requirements: two courses in program evaluation.

PSQF:7352 Seminar: Behavioral Assessment and Evaluation 3 s.h.

Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as EDTL:7952.

PSQF:7354 Seminar: Experimental Approaches in Counseling Research arr.

Application of experimental methodology to study of counseling and vocational phenomena.

PSQF:7355 Seminar: Educational Measurement and Evaluation arr.

Critical examination of current issues and problems of the professional worker in the field of educational measurement and evaluation as reflected in research literature, other professional communication media.

PSQF:7356 Process and Outcomes in Counseling Psychotherapy 3 s.h.

Advanced knowledge of the state of process and outcome research on psychotherapeutic procedures. Requirements: Ph.D. candidacy in appropriate field.

PSQF:7358 Equating and Scaling of Educational Tests**3 s.h.**

Designs and methods, including linear, equipercentile, and item response theory methods; emphasis on concepts, applications to testing programs, research. Prerequisites: PSQF:6243 and PSQF:6257.

PSQF:7361 Advanced Practicum in Couple and Family Therapy**1-3 s.h.**

Opportunity to accumulate client contact and supervision hours towards graduation and licensure; conceptual and executive skills, observational skills and abilities to work as a member of a therapeutic team, awareness of how personal growth and development as a therapist impacts work with clients, comfort and motivation to learn multiple training levels provided, creation of collaborative and supportive atmosphere on all practicum levels. Requirements: enrollment in couple and family therapy program.

PSQF:7365 Psychotherapy II: Cognitive and Behavioral Approaches**3 s.h.**

Major cognitive and behavioral theories of personality and psychotherapy; emphasis on implications for clinical practice.

PSQF:7367 Social Psychology and Social Systems**3 s.h.**

Social aspects of behavior in organizations; behavioral science theory and research on organizations, system change, transformation, leadership.

PSQF:7375 Topics in Educational Measurement and Statistics**1-3 s.h.****PSQF:7380 Practicum in College Teaching****arr.**

Supervised college teaching experience in courses related to major academic areas, in collaboration with faculty course instructors.

PSQF:7385 Teaching and Learning in Higher Education**3 s.h.**

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as ECTL:7385, EPLS:7385, GRAD:7385, RCE:7385.

PSQF:7388 Family Development**3 s.h.**

Overview of research relating to family development, family structure, and cultural/ethnic diversity; how research can be applied to clinical practice; focus on strengths and challenges of families with varying structures, cultural dimensions in family functioning, developmental perspectives on family functioning, and how these factors can advance family systems based on research and practice.

PSQF:7389 Seminar in Couple Intervention Research**3 s.h.**

Overview of couple intervention and outcome research; focus on evidence-based couple therapies (i.e., Emotionally Focused Couple Therapy, Behavioral Couple Therapy, work of John Gottman); research addressing effectiveness and efficiency of couple interventions in treatment of couple distress issues highly comorbid with distress, including review of mental and physical health problems; research addressing factors associated with treatment outcomes.

PSQF:7390 Supervision of School Psychology Practicum/Internship**arr.**

Experience supervising school psychology practicum or internship students. Requirements: Ph.D. standing.

PSQF:7393 M.A. Thesis in Psychological and Quantitative Foundations**arr.****PSQF:7394 Supervised Research in Counseling Psychology****1-3 s.h.****PSQF:7395 Social Context and Family Research****3 s.h.**

Review and analysis of pertinent research surrounding social contexts in which families live; specific focus on reviewing and critically analyzing decade reviews and current advancements in family research; students evaluate how research surrounding social context and family research is relevant to the practice of couple and family therapy.

PSQF:7399 Supervision in Couple and Family Therapy**3 s.h.**

Supervision of Master's-level couple and family therapy students; mentoring supervision received from supervision instructor; assignments reflect requirements for AAMFT Approved Supervisor designation; fulfills didactic requirement for AAMFT Approved Supervisor status. Requirements: enrollment in couple and family therapy program.

PSQF:7404 Seminar in Child and Adolescent Intervention Research**3 s.h.**

Review and analysis of pertinent literature and evidenced-based interventions for children and adolescents; focus on review and critical analysis of published outcome studies in areas of childhood and adolescent disorders; examination and critique of effective interventions that have undergone stages 1-3 clinical trials; active discussions of research findings for clinical implications. Prerequisites: PSQF:5262.

PSQF:7434 Practicum in Counseling Psychology**3 s.h.**

Supervised practice in counseling services. Prerequisites: PSQF:6223 and PSQF:6225.

PSQF:7437 Internship in School Psychology**arr.**

Supervised internship for Ph.D. students in school psychology. Requirements: completion of required courses.

PSQF:7450 Practicum in Program Evaluation**arr.**

Supervised experience in designing and implementing components of program evaluations. Prerequisites: PSQF:5165 or EPLS:5165 or PSQF:6265 or EPLS:6266. Requirements: two courses in program evaluation.

PSQF:7452 Leadership, Consultation, and Supervision**3 s.h.**

Overview of intervention modalities other than individual and group therapy, especially those that pertain to leadership within organizations, consultation with organizations and communities, and supervision of the work of others; capstone course in counseling psychology sequence. Prerequisites: PSQF:6223 and PSQF:6225.

PSQF:7453 Advanced Practicum in Counseling Psychology**1-3 s.h.**

Supervised work in counseling services. Prerequisites: PSQF:7434.

PSQF:7455 Generalizability Theory**3 s.h.**

Analysis of variance methods applied to estimation of components of various types of measurement error variance; basic concepts, mathematical foundations, models, assumptions, designs, applications; relationships with other measurement theories. Prerequisites: PSQF:6246 and PSQF:6258.

PSQF:7457 Advanced Group Leadership Experience**3 s.h.**

Practice working in a psychotherapy group; review major theories on group psychotherapy processes, integrate empirical research on effectiveness of group work; multicultural considerations in group psychotherapy; didactic and experiential format. Prerequisites: RCE:7357.

PSQF:7458 Internship in Counseling Psychology arr.

Supervised work in internship setting. Prerequisites: PSQF:7434 and PSQF:7453. Requirements: Ph.D. standing in counseling psychology and completion of all requirements except dissertation.

PSQF:7459 Seminar: Issues and Trends in Counseling Research 4 s.h.

Recent trends, including debates and findings in literature related to best practices for the profession. Same as RCE:7458.

PSQF:7460 Seminar: Research in Counseling 3 s.h.

Methods, examples, ethics, multicultural issues, problems of counseling research. Requirements: Ph.D. enrollment. Same as RCE:7460.

PSQF:7465 Issues and Ethics in Professional Psychology 3 s.h.

Professional ethics; issues in professional practice of psychology.

PSQF:7493 Ph.D. Thesis in Psychological and Quantitative Foundations arr.**PSQF:7500 Internship in Couple and Family Therapy 1-3 s.h.**

Supervised experience in professional couple and family therapy; clinical or academic field placement and seminar; required for couple and family therapy students. Requirements: successful completion of couple and family therapy program comprehensive examination.

Educational Psychology, Minor

The undergraduate minor in educational psychology requires 15 s.h., including at least 12 s.h. earned at the University of Iowa and 12 s.h. earned in courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor. Course work in the minor may not be taken pass/nonpass. Transfer credit must be approved in order for it to count toward the minor. The minor is open to all students enrolled in an undergraduate degree program.

The minor provides an enriched background in educational psychology, educational testing, and research methods in education. Students earning the minor select a department advisor, who helps them choose appropriate course work. It does not lead to certification for public school teaching.

Course work for the minor in educational psychology must include 15 s.h. selected from the following list.

Code	Title	Hours
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4106	Child Development	3
PSQF:4111	Human Motivation	3
PSQF:4120	Psychology of Giftedness	3
PSQF:4130	Early Adolescent Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:4134	Parent-Teacher Communication	1-3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4150	Introduction to Educational Measurement	3-4
PSQF:4750	Learning Environments: Design, Context, and Activity	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3
PSQF:5165	Introduction to Program and Project Evaluation	3

Contact the Office of Student Services for more information about the minor.

Psychological and Quantitative Foundations, M.A.

Counseling Psychology (Hong Kong)

The department is not admitting students to the counseling psychology subprogram held in Hong Kong at this time.

The Master of Arts program in psychological and quantitative foundations with a counseling psychology subprogram is held in Hong Kong. The program requires a minimum of 34 s.h. of graduate credit with no thesis. Prerequisites for some of the required courses may mean that students will need to complete additional course work. Students are expected to maintain a minimum g.p.a. of 2.75 in all work for the degree. Courses are taught year round, and each course covers one month of instruction and one month of no instruction. Students can complete their M.A. in at least 24 months.

The program provides students with education in the theories, research, and scholarship about the principles and foundational knowledge in counseling psychology. Students learn relevant psychological interventions, strategies, and remediation to work with people in order to effectively solve problems, respond to client situations, and plan for the future. Because there is no supervised practicum component to this degree, students who graduate with the M.A. are not eligible to practice counseling psychology or be licensed in the United States. However, students will be qualified to apply for doctoral programs in professional psychology and counseling fields such as clinical counseling, school psychology, counselor education, rehabilitation counseling, and school counseling.

Required Courses

Code	Title	Hours
All of these:		
PSQF:4162	Introduction to Couple and Family Therapy	3
PSQF:5150	Introduction to Counseling and Skills	3
PSQF:5151	Health and Wellness Counseling Psychology	3
PSQF:5152	Assessment and Diagnosis	3
PSQF:6235	Multicultural Counseling	3
PSQF:6246	Design of Experiments (section EXW)	4
PSQF:6312	Psychopathology Across the Lifespan	3
PSQF:7306	Psychotherapy III: Work Psychology and Career Interventions	3
PSQF:7457	Advanced Group Leadership Experience	3
PSQF:7465	Issues and Ethics in Professional Psychology	3
RCE:4174	Positive Psychology	3
Total Hours		34

Admission

Applicants must submit an application for admission through the Office of Graduate Admissions, two letters of recommendation, a professional résumé or curriculum vita, a personal statement that details the reasons for seeking admission to the program, and a writing sample. Faculty in the counseling psychology program will review applications and make decisions on who is admitted to the program. Students are admitted to the program in the fall, spring, and summer sessions.

Educational Measurement and Statistics

The Master of Arts program in psychological and quantitative foundations with an educational measurement and statistics subprogram requires a minimum of 30 s.h. of graduate credit with thesis and 32 s.h. of graduate credit without thesis. The program provides students with basic knowledge of educational measurement and research methodology. Graduates find employment in large school systems, state departments of education, test publishing organizations, and research centers. The program also is appropriate for students who wish to broaden their knowledge of measurement and research methodology for personal development or professional improvement.

Students must complete a core of courses (approximately 26 s.h.) that includes a graduate-level survey course in educational psychology, elementary and intermediate courses in statistical methods, a course in educational research methodology, and courses in the development and use of evaluation instruments. Students who already have completed equivalent courses at another institution may add more advanced courses to the core.

Thesis students complete 4 s.h. of additional course work beyond the core and 2 s.h. of thesis credit. Nonthesis students complete 6 s.h. of additional course work beyond the core.

The six-hour comprehensive examination typically includes three-hour examinations in educational measurement and in applied statistics. With the approval of the M.A. committee, a student may take two-hour examinations in these fields plus a two-hour examination in educational psychology or a substitute area. Three-hour examinations assume a minimum of three courses in the area; two-hour examinations assume a minimum of two courses in the area.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have a combined verbal and quantitative score of at least 300 on the Graduate Record Examination (GRE) General Test. Completion of at least one college mathematics course and experience as a teacher or researcher are desirable. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics subprogram will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

Learning Sciences

The online Master of Arts program in psychological and quantitative foundations with a learning sciences subprogram has a strong emphasis on how theory and research inform the understanding of learners, learning, instruction, and the technology and environments in which learning and instruction occur. The program requires a minimum of 30 s.h. of graduate credit. A thesis is not required. Students develop a program of study in consultation with their advisor.

The curriculum includes courses in the theories of the learning sciences, design of effective learning environments and technologies, and implementation of instructional design. Elective opportunities allow students to choose an interest area to develop a multidisciplinary specialization. Current areas include technology and media, human development and motivation, and measurement and evaluation. The capstone experience of the program is an internship/practicum that allows students to apply knowledge of the learning sciences in a context of interest.

Full-time students typically take at least 9 s.h. each semester, with the option of additional summer session work; they usually complete the program in four semesters. Part-time students take 3 to 6 s.h. each semester; they usually complete the degree in two or three years.

Students may apply substitute equivalent course work from another institution or department for required or recommended courses.

The M.A. in psychological and quantitative foundations with a learning sciences subprogram requires the following course work.

Required Courses

Code	Title	Hours
All of these:		
PSQF:6200	Educational Psychology	3
PSQF:6203	Tools and External Representations in Learning Processes	3
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6205	Design of Instruction	3
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:6299	M.A. Project: Portfolio/ Internship/Practicum	3
One of these:		
PSQF:6215	Web-Based Learning	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is digital media and learning)	3

Electives

Elective opportunities allow a student to choose an area of interest to develop a multidisciplinary specialization.

Students choose two courses (6 s.h.) from one of the following focus areas.

Code	Title	Hours
Human Development and Motivation		
PSQF:4106	Child Development	3
PSQF:4111	Human Motivation	3
PSQF:4130	Early Adolescent Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:6206	Advanced Child Development	3
Technology and Media		
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6216	Tools and Utilities for Online Teaching	3
One of these (if one of these courses was taken under "Required Courses" above, a student may take the other course):		
PSQF:6215	Web-Based Learning	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is digital media and learning)	3
Measurement and Evaluation		
PSQF:4143	Introduction to Statistical Methods	3
PSQF:5165	Introduction to Program and Project Evaluation	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6257	Educational Measurement and Evaluation	3
PSQF:6265	Program Evaluation	3

Admission

Applicants must meet the admission requirements of the Graduate College, including the minimum grade-point average. Viable applicants should have a verbal score of at least 146 and a quantitative score of at least 149 on the Graduate Record Examination (GRE) General Test; successful applicants generally score higher. International applicants whose first language is not English must submit acceptable scores on the Test of English as a Foreign Language (TOEFL).

Admission decisions are announced approximately six weeks after the application deadline. Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 should consider themselves committed and should not solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication, *Graduate Study in Psychology and Associated Fields*. This policy is consistent with standards set by the association's Board of Educational Affairs.

Application deadline for fall semester entry is January 15 with review beginning soon after. Applications after the deadline will be considered.

Psychological and Quantitative Foundations, Ed.S.

Requirements

The educational specialist (Ed.S.) program in psychological and quantitative foundations with a school psychology subprogram requires a minimum of 66 s.h. of graduate credit. The program provides course work and supervised field experience in education and psychology, enabling graduates to qualify for Iowa licensure as a school psychologist (State of Iowa endorsement 236). The Ed.S. degree is an option for current students in the Ph.D. in psychological and quantitative foundations with a school psychology subprogram.

The curriculum includes courses in psychological foundations, psychoeducational foundations, school psychology, and research methods. Other requirements include a written portfolio and a project paper prepared in conjunction with PSQF:7342 Research Project in School Psychology.

The Ed.S. in psychological and quantitative foundations requires the following course work.

First Year

Code	Title	Hours
Fall		
PSQF:5218	Foundations of School Psychology	4
PSQF:7310	Intelligence Assessment	3
EDTL:4900	Foundations of Special Education	3
EDTL:7953	Seminar: Single Subject Design Research	3
Prepracticum		
Spring		
PSQF:6206	Advanced Child Development	3
PSQF:6238	Assessment of Learning Differences	3
PSQF:6263	Consultation Theory and Practice	3
PSQF:7237	Beginning Practicum in School Psychological Service	3
PSQF:7342	Research Project in School Psychology (Ed.S. project)	1
Summer		
PSQF:6235	Multicultural Counseling	3
or RCE:5202	Introduction to Group Counseling	
or RCE:5222	Counseling Children and Adolescents in Schools	
PSQF:7237	Beginning Practicum in School Psychological Service (community practicum)	2
PSQF:7342	Research Project in School Psychology (Ed.S. project)	1

Second Year

Code	Title	Hours
Fall		
PSQF:7313	Psychopathology in Childhood	3
PSQF:7337	Advanced Practicum in School Psychology (schools)	3
PSQF:7342	Research Project in School Psychology (Ed.S. project)	1
PSQF:7345	Academic Interventions	3
PSQF:7465	Issues and Ethics in Professional Psychology	3
Spring		
PSQF:6243	Intermediate Statistical Methods	4
PSQF:7315	Social and Emotional Assessment of Children and Adolescents	3
PSQF:7337	Advanced Practicum in School Psychology (schools)	3
EDTL:4950	Behavioral and Social Interventions	3
Summer		
PSQF:6235	Multicultural Counseling	3
or RCE:5202	Introduction to Group Counseling	
or RCE:5222	Counseling Children and Adolescents in Schools	
PSQF:7437	Internship in School Psychology	3

Third Year

Code	Title	Hours
Fall		
PSQF:7437	Internship in School Psychology (paid Ed.S. field experience)	1
Spring		
PSQF:7437	Internship in School Psychology (paid Ed.S. field experience)	1

Psychological and Quantitative Foundations, Ph.D.

Counseling Psychology

The Doctor of Philosophy program in psychological and quantitative foundations with a counseling psychology subprogram requires a minimum of 111 s.h. of graduate credit. The program requires full-time study.

The goal of the program is to prepare counseling psychologists who will promote psychology as a science and contribute to the advancement of the profession. The faculty endorses a scientist/practitioner model of training and expects students to become competent researchers and proficient practitioners. Graduates find positions in a variety of settings, including higher education, counseling centers, clinics, private practice settings, and hospitals.

The program is fully accredited by the American Psychological Association. Students must show appropriate levels of emotional balance and interpersonal skills and act within the American Psychological Association's *Ethical Principles of Psychologists*. For more information, contact the program director.

The Ph.D. in psychological and quantitative foundations with a counseling psychology subprogram requires the following work.

Research Requirement

Code	Title	Hours
All of these:		
PSQF:6243	Intermediate Statistical Methods	4
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when subtitle is qualitative educational research methods)	3
PSQF:7394	Supervised Research in Counseling Psychology (at least 4 s.h. is required; students enroll for 1 s.h. per semester for up to four semesters)	4
One of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4

Qualitative and quantitative methodology is discussed in PSQF:7394 Supervised Research in Counseling Psychology, which is directed each semester by faculty advisors. Research from each student is discussed and evaluated, critiqued, and supported.

Basic Psychology

All students are required to have a thorough grounding in the basic discipline of psychology. This may be achieved through a minimum of 3 s.h. of credit in each of the following four areas: biological bases of behavior, cognitive-affective bases of behavior, social bases of behavior, and history and

systems. Students complete an additional 6 s.h. in the area of individual differences.

Counseling Psychology Core

Code	Title	Hours
All of these:		
PSQF:6223 & PSQF:6225	Introduction to Counseling Psychology Practice/ Research I-II	6
PSQF:6235	Multicultural Counseling	3
PSQF:7305	Psychotherapy I: Dynamic and Phenomenological Approaches	3
PSQF:7306	Psychotherapy III: Work Psychology and Career Interventions	3
PSQF:7309	Personality Assessment	3
PSQF:7310	Intelligence Assessment	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
PSQF:7365	Psychotherapy II: Cognitive and Behavioral Approaches	3
PSQF:7434	Practicum in Counseling Psychology	3
PSQF:7452	Leadership, Consultation, and Supervision	3
PSQF:7453	Advanced Practicum in Counseling Psychology (repeatable)	1-3
PSQF:7465	Issues and Ethics in Professional Psychology	3

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. The first practicum's site is typically University Counseling Service. Subsequent placements at other sites must have prior approval of the counseling psychology faculty. Students must successfully complete one semester of PSQF:6299 M.A. Project: Portfolio/Internship/Practicum before enrolling in PSQF:7453 Advanced Practicum in Counseling Psychology.

Electives

Elective courses are determined in collaboration with the major advisor.

Internship

Students spend a calendar year in an internship setting approved by the counseling psychology faculty. The faculty determines student readiness to apply for the internship based on completion of all or almost all required course work, satisfactory progress toward completion of the portfolio requirement, and successful completion of practicum requirements. Internships usually require geographic relocation.

Comprehensive Exam and Dissertation

The comprehensive examination consists of an oral and a written component. The exam includes research and practice elements. For more information, contact the program coordinator.

The dissertation research study is planned in collaboration with the student's major advisor. Dissertation credit ranges from 12 to 15 s.h.

Admission

Applicants must meet the admission requirements of the Graduate College. Preference is given to applicants who have an undergraduate g.p.a. above 3.00 and a graduate g.p.a. above 3.50; an undergraduate major, minor, or substantial course work in psychology; a Graduate Record Examination (GRE) General Test verbal score of 152 or higher, quantitative score of 151 or higher, and analytical writing score of 3.5 or higher; and previous research and counseling experience.

Students should submit a Graduate College application form, official transcripts of all previous college work, an official report of GRE General Test scores (the GRE advanced test in psychology is recommended but not required), a personal statement outlining career goals and reasons for seeking advanced training in counseling psychology, and three letters of recommendation from individuals qualified to assess the applicant's potential for completing the doctoral program. The faculty encourages applications from minorities, women, and persons from a wide range of backgrounds and academic preparation. The program typically accepts between five and eight students each year.

Students begin the program in fall. Application deadline is December 1; admission decisions usually are made by March 1. Applicants are invited to campus for interviews before final selection.

Couple and Family Therapy

The Doctor of Philosophy program in psychological and quantitative foundations with a couple and family therapy (CFT) subprogram requires a minimum of 73 s.h. of graduate credit. The program aims to prepare couple and family therapists for roles in academic and research settings.

Using a social justice and a relational/systemic perspective, the program prepares CFT students to become ethically and multiculturally responsive scholars, clinicians, supervisors, and educators. The program has five goals: to equip students to generate and disseminate social justice and relational/systemic informed research using innovative research methods; to prepare effective CFT educators; to equip students with advanced couple and family therapy theoretical training for use in clinical and supervisory settings; to promote ethical practices of students in their scholarship, clinical, and educational endeavors; and to engender multicultural responsiveness of students in their scholarship, clinical, and educational endeavors.

Graduates are expected to have sufficient knowledge and skill to teach and conduct research at colleges and universities; supervise other professionals; and provide clinical services to individuals, couples, and families. Graduates also should have competencies to engage in and evaluate theory-based qualitative and/or quantitative research.

Requirements for the degree include course work, a systematic review, a theory of change paper, an ethics autobiography paper, a comprehensive exam portfolio, a clinical or academic internship, and a dissertation. Most students complete the program's required course work in two or three years and take one or two years to complete the internship and dissertation. The CFT faculty reviews each

student annually; students must fulfill program requirements in order to continue in the program.

The Ph.D. in psychological and quantitative foundations with a couple and family therapy subprogram requires the following.

Required Courses

Code	Title	Hours
Research Requirement		
All of these:		
PSQF:5265	Research Methods in Couple and Family Therapy	3
PSQF:6243	Intermediate Statistical Methods	4
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when subtitle is qualitative educational research methods)	3
PSQF:7459	Seminar: Issues and Trends in Counseling Research	4
PSQF:7460	Seminar: Research in Counseling	3
Advanced Research Methods Course		
An advanced qualitative course (3 s.h.) or one of these quantitative courses (4 s.h.):		
PSQF:6244	Correlation and Regression	4
or PSQF:6246	Design of Experiments	
Theoretical and Clinical Core		
All of these:		
PSQF:5262	Advanced Couple and Family Therapy	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
PSQF:7361	Advanced Practicum in Couple and Family Therapy (must enroll multiple times for total of 9 s.h.)	9
PSQF:7389	Seminar in Couple Intervention Research	3
PSQF:7395	Social Context and Family Research	3
PSQF:7399	Supervision in Couple and Family Therapy	3
PSQF:7404	Seminar in Child and Adolescent Intervention Research	3
Teaching Requirement		
All of these:		
PSQF:6216	Tools and Utilities for Online Teaching	3
PSQF:6217	Seminar in College Teaching	3
PSQF:7380	Practicum in College Teaching	3
EALL:7475	Ph.D. ePortfolio in College Teaching	3
Ethics and Multicultural Course		
This course:		
PSQF:6235	Multicultural Counseling	3

Comprehensive Examination

The comprehensive examination consists of a portfolio that a student has compiled during the program and its oral defense once course work has been completed.

Internship

Students must complete a clinical or academic internship.

Code	Title	Hours
PSQF:7500	Internship in Couple and Family Therapy	2

Dissertation

Work for the doctoral dissertation employs a student's independent skills in conducting original research. The dissertation process is supervised by a student's advisor. Depending on a student's research questions, the dissertation may require quantitative, qualitative, or mixed methods and may involve data collection or the secondary analysis of an existing data set. The thesis advisor and the examining committee approve the topic and procedures at a formal prospectus meeting. The final oral examination on the thesis is conducted by the examining committee.

Code	Title	Hours
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	10

Admission

Applicants to the program must meet the department's general admission requirements. Applicants should have a graduate g.p.a. of at least 3.00 and a Graduate Record Exam (GRE) General Test combined verbal and quantitative score of at least 300 on the revised test or at least 1100 on the older version of the test. They also must hold a master's degree in couple and family therapy or marriage and family therapy from a program that is accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) or its equivalent.

Students are admitted for fall entry. All application materials should be received on or before December 31, when the faculty begins evaluating applications. The program requires an interview with the faculty, in person, or by telephone. Generally, the interview is scheduled once complete application materials have been received.

Educational Measurement and Statistics

The Doctor of Philosophy program in psychological and quantitative foundations with an educational measurement and statistics subprogram requires a minimum of 90 s.h. of graduate credit. The program prepares students for senior professional positions in educational measurement, evaluation, and statistical methods. Graduates find employment in colleges and universities, state and federal agencies, large public and private school systems, test publishing firms, and research centers.

During the first year of graduate study, a student and the advisor plan a program of study that is appropriate for the student's interests and vocational objectives. The typical program involves advanced work in educational measurement, data analysis methods, research methodology,

and educational psychology. Work in other University of Iowa departments is encouraged.

Students who concentrate in statistics and intend to teach at the college level take courses in the mathematical theory of statistics. Those who concentrate in educational measurement and evaluation take appropriate courses in curriculum, counseling, or higher education. All students are required to develop familiarity with computer programming techniques and equipment.

Students who enter the program without completing an M.A. thesis must complete a substitute project before taking the Ph.D. comprehensive examinations.

After completing most of their course work, students take the comprehensive examination, which typically consists of three 3-hour written examinations on educational measurement, applied statistics, and program evaluation, or approved substitute areas, such as educational psychology or mathematical statistics, in which a student has completed at least 9 s.h. of course work. In place of one written examination, the student's committee may assign a project involving analytical and evaluative skills, or research creativity. The written examinations are followed by an oral examination in which the committee seeks further evidence of the student's command of the three fields. A single decision is made on all aspects of the comprehensive examination.

Work for the Ph.D. concludes with the dissertation, which is included in the 90 s.h. required for the degree.

Research Requirement

Code	Title	Hours
One of these:		
PSQF:6220	Quantitative Educational Research Methodologies	3
An equivalent course comparable in content and level of rigor, such as EALL:5150		

Quantitative Requirements

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	4
Two of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3
EPLS:6206	Research Process and Design	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3

Qualitative Requirements

Code	Title	Hours
One of these (may be taken on a non-graded basis with approval of a student's program and advisor):		

PSQF:7331	Seminar: Educational Psychology I - Current Topics (when subtitle is qualitative educational research methods)	3
EDTL:7070	Introduction to Qualitative Methods in Literacy Research	3
EPLS:7373	Qualitative Research Design and Methods	3
RCE:7338	Essentials of Qualitative Inquiry	3
An equivalent course comparable in content and level of rigor		
One of these:		
PSQF:5165	Introduction to Program and Project Evaluation	3
PSQF:6265	Program Evaluation	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is conducting research online)	3
CNW:6654	Forms of the Essay (when topic is the ethnographic essay)	arr.
EDTL:6267	Seminar: Current Issues in Art Education (when topic is qualitative methods)	3-4
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7410	Mixed Methods Research	3
EDTL:7751	Advanced Qualitative Data Analysis	3
EDTL:7774	Qualitative Research with Computer-Aided Qualitative Data Analysis Software	3
EDTL:7953	Seminar: Single Subject Design Research	3
EPLS:5240	Topics in Education (when topic is introduction to historical methodology)	arr.
RCE:7438	Advanced Qualitative Research Seminar in Rehabilitation and Counselor Education	3
RCE:7444	Qualitative Research in the Multicultural Context	3

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a combined verbal and quantitative score of at least 300 on the Graduate Record Examination (GRE) General Test and must hold an M.A. from an accredited institution. At least one year of professional experience in teaching, research, or a related field is desirable. Applicants who expect to concentrate in statistics should have training in college mathematics through

differential and integral calculus. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics subprogram will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

Educational Psychology

The Doctor of Philosophy program in psychological and quantitative foundations with an educational psychology subprogram requires a minimum of 72 s.h. of graduate credit. Educational psychology is characterized by empirical research and theory typical of the social and behavioral sciences. The program is designed to help students master the core content and methods of educational psychology and acquire the depth of knowledge and methodological sophistication necessary for original research that contributes to the discipline.

Students work closely with their advisor to develop a plan of study and define a program that matches their goals and interests. Those who begin the program after earning a master's degree or with course work from another program may be able to waive some of the Ph.D. program requirements. Students who enter the program without completion of a M.A. thesis are required to complete a research practicum in which students assist with and later design and carry out original research during their first or second year. Students who have completed an empirical M.A. thesis acceptable to the faculty may omit the second-year project.

The program of study includes substantive areas within educational psychology and the learning sciences, including courses in cognition, development, learning theory, and the design of instruction, learning environments, and learning technologies. Other learning opportunities include a research practicum in which students assist with and eventually design and carry out original research, a slate of research courses that meet the College of Education's research requirements, a minor area of the student's choice, and a dissertation in the student's area of interest.

Research Requirement

The heart of educational psychology as a field is the creation, dissemination, and use of rigorous research to better understand and address educational issues. While many of the required courses address various aspects of the guiding principles set out by the National Research Council, students engage in the following course work and research-related activities.

Code	Title	Hours
All of these:		
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6243	Intermediate Statistical Methods	4
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when subtitle is qualitative educational research methods)	3

One of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

Research Project

In consultation with a faculty member, students design, implement, and present an original second-year research study. This experience provides the opportunity to conduct a pilot study that will strengthen their thesis in terms of methods, instruments, theoretical grounding, or focus of research question. Student presentations of their research are open to the public. Students are encouraged to submit their study results for broader dissemination at a local, regional, or national conference.

For students who have received approval to omit this requirement because of an empirical thesis that is acceptable to the educational psychology faculty, an additional research course may be required.

Code	Title	Hours
PSQF:6230	Research in Educational Psychology	3

Required Courses

Code	Title	Hours
All of these:		
PSQF:6200	Educational Psychology	3
PSQF:6205	Design of Instruction	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations (minimum requirement)	10

Core Courses

Selection of courses depends on a student's area of specialization.

Code	Title	Hours
At least 15 s.h. from these:		
PSQF:6203	Tools and External Representations in Learning Processes	3
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6206	Advanced Child Development	3
PSQF:6208	Designing Educational Multimedia	3
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6215	Web-Based Learning	3
PSQF:6275	Constructivism and Design of Instruction	3

PSQF:7331	Seminar: Educational Psychology I - Current Topics (topics vary; may be repeated if content is related to educational psychology)	arr.
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Electives

Students may take up to 9 s.h. of elective course work. Students can take PSQF:6217 Seminar in College Teaching and/or additional research courses. Other courses may be included in consultation with their advisor.

Minor Area

Students must complete a minimum of 12 s.h. that constitute a coherent program of course work outside educational psychology and beyond the courses listed above. The minor area may be from a foundation discipline such as mathematics education, educational philosophy, or program evaluation. Courses must be numbered 5000 or above, can span across departments and colleges, and must be consistent with a plan approved by a student's advisor.

Comprehensive Examination

The Ph.D. comprehensive examination emphasizes competence and depth in one or more narrowly defined areas of research and theory. Students choose from three options in consultation with their advisor and with the approval of the examining committee, composed of five faculty members and does not necessarily include the same faculty members as the dissertation committee. The options are a review article, an extended research activity, or a traditional comprehensive examination. For details of each option's requirements, contact the Department of Psychological and Quantitative Foundations.

Admission

Applicants must meet the admission requirements of the Graduate College, including the minimum grade-point average. They must have a verbal score of at least 150 and a quantitative score of at least 152 on the Graduate Record Examination (GRE) General Test; successful applicants usually score higher. International applicants whose first language is not English must submit acceptable scores on the Test of English as a Foreign Language (TOEFL). Applicants who do not meet all admission requirements may be granted conditional admission on the basis of other evidence, such as high grade-point average, strong academic preparation, and highly supportive recommendations. Conditional admission is rare.

Admission is for fall entry. Application deadline is January 15; late applications might not be considered. Review of applications begins soon after, when applicants who wish to be considered for fellowships and other awards are screened. Admission decisions are announced approximately six weeks after the application deadline.

Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 may not solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication *Graduate Study in Psychology and*

Associated Fields. This policy is consistent with standards set by the association's Board of Educational Affairs.

School Psychology

The department is not admitting students to the school psychology subprogram at this time.

The Doctor of Philosophy program in psychological and quantitative foundations with a school psychology subprogram requires a minimum of 125 s.h. of graduate credit. The program's goal is to prepare doctoral-level school psychologists who will promote psychology as a science and contribute to the advancement of the profession. The faculty endorses a scientist/practitioner model of training and expects students to become competent researchers and proficient practitioners.

Students develop a plan of study in consultation with their academic advisors. They are required to have a thorough grounding in the basic discipline of psychology, which may be achieved through earning a minimum of 3 s.h. of credit in each of the following areas: biological bases of behavior, cognitive/affective bases of behavior, social bases of behavior, individual differences, and history and systems.

Students are required to complete yearly portfolio reviews, which include oral examinations; carry out a preliminary dissertation research project equivalent in scope to an M.A. thesis; participate in an internship; and complete a doctoral dissertation, earning a minimum of 10 s.h. in PSQF:7493 Ph.D. Thesis in Psychological and Quantitative Foundations.

Research Requirement

To receive credit for additional courses, students must obtain prior approval from their advisor and the school psychology program.

Code	Title	Hours
All of these:		
PSQF:6243	Intermediate Statistical Methods	4
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when subtitle is qualitative educational research methods)	3

Program Core

Code	Title	Hours
All of these:		
PSQF:6238	Assessment of Learning Differences (taken with PSQF:7237)	3-4
PSQF:6263	Consultation Theory and Practice (taken with PSQF:7337)	3
PSQF:7224	Introduction to School Psychology Practice	3
PSQF:7237	Beginning Practicum in School Psychological Service (minimum of 150 hours required)	3

PSQF:7310	Intelligence Assessment (taken with PSQF:7237)	3
PSQF:7313	Psychopathology in Childhood	3
PSQF:7315	Social and Emotional Assessment of Children and Adolescents	3
PSQF:7337	Advanced Practicum in School Psychology (minimum of 750 hours required)	12
PSQF:7352	Seminar: Behavioral Assessment and Evaluation	3
PSQF:7367	Social Psychology and Social Systems	3
PSQF:7380	Practicum in College Teaching (optional)	1-3
PSQF:7390	Supervision of School Psychology Practicum/ Internship	1
PSQF:7437	Internship in School Psychology (one year full-time or two years half-time; total of 1800 hours required)	3

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. Placements must have prior approval of the school psychology faculty. Students must successfully complete one semester of PSQF:7237 Beginning Practicum in School Psychological Service before enrolling in PSQF:7337 Advanced Practicum in School Psychology. Students must adhere to the most recent ethical principles and standards of the American Psychological Association.

Rehabilitation and Counselor Education

Chair

- Noel Estrada-Hernandez

Undergraduate minor: human relations

Graduate degrees: M.A. in rehabilitation and counselor education; Ph.D. in rehabilitation and counselor education

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/rce>

The Department of Rehabilitation and Counselor Education prepares students to facilitate human development across the life span, to advocate for clients and students, and to serve local, national, and international communities through the delivery and creation of state-of-the-art counseling services. The department achieves these goals by advancing knowledge, skills, and attitudes appropriate for effective and ethical professional counseling practice and by conducting and disseminating related research.

The department prepares practitioners and scholars by offering graduate programs in four major areas within rehabilitation and counselor education:

clinical mental health counseling (offered in the M.A.);

counselor education and supervision (offered in the Ph.D.);

rehabilitation counseling program (offered in the M.A.); and

school counseling (offered in the M.A.).

It also offers basic courses in interviewing and interpersonal skills for students in other professional and graduate programs. In addition, the department offers an undergraduate minor in human relations.

Programs

Undergraduate Program of Study Minor

- Minor in Human Relations [p. 1238]

Graduate Programs of Study

Majors

- Master of Arts in Rehabilitation and Counselor Education [p. 1239]
- Doctor of Philosophy in Rehabilitation and Counselor Education [p. 1243]

Facilities

An on-campus counseling suite serves as a laboratory for training. In addition, a wide variety of supervised clinical experiences are available in community agencies, schools, and colleges, as well as throughout the University. Internships may be completed at approved sites nationwide.

Admission

Prospective students must meet admission requirements for the individual programs as well as the department's general admission requirements. Criminal background checks may be required.

Applicants to any of the department's degree programs must satisfy the following admission requirements. Applicants also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must submit the following:

- a completed graduate application form;
- copies of official transcripts of all previous undergraduate and graduate college work;
- official report of Graduate Record Exam (GRE) General Test verbal and quantitative scores;
- a statement of an applicant's reasons for seeking an advanced degree in the department, including a statement of personal career objectives; and
- three current letters of recommendation from persons qualified to assess the applicant's prospects for completing the M.A. or Ph.D. and to assess the applicant's commitment to the profession.

The department may request a personal or telephone interview.

The following admission standards are considered for individual program admission decisions.

M.A. applicants should have an undergraduate g.p.a. of at least 3.00.

Ph.D. applicants should have a graduate g.p.a. of at least 3.00; those who have not been granted a graduate degree should have an undergraduate g.p.a. of at least 3.00.

International applicants must score at least 80 (internet-based) on the Test of English as a Foreign Language (TOEFL). The department may require applicants with lower TOEFL scores to complete University of Iowa course work in English language fluency. TOEFL scores must be submitted with the application for admission.

Typically, doctoral students are not admitted unless they have completed a master's degree in counseling or a related field. Relevant work experiences are important. Students who are accepted without a related master's degree must complete core master's-level course work before taking advanced Ph.D. courses. Required remedial courses and experiences are determined in consultation with the advisor and are included in a student's curriculum plan.

The criteria listed above are minimum standards for admission. Final admission decisions are made by faculty committees. Some of the department's programs have additional admission requirements; see the descriptions of the individual programs.

Application

For application materials, visit Iowa Graduate Admissions and the Department of Rehabilitation and Counselor Education website.

Applications must be complete before they can be reviewed. Applicants are responsible for providing a complete application dossier; to check on whether an application

dossier is complete, contact the College of Education Office of Student Services.

Applicants are notified in writing after their applications have been reviewed. Applicants who are accepted must reply in writing in order to maintain their admission status.

Financial Support

Students in the department may apply for a wide variety of graduate assistantships. For example, many of the University's student service units award graduate assistantships. Applicants for assistantships should contact the department or the coordinator of the particular graduate program they plan to enter.

Applicants seeking fellowships or assistantships should complete their applications as early as possible.

Courses

Rehabilitation and Counselor Education Courses

RCE:1029 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

RCE:1030 Belin-Blank Center Seminar 1 s.h.

Presentations and discussions by University resource experts and Belin-Blank Center for Gifted Education staff. Requirements: Belin-Blank Center student.

RCE:2081 Making a Vocational-Educational Choice 2-3 s.h.

Vocational decision-making process, self-evaluation, exploration of the world of work; for students who are uncertain about their educational and vocational goals.

RCE:4081 ePortfolio Design and Production 1-2 s.h.

Experience producing an ePortfolio and uploading it to the internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser, accessing the internet, and using a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as EALL:4081, ECTL:4081, EPLS:4081, PSQF:4081.

RCE:4110 Psychology of Food and Mood 3 s.h.

Neurobehavioral and psychological determinants of food preference, behavior, and mood management; cultural meanings of food in North America, obesity, dieting, disordered eating; how we use food as a means of managing or damaging our food and health.

RCE:4111 Building Leadership and Success at Work 3 s.h.

How working within a career is different than going to school; what an employer expects of employees relating to leadership, effective communication, getting along with others, and dealing with conflict; understanding business structures and organizational needs; gain knowledge of self and employer motivation strategies; how employers communicate with employees.

RCE:4112 How to Interview to Get That Job! 3 s.h.

Learn two approaches to job interviews—how to interview to obtain a job and how to interview applicants for a job; gain knowledge and skills necessary to successfully conduct interviews from applicant and employer perspectives; review interview processes and legal and ethical boundaries within interviews; examine interview formats and styles and gain confidence to successfully respond to typical interview questions; learn to develop interview questions as an applicant and as an employer; communication best practices prior/during/following an interview.

RCE:4113 Sleep, Sleep Deprivation, and Sleep Disorders 3 s.h.

Theories and stages of sleep; aging and normal sleep; impact of sleep and sleep deprivation on mental and physical health; overview of sleep disorders and treatments.

RCE:4114 Psychology of Body Modification and Self-Image 3 s.h.

Exploration of psychology and practices of body modification as related to self-image; dynamic relationship between body and identity; body modification accomplished in many ways and for many reasons (beauty, social status, religious expression, improve function, to rebel); how gender, race, culture, age, and health shape our attitudes about our bodies and our decision to make modifications; risks and benefits (physical, emotional, social) of making a body modification to one's sense of self as it relates to others and to oneself.

RCE:4115 Developing Ethical Awareness and Decision Making Through Virtual Environments 3 s.h.

Introduction to ethical and decision making models using experiential activities in a virtual world; development of role playing characters in the PC-based virtual world of Skyrim; students face a multitude of ethical dilemmas, personal situations that explore participants' value systems, and decisions to be made in different contextual environments; review of several ethical models including developmental perspectives, approaches to ethical decision making, values scales, and moral development models which are applied to reflective writing activities and case presentations.

RCE:4119 Family Issues in Giftedness 1 s.h.

Family dynamics and issues that arise when one or more children are identified as gifted; parent/child, sibling, school/family relationships.

RCE:4120 Psychology of Giftedness 3 s.h.

Theories of learning, child development, motivation; issues unique to gifted education. Same as PSQF:4120.

RCE:4121 Identification of Students for Gifted Programs 3 s.h.

Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as PSQF:4121.

RCE:4123 Gender Issues and Giftedness 1 s.h.

Effect of gender on development of giftedness; differential needs of girls, boys; strategies for effective teaching, gender equity.

RCE:4124 Ethnic and Cultural Issues and Giftedness 1 s.h.

Effect of ethnicity and culture on development of giftedness; special needs of black, Hispanic, Native American, and Asian gifted students; strategies for identification, programming.

RCE:4125 Counseling and Psychological Needs of the Gifted 1 s.h.

Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as PSQF:4125.

RCE:4126 Cognitive and Affective Needs of Underachieving Gifted 1 s.h.

Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as PSQF:4126.

RCE:4128 Advanced Leadership Seminar in Gifted Education 1 s.h.

Development of administrative policies and programming based on empirical research; for experienced leaders in gifted education.

RCE:4129 Creativity: Issues and Applications in Gifted Education 1 s.h.

Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as PSQF:4129.

RCE:4130 Human Sexuality 3 s.h.

Introduction to human sexuality from a sociocultural perspective; readings and discussions of sensitive topics and explicit depictions/discussions of sexuality; students may relate their sexual experiences to course content; combination of formats.

RCE:4131 Loss, Death, and Bereavement 3 s.h.

Psychological study of death, grief, loss, bereavement, and coping from a multidimensional and multidisciplinary perspective; loss and grief as natural experiences that are not often explicitly discussed; overview of topics relating to death, including multicultural attitudes toward death, death practices, theories on loss and bereavement, and grieving throughout the life cycle; hospice and palliative care, suicide, and making meaning of life out of death; development of critical thinking skills by engaging in empirically based discussions.

RCE:4132 Introduction to Addictions and Impulse Control Disorders 3 s.h.

Exploration of addictions and impulse control disorders; legal, social, physical, and emotional issues related to addictions and impulse control disorders.

RCE:4137 Introduction to Educating Gifted Students 3 s.h.

Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as EDTL:4137.

RCE:4140 Foundations of Leadership for Community Agencies 3 s.h.

Preparation to become effective employees and leaders; emphasis on leadership roles in clinical and other human service or health care settings; how leadership transcends job title associated with high work performance; experiential activities that illustrate key didactic concepts and didactic lecture review, written assignments, experiential assignment, in-depth discussions illustrating key concepts.

RCE:4145 Marriage and Family Interaction 3 s.h.

Contemporary American couple, marriage, and family relationships; mate selection. Same as PSQF:4145.

RCE:4162 Introduction to Couple and Family Therapy 3 s.h.

Evolution of the family therapy movement and issues related to functional and dysfunctional family systems; significant models of family therapy and specific techniques. Same as PSQF:4162.

RCE:4173 Trauma Across the Lifespan 3 s.h.

Current theory and practice models related to trauma and crisis intervention; overview of multi-system level definitions of trauma experience (historical, individual, interpersonal, family, organizational, community, global); various approaches to trauma response theory; unique contributions that counselors offer (strength, resiliency, coping); commitments to multicultural and systems factors; macro-to micro-level understanding of trauma.

RCE:4174 Positive Psychology 3 s.h.

Promotion of human potential as a focus for counseling professionals that provides a supplement to diagnosis and treatment of pathology; how to achieve happiness, resilience, wellness, and life satisfaction through enhancement of human strengths and virtues.

RCE:4175 Motivational Interviewing 3 s.h.

Motivational Interviewing (Miller & Rollnick) and the stages of change model.

RCE:4176 Child Abuse: Assessment, Intervention, and Advocacy 3 s.h.

Preparation for work involving abused children or child abuse issues; appropriate for careers in counseling, education, health sciences, law, psychology, social work, and so forth; interactive approach.

RCE:4177 Life After Service: Veterans in College 3 s.h.

Introduction to various resources on campus related to increasing student veterans' success as college students; topics and assignments specifically tailored to military service-connected students (e.g., ROTC students, national guard or reserve military members, active duty veterans); topics include vocational rehabilitation, GI Bill, current events, and health care (sleep, TBI, traumatic stress responses, substance abuse); development of academic skills for writing, more effective studying, improved reading and note taking.

RCE:4178 Microcounseling 1,3 s.h.

Basic skills of listening, responding, empathy, focus; advanced skills of meaning, confrontation, reframing, directives, action skills.

RCE:4179 Sexuality Within the Helping Professions 3 s.h.

Relationship between sexuality and mental health; varied ethical and professional issues in sex therapy.

RCE:4180 Topical Seminar for Helping Professionals arr.

Topics for the continuing education of counselors and related professionals.

RCE:4185 Introduction to Substance Abuse 3 s.h.

Theories of addiction and pharmacology of psychoactive drugs; legal, familial, biological, multicultural, historical issues related to substance use and misuse.

RCE:4187 Introduction to Assistive Technology 3 s.h.

How assistive technology can be used for attainment of goals in education or work. Same as EDTL:4987.

RCE:4188 Practicum in Teaching and Curriculum Development in Gifted Education 1-6 s.h.

Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as EDTL:4188.

RCE:4190 Group Processes for Related Professions**3 s.h.**

Small-group procedures for personal and organizational development in educational settings; discussions of theoretical and ethical issues, multicultural considerations, and research findings supplemented with demonstrations; participation in a personal growth group.

RCE:4191 Advocacy: Awareness, Assertiveness, and Activism**arr.**

Introduction to advocacy skills—communicate, convey, negotiate or assert interests, desires, needs, and rights for self or others; opportunity to design and implement a plan of change; ecological model of human interaction that suggests a person must be viewed within context of one's environment(s); how having power on a personal and social level impacts one's environment and is central to a person's well-being; advocacy as a central function of helping professions.

RCE:4192 Group Leadership in Human Sexuality 0-3 s.h.

How to teach human sexuality; how to help students achieve an open-minded yet responsible attitude toward their own and others' sexuality. Prerequisites: RCE:4130.

RCE:4193 Individual Instruction - Undergraduate**arr.****RCE:4194 Interpersonal Effectiveness****3 s.h.**

Paradigms and techniques that enhance interpersonal relationship skills.

RCE:4195 Ethics in Human Relations and Counseling**3 s.h.**

Morality and ethics; ethical issues; models and techniques for effective ethical decision making in personal and professional interactions.

RCE:4197 Citizenship in a Multicultural Society**3 s.h.**

Human relationships in the context of societal oppressions such as racism, sexism, able-bodyism, and heterosexism.

RCE:4199 Counseling for Related Professions**3 s.h.**

Counseling theories and techniques; ethical and multicultural considerations; small-group discussions, demonstrations, lectures.

RCE:5200 Professional School Counselor**3 s.h.**

Professional identity of school counselors, K-12 school counseling program delivery systems, legal and ethical issues.

RCE:5202 Introduction to Group Counseling**3 s.h.**

Research, theory, ethics, planning, and practice in group counseling; leadership styles and multicultural considerations; group participation. Prerequisites: RCE:5221. Corequisites: RCE:5278. Requirements: rehabilitation and counselor education enrollment.

RCE:5203 Career Development**3 s.h.**

Preparation for counselors and student affairs professionals; career development concepts and theories, family and work, career counseling goals and objectives, exemplary techniques and materials, career program planning, evaluation procedures. Requirements: rehabilitation and counselor education enrollment.

RCE:5204 School Culture and Classroom Management for School Counselors**3 s.h.**

American public elementary and secondary schools and the school counselor's role; classroom management for school counselors.

RCE:5210 Rehabilitation Client Assessment**3 s.h.**

Process and practice of assessing persons with disabilities for rehabilitation plan development and decision making; multicultural and ethical considerations.

RCE:5221 Theories of Counseling and Human Development Across the Life Span**3 s.h.**

Philosophical bases, ethical considerations, processes, issues, multicultural and life-span developmental considerations in counseling theories and techniques. Requirements: rehabilitation and counselor education M.A. enrollment.

RCE:5222 Counseling Children and Adolescents in Schools**3 s.h.**

Theory and practice of school-based counseling interventions; child and adolescent development; prevention; special topics. Prerequisites: RCE:5221 or RCE:5278.

RCE:5223 Counseling Gifted and Talented Students**3 s.h.**

Learning theories and best practices related to school counseling of gifted and talented students; academic, career, and personal/social development. Prerequisites: RCE:4137.

RCE:5226 Assessment of Giftedness**3 s.h.**

Training and practice in assessment of gifted children. Same as PSQF:5226.

RCE:5230 School Counseling Program Leadership and Management**3 s.h.**

Comprehensive K-12 school counseling program components and structures; program leadership, planning, accountability; behavioral consultation and collaboration; ethical, multicultural, family considerations. Corequisites: RCE:6321 or RCE:6322.

RCE:5237 Seminar in Gifted Education**2-3 s.h.**

Teaching and counseling needs of gifted students K-12; intensive 10-day residential program. Requirements: work as teacher with Belin Fellowship.

RCE:5238 Advanced Seminar in Gifted Education**1 s.h.**

Supervisory, administrative, and research issues; fellowships for seminar participants.

RCE:5241 Introduction to Clinical Mental Health Counseling**3 s.h.**

Historical, philosophical, legislative, societal, and multicultural overview of rehabilitation and mental health process and practice in community-based settings; roles of rehabilitation and mental health professionals, nature of agencies, resources, contemporary issues and ethics.

RCE:5242 Introduction to Rehabilitation Counseling and Case Management**3 s.h.**

Introduction to the field of rehabilitation counseling; provides a foundation for subsequent study in rehabilitation counseling; students develop an appreciation and understanding of the rehabilitation profession in terms of its history, purpose, philosophy, process, personnel, programs, resources, and clients.

RCE:5247 Medical and Psychosocial Aspects of Disability Across the Developmental Life Span**6 s.h.**

Medical evaluation as part of the rehabilitation process; body systems, medical terminology, medical description of disabilities; functional limitations; projection of potential for rehabilitation and mental health applied to planning and placement; dynamics of adjustment and coping for persons with chronic illness or those with disabilities through the life span; somatopsychological, psychosocial, and developmental perspectives on disability.

RCE:5248 Diagnosis and Treatment Planning for Traditional, Vulnerable, and Special Populations in Counseling 3 s.h.

Individual and group approaches to assessment and evaluation, including personal and environmental factors; psychiatric conditions, their diagnostic criteria using the DSM-5, and treatment planning considerations; biopsychosocial and psychiatric rehabilitation models used for case conceptualization and treatment planning, including functional assessment and client-driven rehabilitation planning for community reintegration; special considerations for diagnosing and treating vulnerable and special populations. Requirements: rehabilitation and counselor education enrollment.

RCE:5249 Psychopathology, Psychiatric Rehabilitation, and Emerging Approaches in Counseling 3 s.h.

Description, classification, and theoretical perspectives related to psychiatric disorders; models of intervention in community-based settings.

RCE:5250 Multiculturalism in Helping Professions 3 s.h.

Theory and application of multicultural competency in the helping professions; ethical treatment of clients in the context of a multiculturally diverse society; knowledge, skill, self-awareness components relevant for helping practitioners. Requirements: rehabilitation and counselor education enrollment.

RCE:5253 Forensic Rehabilitation 3 s.h.

Orientation to the profession of forensic rehabilitation or forensic vocational rehabilitation; development of knowledge and skills to act as a forensic professional in court proceedings involving persons with disabilities; emphasis on multiple areas of practice including social security determination, marital dissolution, personal injury, worker's compensation, and life care planning; students write expert testimony reports from assigned scenarios of injured workers for attorneys, insurance carriers, and administrative law judges.

RCE:5254 Assessment and Appraisal 3 s.h.

Presentation of materials related to assessment and appraisal for those who plan to work as professional counselors; didactic and experiential activities that enhance a counseling professional's work in the field; specifically, development of skills related to the administration, scoring, and interpretation of basic assessment materials and appraisal in a counseling setting.

RCE:5256 Action Research: School-Based Field Research 3 s.h.

Field-based research experiences in school settings; students conceptualize, design, conduct, and articulate school-based research findings. Prerequisites: RCE:5254.

RCE:5270 Issues and Ethics in Counseling 3 s.h.

Ethical standards and decision making; current issues; ethical, legal, and multicultural considerations for counseling in agencies and schools; emphasis on professional practice.

RCE:5276 Research in Rehabilitation and Mental Health Counseling 3 s.h.

Current state of counseling practice and emphasis on accountability as a professional quality; need for counselors to be knowledgeable and skillful in identifying and using "what works" in counseling endeavors; introduction to major principles, concepts, and practices in social science research, including program evaluation; preparing counselors-in-training as future research consumers. Recommendations: rehabilitation and mental health counseling major.

RCE:5278 Applied Microcounseling 3 s.h.

Development of basic and advanced counseling skills; preparation for work in education and community settings.

RCE:5279 Microskills for Rehabilitation Counseling 3 s.h.

Development of listening, empathy, reflection, and inquiry skills that are the foundation of counseling work; focus on development of self-awareness necessary for professionals in human service settings such as rehabilitation counseling; students learn and practice microcounseling skills that relate to working with individuals and small groups; for students pursuing a master's degree in rehabilitation counseling and desiring Council for Accreditation of Counseling and Related Educational Programs (CACREP) accredited practicum experience.

RCE:5280 Topical Seminar in Rehabilitation and Counselor Education arr.

Special topics dealing with contemporary problems of concern to counselors in specific settings.

RCE:6263 Consultation Theory and Practice 3 s.h.

Review of concepts and practice of consultation and collaboration in educational and human services settings; focus on mental health, organizational, behavioral, and instructional models. Same as PSQF:6263.

RCE:6293 Individual Instruction - Graduate arr.

RCE:6300 Practicum in School Counseling 3 s.h.

Supervised experience counseling and consulting in elementary and secondary school settings. Requirements: completion of school counseling core courses.

RCE:6321 Internship in Elementary School Counseling 6 s.h.

Supervised placement in an elementary school setting; performance of tasks, responsibilities of an elementary school counselor. Prerequisites: RCE:6300. Requirements: completion of all required school counseling courses.

RCE:6322 Internship in Secondary School Counseling 6 s.h.

Supervised placement in a secondary school setting; performance of tasks, responsibilities of a secondary school counselor. Prerequisites: RCE:6300. Requirements: completion of all required school counseling courses.

RCE:6323 Internship in Middle School Counseling 3 s.h.

Supervised placement in a middle school setting; performance of tasks and responsibilities of a middle school counselor. Prerequisites: RCE:6300. Requirements: completion of all required school counseling courses.

RCE:6341 Occupational Information, Job Development, and Job Placement 3 s.h.

Obtaining appropriate jobs for individuals with disabilities who have received rehabilitation services; client, counselor, employer, job specifications.

RCE:6342 Psychosocial and Developmental Aspects 3 s.h.

Dynamics of adjustment and coping for persons with chronic illness or those with disabilities through the life span; somatopsychological, psychosocial, and developmental perspectives on disability.

RCE:6346 Practicum in Rehabilitation Counseling 3 s.h.

Clinical preparation to work specifically with persons with mental health and other disabilities in order to effectively promote positive changes in their employment status (where applicable), level of social integration, level of independence, quality of life, and mental health; individual clinical preparation goals established within the parameters of the clinical continuum to ensure skill development and a strong knowledge base, which serve to promote qualified providers of rehabilitation counseling services. Prerequisites: RCE:5279.

RCE:6347 Internship in Rehabilitation Counseling arr.

Advanced clinical experiences under faculty supervision in a community rehabilitation agency; student interns receive weekly individual and monthly group supervision; emphasis on application of rehabilitation and mental health counseling and case management methods, techniques, and vocational knowledge in work with clients; consultation with professionals, business, and industry as needed to enhance services to persons with disabilities for the purposes of job development/placement and/or independent living rehabilitation. Prerequisites: RCE:5279 and RCE:6346.

RCE:6348 Prepracticum in Rehabilitation and Mental Health Counseling 3 s.h.

Counseling laboratory to promote knowledge, skills, and awareness of effective and ethical counseling methods, and fundamentals of helping relationships and case management. Prerequisites: RCE:5221. Corequisites: RCE:5278.

RCE:6349 Practicum in Clinical Mental Health Counseling arr.

Experience in a community agency serving individuals with disabilities and mental health disorders, supervised by a certified rehabilitation counselor in an approved site. Prerequisites: RCE:6348.

RCE:6350 Internship I: Rehabilitation and Mental Health Counseling 3-6 s.h.

Experience to enhance competency in agencies and with persons represented in student's specialty area. Prerequisites: RCE:6349.

RCE:6352 Internship II: Rehabilitation and Mental Health Counseling arr.

Full-time clinical experience in rehabilitation and mental health settings; training in wide range of rehabilitation and mental health functions under supervision of a qualified M.A. counselor with appropriate credentials. Prerequisites: RCE:6350.

RCE:6353 Applied Pre-Practicum in Clinical Mental Health Counseling 6 s.h.

Development of accurate listening, empathy, reflection, and inquiry skills as well as goal setting techniques that are the foundation of counseling work; strong applied and experiential approach with special focus on development of self-awareness dexterity necessary for professionals in clinical mental health counseling; students learn and practice microcounseling skills in class and lab sessions that relate to working with individuals and small groups; applied pre-practicum allows students to work with an analog client as well as didactic instruction. Corequisites: RCE:5221.

RCE:6354 Advanced Practicum in Clinical Mental Health Counseling 3 s.h.

Advanced clinical experiences in clinical mental health counseling; supervision provided by faculty supervisor and site supervisor, who meet with the student during the semester for supervision and performance evaluation; emphasis on application of clinical mental health counseling knowledge, methods, and techniques in work with clients, and in consulting with other professionals and agencies as needed to enhance services to persons with mental health disabilities; emphasis also on application of principles and professional standards to real life situations. Prerequisites: RCE:6353 and RCE:6349.

RCE:6394 Research and Scholarship Internship 1-3 s.h.

Preparation for comprehensive examination.

RCE:6500 Research Methods in Counseling 3 s.h.

Introduction to research methods for counselors; research strategies that have dominated counseling literature; key concepts related to development of researchable questions, use and interpretation of quantitative and qualitative analyses, factors impacting design integrity, and use of findings to effect counseling program modifications; focus on essential approaches needed to conceptualize and develop a research proposal.

RCE:7255 Advanced Career Development and Counseling 3 s.h.

Major concepts and research evidence about life-span vocational behavior; theories of vocational choice, adjustment, development in a multicultural world.

RCE:7338 Essentials of Qualitative Inquiry 3 s.h.

Principles, processes of qualitative research in education; methods of design, data collection and analysis, interpretation, trustworthiness. Requirements: Ph.D. enrollment and introductory research course.

RCE:7347 Home/School/Community: System Interventions 3 s.h.

Interventions used by school and support system personnel; focus on work with parents, siblings. Same as PSQF:7347.

RCE:7353 Advanced Counseling and Psychotherapy 3 s.h.

Theories, techniques, and ethics of counseling clients with personal and interpersonal problems; ethical and multicultural considerations.

RCE:7357 Advanced Group Counseling and Psychotherapy 3 s.h.

Theories and techniques of group counseling and psychotherapy; integration of theory, experience, and research in group counseling; ethical and multicultural considerations.

RCE:7360 Advanced Practicum in Counseling arr.

Supervised practice in counseling; intensive analysis of counselor ethics, styles, methods. Advanced graduate standing in counselor education and consent of instructor required. Prerequisites: RCE:5221. Requirements: Ph.D. enrollment, advanced graduate standing in counselor education, and counseling introductory practicum; and concurrent enrollment in RCE:5249 for rehabilitation counselor education student.

RCE:7369 Advanced Seminar in Rehabilitation Counseling**3 s.h.**

Philosophy, theory, research base, practice of rehabilitation counseling, psychology; ethical and multicultural considerations; relationship to disability studies; psychological aspects of disability, client assessment, history, systems, contemporary issues.

RCE:7380 Internship in Teaching**arr.**

Supervised college teaching experience in counselor education courses; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations.

RCE:7385 Teaching and Learning in Higher Education**3 s.h.**

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as EDTL:7385, EPLS:7385, GRAD:7385, PSQF:7385.

RCE:7400 Seminar: Ethics and Issues in Counseling**3 s.h.**

Ethical, professional, and contemporary issues in counseling practice, education, and research. Requirements: rehabilitation and counselor education Ph.D. enrollment.

RCE:7438 Advanced Qualitative Research Seminar in Rehabilitation and Counselor Education**3 s.h.**

Exploration of qualitative research at advanced theoretical, practical, and technical level, inside and outside a typical classroom environment; scholarly discussions. Prerequisites: RCE:7338.

RCE:7444 Qualitative Research in the Multicultural Context**3 s.h.**

Exploration of qualitative research in multicultural context; application of knowledge gained in introductory qualitative courses; utilization of qualitative skill sets for completion of a multicultural-focused project; multicultural field research project which may involve travel or virtual connections outside of regular class time; field experience projects with online problem-based learning activities, consultation, and virtual supervised small group work. Prerequisites: PSQF:6235 or RCE:5250 or RCE:7338.

RCE:7448 Integrated Developmental Theory and Counseling**3 s.h.**

Advanced issues, theoretical perspectives, and research in human development across the life span; influential theories in human development; related implications for counseling, supervision, and research; integrated understanding of perspectives through position papers, reflection papers, and research proposal project. Requirements: graduate standing in rehabilitation and counselor education.

RCE:7450 Advanced Social Psychology of Disability**3 s.h.**

Disability issues from individual and societal perspectives; psychosocial aspects of disability and disability studies; seminar. Requirements: Ph.D. enrollment.

RCE:7451 Advanced Multiculturalism**3 s.h.**

Impact of culture, race, ethnicity, and intersections of identity on counseling in higher education and student affairs settings. Prerequisites: RCE:5250.

RCE:7454 Supervision Theory and Practice**3 s.h.**

Conceptual models, ethics, multicultural considerations, research, and program design for counselor supervision and consultation.

RCE:7455 Internship in Supervision**arr.**

Supervision of students enrolled in counseling practicum. Prerequisites: RCE:7454.

RCE:7457 Seminar: Professional Orientation to Counselor Education and Supervision**3 s.h.**

Professional orientation issues in counselor education and supervision; related documents, bylaws, professional expectations.

RCE:7458 Seminar: Issues and Trends in Counseling Research**4 s.h.**

Recent trends, including debates and findings in literature related to best practices for the profession. Same as PSQF:7459.

RCE:7459 Seminar: Leadership and Advocacy in Counselor Education and Supervision**3 s.h.**

Leadership principles and theories, including applications to counselor education; student leadership potential and skills explored through self-reflective model.

RCE:7460 Seminar: Research in Counseling**3 s.h.**

Methods, examples, ethics, multicultural issues, problems of counseling research. Requirements: Ph.D. enrollment. Same as PSQF:7460.

RCE:7461 Practicum in Research**arr.**

Experience designing and implementing research relevant to student's plan of study, under supervision of rehabilitation and counselor education faculty member.

RCE:7462 Advanced Practicum in Clinical Teaching**1-3 s.h.**

Preparation for doctoral students to conduct didactic and experiential learning opportunities with counselors in training. Prerequisites: RCE:7454.

RCE:7465 Internship in Clinical Practice**1-3 s.h.**

Supervised experience in professional counseling, counselor supervision, consultation, teaching counseling; field placement and seminar.

RCE:7466 Leadership and Advocacy Internship in Counselor Education**3 s.h.**

Supervised experience in service learning activities in a variety of settings to build advocacy and leadership skills; leadership skill development opportunities that enhance doctoral students' future potential as counselor education advocates and consultants. Prerequisites: RCE:7360.

RCE:7493 Ph.D. Thesis**arr.**

Human Relations, Minor

The undergraduate minor in human relations requires a minimum of 15 s.h. of credit, including 12 s.h. earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass, but may count toward the minor if offered as S/U or S/F. Transfer credit must be approved by the chair of the Department of Rehabilitation and Counselor Education in order to count toward the minor.

The minor is open to all University of Iowa students enrolled in an undergraduate degree program.

The minor in human relations requires the following course work.

Code	Title	Hours
This course:		
RCE:4199	Counseling for Related Professions	3
At least 12 s.h. chosen from these:		
RCE:2081	Making a Vocational-Educational Choice	2-3
RCE:4110	Psychology of Food and Mood	3
RCE:4111	Building Leadership and Success at Work	3
RCE:4112	How to Interview to Get That Job!	3
RCE:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
RCE:4114	Psychology of Body Modification and Self-Image	3
RCE:4130	Human Sexuality	3
RCE:4131	Loss, Death, and Bereavement	3
RCE:4132	Introduction to Addictions and Impulse Control Disorders	3
RCE:4140	Foundations of Leadership for Community Agencies	3
RCE:4145	Marriage and Family Interaction	3
RCE:4162	Introduction to Couple and Family Therapy	3
RCE:4173	Trauma Across the Lifespan	3
RCE:4174	Positive Psychology	3
RCE:4175	Motivational Interviewing	3
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
RCE:4178	Microcounseling	3
RCE:4179	Sexuality Within the Helping Professions	3
RCE:4180	Topical Seminar for Helping Professionals	3
RCE:4185	Introduction to Substance Abuse	3
RCE:4187	Introduction to Assistive Technology	3
RCE:4190	Group Processes for Related Professions	3

RCE:4191	Advocacy: Awareness, Assertiveness, and Activism	3
RCE:4192	Group Leadership in Human Sexuality	0-3
RCE:4193	Individual Instruction - Undergraduate	arr.
RCE:4194	Interpersonal Effectiveness	3
RCE:4195	Ethics in Human Relations and Counseling	3
RCE:4197	Citizenship in a Multicultural Society	3
EALL:4130	Introduction to Grant Writing	3
EPLS:4150	Leadership and Public Service I	3
EPLS:4151	Leadership and Public Service II	2
EPLS:4180	Human Relations for the Classroom Teacher (requires special permission for students not enrolled in TEP)	3
PSQF:2115	Introduction to Counseling Psychology	3
PSQF:2116	Applied Child and Adolescent Psychology	3
SSW:3700	Introduction to Understanding Trauma and Resilience	3

Contact the Department of Rehabilitation and Counselor Education for more information about the minor.

Rehabilitation and Counselor Education, M.A.

Maintaining Good Standing

M.A. students in the Department of Rehabilitation and Counselor Education must meet the following standards in order to remain in their degree programs and advance to candidacy and remain a candidate for a degree:

- maintain a g.p.a. of at least 3.00;
- successfully complete practicums and internships;
- maintain professional behavior consistent with the ACA Code of Ethics (American Counseling Association) and any additional code of professional ethics adhered to in any agency in which a student completes a practicum or internship; and
- demonstrate progress toward the degree through successful completion of semester hours specified in the curriculum plan and active registration each session (exceptions may be approved by the advisor).

Each student's academic and professional progress is reviewed annually. A written report is provided to the student and a copy is placed in the student's department file.

Probational Status

Students who earn a cumulative g.p.a. lower than 3.00 are placed on probational status and are notified in writing. Students on probational status have two consecutive sessions to raise their grade-point average to the established standard. If that requirement is not met, a student may be removed from the program. Students are allowed one probational status during their program of study.

Standards

Upon completing a degree in the department, students are evaluated and are expected to have awareness, knowledge, and skills in the following areas:

- current definitions, professional standards, and appropriate professional practices regarding multiculturalism;
- what it means to be a multiculturally competent helping professional;
- integration of feedback into practice and professionalism in interpersonal interactions;
- personal limitations and strengths that could ultimately support or harm a client or student; and
- a personal plan for future practice in the field regarding multicultural relationships.

Clinical Mental Health Counseling

The Master of Arts program in rehabilitation and counselor education with a clinical mental health counseling subprogram requires a minimum of 60 s.h. of graduate credit. Full-time students can complete the program in approximately 20 months (four semesters). The program prepares professional counselors to provide assistance with psychological wellness through flexible, consumer-oriented therapy to individuals experiencing various problems in living, including mental disorders and substance abuse. They combine traditional psychotherapy with a practical, problem-solving approach

that creates a dynamic efficient path for change and problem resolution.

Clinical mental health counselors work in a variety of settings, including public government agencies; private practice; community mental health agencies; managed behavioral health care organizations; integrated delivery systems; hospitals, including the Veteran's Administration; employee assistance programs; and substance abuse treatment centers. They provide interventions designed to help individuals with their immediate needs such as assessment and diagnosis, psychotherapy, treatment planning, brief and solution-focused therapy, alcoholism and substance abuse treatment, psychoeducational and prevention, and crisis management.

The M.A. program in clinical mental health counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Graduates of the program are eligible for certification by the National Board for Certified Counselors. By completing the program's course work, students also complete the courses they must take in order to apply for licensure as mental health counselors in Iowa.

The curriculum blends academic work with supervised clinical experiences. Students take two semesters of practicum and one semester of internship concurrently with academic courses. The program concludes with a full-time internship (40 hours per week) during a spring semester. Students are assigned to mental health agencies or facilities that meet CACREP accreditation standards and that have programs or clientele who match a student's interests and educational objectives. Clinical placements require criminal background checks. Supervised practicums, internships, and comprehensive examinations are not offered during summer sessions.

The M.A. in rehabilitation and counselor education with a clinical mental health counseling subprogram requires the following work.

Code	Title	Hours
RCE:5202	Introduction to Group Counseling	3
RCE:5203	Career Development	3
RCE:5221	Theories of Counseling and Human Development Across the Life Span	3
RCE:5241	Introduction to Clinical Mental Health Counseling	3
RCE:5247	Medical and Psychosocial Aspects of Disability Across the Developmental Life Span	6
RCE:5248	Diagnosis and Treatment Planning for Traditional, Vulnerable, and Special Populations in Counseling	3
RCE:5249	Psychopathology, Psychiatric Rehabilitation, and Emerging Approaches in Counseling	3
RCE:5250	Multiculturalism in Helping Professions	3
RCE:5254	Assessment and Appraisal	3
RCE:5270	Issues and Ethics in Counseling	3
RCE:6349	Practicum in Clinical Mental Health Counseling	3

RCE:6352	Internship II: Rehabilitation and Mental Health Counseling	12
RCE:6353	Applied Pre-Practicum in Clinical Mental Health Counseling	6
RCE:6354	Advanced Practicum in Clinical Mental Health Counseling	3
RCE:6500	Research Methods in Counseling	3
Total Hours		60

Comprehensive Examination

The comprehensive examination consists of two exams totaling six hours: a three-hour departmental comprehensive examination and a three-hour written examination on the process and practice of clinical mental health counseling. Exams are offered only during fall and spring semesters.

Admission

Applicants must meet the department's general admission requirements. They should have a good academic record and relevant experiences. No specific undergraduate major area of study is required for the M.A. program, but a major in one of the social sciences is considered good preparation. Postbaccalaureate work and volunteer experiences relevant to the field of mental health counseling is preferred. The program encourages applications from persons traditionally underrepresented in the field, particularly those with a disability and/or members of minority or ethnic groups. A personal interview is required, either in person or by telephone.

Applications for full-time study are accepted for fall semester entry; applications for full-time study are reviewed beginning March 1. Applications for part-time study are accepted for fall and spring semesters and are considered when class space permits.

Students pursue a sequenced plan of study that begins in the fall semester. Although students may be admitted for any semester, the program highly recommends that full-time students begin in the fall.

Rehabilitation Counseling Program

The Master of Arts program in rehabilitation and counselor education with a subprogram in the rehabilitation counseling program requires a minimum of 60 s.h. of graduate credit. Full-time students can complete the program in approximately 20 months (four semesters). The program prepares professional counselors to provide assistance in psychological wellness, employment, independent living, and personal or economic development to persons with disabilities and other individuals who encounter barriers in meeting their own functional needs.

Rehabilitation counselors work in a variety of settings, including public agencies such as state vocational rehabilitation programs and Veterans Affairs vocational rehabilitation programs, independent living centers, community-based rehabilitation centers and supported employment, psychiatric rehabilitation programs, transition from school to work programs, and private for-profit worker's compensation and insurance rehabilitation agencies. They provide interventions designed to help persons with

disabilities adapt to the demands of their environments. They also prepare the environments to accommodate an individual's needs. Assessment, personal and vocational counseling, development of rehabilitation and treatment plans, case management, service coordination, psychosocial adjustment, job development, placement, and follow-up are typical services that rehabilitation and mental health counselors provide.

The M.A. program in rehabilitation counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Graduates of the program are eligible for certification by the Commission on Rehabilitation Counselor Certification (CRCC).

The curriculum blends academic work with supervised clinical experiences. Students take one semester of practicum and one semester of internship concurrently with academic courses. The program concludes with a full-time internship (40 hours per week) during a spring semester. Students are assigned to rehabilitation agencies or facilities that meet CACREP accreditation standards and that have programs or clientele who match a student's interests and educational objectives. Clinical placements require criminal background checks. Supervised practicums, internships, and comprehensive examinations are not offered during summer sessions.

The M.A. in rehabilitation and counselor education with a subprogram in the rehabilitation counseling program requires the following work.

Code	Title	Hours
RCE:5202	Introduction to Group Counseling	3
RCE:5203	Career Development	3
RCE:5221	Theories of Counseling and Human Development Across the Life Span	3
RCE:5242	Introduction to Rehabilitation Counseling and Case Management	3
RCE:5247	Medical and Psychosocial Aspects of Disability Across the Developmental Life Span	6
RCE:5249	Psychopathology, Psychiatric Rehabilitation, and Emerging Approaches in Counseling	3
RCE:5250	Multiculturalism in Helping Professions	3
RCE:5253	Forensic Rehabilitation	3
RCE:5254	Assessment and Appraisal	3
RCE:5270	Issues and Ethics in Counseling	3
RCE:5279	Microskills for Rehabilitation Counseling	3
RCE:6341	Occupational Information, Job Development, and Job Placement	3
RCE:6346	Practicum in Rehabilitation Counseling	3
RCE:6347	Internship in Rehabilitation Counseling	12
RCE:6500	Research Methods in Counseling	3

PSQF:5165	Introduction to Program and Project Evaluation	3
Total Hours		60

Comprehensive Examination

The comprehensive examination consists of two exams totaling six hours: a three-hour departmental comprehensive examination and a three-hour written examination on the process and practice of rehabilitation counseling. Exams are offered only during fall and spring semesters.

Admission

Applicants must meet the department's general admission requirements. They should have a good academic record and relevant experience such as assisting individuals with disabilities. No specific undergraduate major area of study is required for the M.A. program, but a major in one of the social sciences is considered good preparation. Postbaccalaureate work experience relevant to the field of rehabilitation counseling is preferred. The program encourages applications from persons traditionally underrepresented in the field, particularly those with a disability and/or members of minority or ethnic groups. A personal interview is required, either in person or by telephone.

Applications for full-time study are accepted for fall semester entry; applications for full-time study are reviewed beginning March 1. Applications for part-time study are accepted for fall and spring semesters and are considered when class space permits.

Students pursue a sequenced plan of study that begins in the fall semester. Although students may be admitted for any semester, the program highly recommends that full-time students begin in the fall.

School Counseling

The Master of Arts program in rehabilitation and counselor education with a school counseling subprogram requires a minimum of 60 s.h. of graduate credit. The program prepares individuals to work effectively as counselors in K-12 school settings. It is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Successful graduates are eligible for K-12 school counselor licensure in Iowa.

During the first few semesters, students take core counseling courses, including course work focusing on counseling children and adolescents, school counseling programs, and courses focusing on clinical practice in the schools (practicum and internship). Students are expected to complete at least 100 clock hours in practicum and 600 clock hours in internship activities in an approved school setting, under the supervision of an experienced licensed school counselor and a University faculty supervisor.

Students who enter without teaching licensure are required to take the following classes in education: EPLS:3000 Foundations of Education, EDTL:4900 Foundations of Special Education, and PSQF:6200 Educational Psychology.

Students must complete program and department core courses as outlined on the Department of Rehabilitation and Counselor Education website before enrolling in RCE:6300 Practicum in School Counseling for the fall semester of their second year in the program. All students are required to complete a background check the semester before they enroll in the practicum. Students who are not licensed teachers must

complete course work in education before enrolling in the practicum.

Each student's progress is reviewed periodically by the major advisor and yearly by the school counseling program. Students who have successfully completed all prerequisites for RCE:6300 are reviewed in the semester before they take the practicum course, to assure that they are prepared for it. Additionally, students are evaluated to assure their readiness for the internship RCE:6321 Internship in Elementary School Counseling or RCE:6322 Internship in Secondary School Counseling, which requires assignment in approved schools for the fall and/or spring semesters.

The M.A. in rehabilitation and counselor education with a school counseling subprogram requires the following work.

Required Courses

The following schedule of required courses reflects a two-and-one-half year program of study. Students who do not have teacher licensure are required to complete the following courses in education: EPLS:3000 Foundations of Education, EDTL:4900 Foundations of Special Education, and PSQF:6200 Educational Psychology. Students who have completed the required courses should consult with their advisor regarding electives in order to fulfill the 60 s.h. requirement.

Code	Title	Hours
RCE:4137	Introduction to Educating Gifted Students	3
RCE:5200	Professional School Counselor	3
RCE:5202	Introduction to Group Counseling	3
RCE:5203	Career Development	3
RCE:5204	School Culture and Classroom Management for School Counselors	3
RCE:5221	Theories of Counseling and Human Development Across the Life Span	3
RCE:5222	Counseling Children and Adolescents in Schools	3
RCE:5230	School Counseling Program Leadership and Management	3
RCE:5250	Multiculturalism in Helping Professions	3
RCE:5254	Assessment and Appraisal	3
RCE:5278	Applied Microcounseling	3
RCE:6300	Practicum in School Counseling	3
RCE:6321	Internship in Elementary School Counseling	6
RCE:6322	Internship in Secondary School Counseling	6
RCE:6500	Research Methods in Counseling	3
EDTL:4940	Characteristics of Disabilities	3
Electives (consult advisor)		6
Total Hours		60

Comprehensive Examination

Students are required to take comprehensive exams for the departmental core and for school counseling during their final semester of internship. Comprehensive exams include a written six-hour exam in the departmental core and school counseling. An oral exam also is required unless waived by the comprehensive exam committee.

Admission

Applicants must meet the department's general admission requirements. They should have an undergraduate g.p.a. of 3.00 or higher. The department prefers that applicants have one year of teaching experience or successful experiences with children and/or adolescents, which they must document in a written statement. Graduate Record Exam (GRE) General Test scores must be on file at the University.

Applications are accepted for summer and fall entry and should be submitted by January 25th.

Rehabilitation and Counselor Education, Ph.D.

Maintaining Good Standing

Ph.D. students in the Department of Rehabilitation and Counselor Education must meet the following standards in order to remain in their degree programs and advance to candidacy and remain a candidate for a degree:

- maintain a g.p.a. of at least 3.00;
- successfully complete a practicum, internship, or equivalent professional experience;
- maintain professional behavior consistent with the ACA Code of Ethics (American Counseling Association) and any additional code of professional ethics adhered to in any agency in which a student completes a practicum or internship; and
- demonstrate progress toward the degree through successful completion of semester hours specified in the curriculum plan and active registration each session (exceptions may be approved by the advisor).

Each student's academic and professional progress is reviewed annually. A written report is provided to the student and a copy is placed in the student's department file.

Probational Status

Students who earn a cumulative g.p.a. lower than 3.00 are placed on probational status and are notified in writing. Students on probational status have two consecutive sessions to raise their grade-point average to the established standard. If that requirement is not met, a student may be removed from the program. Students are allowed one probational status during their program of study.

Standards

Upon completing a degree in the department, students are evaluated and are expected to have awareness, knowledge, and skills in the following areas:

- current definitions, professional standards, and appropriate professional practices regarding multiculturalism;
- what it means to be a multiculturally competent helping professional;
- integration of feedback into practice and professionalism in interpersonal interactions;
- personal limitations and strengths that could ultimately support or harm a client or student; and
- a personal plan for future practice in the field regarding multicultural relationships.

Requirements

The Doctor of Philosophy program in rehabilitation and counselor education with a counselor education and supervision (CES) subprogram requires 96 s.h. of graduate credit. The program provides students with knowledge and skills related to general counseling (including mental health and school counseling), teaching, consulting, supervising counselors, and conducting research. Graduates enter

professional work as counselors, counselor supervisors, counselor educators, researchers and/or consultants, or work in other positions requiring expertise in human relations. Students may choose an emphasis in an area agreed upon by faculty advisors.

Counselor education and supervision graduates are prepared to teach the knowledge and skills required of professional counselors and to supervise beginning and advanced counselors, perform counseling interventions with individuals and groups, and teach human relations skills in colleges or universities. They provide professional consultation with counseling practitioners, educators, and policy makers about counseling program development and evaluation. They also may perform research that contributes to knowledge about counseling, supervision, and counselor education.

The program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The American Counseling Association (ACA), the Association for Counselor Education and Supervision (ACES), and The National Council on Rehabilitation Education (NCRE) are the professional organizations most related to program activities.

Curriculum includes required courses in counseling, in research tools and applications, and a dissertation.

Most students complete their course work in three years and take a fourth year to complete the dissertation. Students who have not completed a master's degree program approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) may need to remedy deficiencies by taking appropriate course work at the master's degree level.

The Ph.D. in rehabilitation and counselor education with a counselor education and supervision subprogram requires the following work.

Required Courses

Code	Title	Hours
All of these:		
PSQF:6265	Program Evaluation	3
RCE:7255	Advanced Career Development and Counseling	3
RCE:7353	Advanced Counseling and Psychotherapy	3
RCE:7360	Advanced Practicum in Counseling (section 2)	3
RCE:7380	Internship in Teaching	3
RCE:7385	Teaching and Learning in Higher Education	3
RCE:7400	Seminar: Ethics and Issues in Counseling	3
RCE:7448	Integrated Developmental Theory and Counseling	3
RCE:7450	Advanced Social Psychology of Disability	3
RCE:7451	Advanced Multiculturalism	3
RCE:7454	Supervision Theory and Practice	3
RCE:7455	Internship in Supervision	3
RCE:7457	Seminar: Professional Orientation to Counselor Education and Supervision	3

RCE:7458	Seminar: Issues and Trends in Counseling Research	4
RCE:7459	Seminar: Leadership and Advocacy in Counselor Education and Supervision	3
RCE:7465	Internship in Clinical Practice (at least 240 hours)	3
At least one advanced course in psychological or educational measurement		3

Required Research Courses

Students must complete a specific sequence of research courses which include distributed course work in both qualitative and quantitative areas. They select from doctoral research courses listed under RCE Doctoral Research Requirements on the Department of Rehabilitation and Counselor Education website.

Elective Minor Area

Students can elect to take a series of courses, typically a minimum of three, outside the Department of Rehabilitation and Counselor Education (in consultation with a major and minor advisor) to enhance and support their teaching and research interests.

Master's Thesis Project or Equivalent

Students are required to submit a previously conducted master's thesis for faculty review and approval or to complete a new supervised experiential research project before taking comprehensive exams. Students without an approved M.A. or M.S. thesis enroll in the following.

Code	Title	Hours
RCE:6394	Research and Scholarship Internship	1-3

Comprehensive Examination

The comprehensive examination consists of an oral defense of a student's portfolio, which covers six professional competency domains in counselor education, and an exam on the minor area. The examination may be taken during a student's final semester of course work, which typically includes an internship.

Dissertation

The major research project culminating in the doctoral thesis may be on any topic related to counseling and counselor education. The thesis advisor and the examining committee approve the topic and procedures at a formal prospectus meeting. The final oral examination on the thesis is conducted by the examining committee. Students usually earn 10 s.h. for dissertation work, but in some instances they may earn up to 15 s.h. The dissertation committee must include at least two counselor education and supervision faculty members.

Code	Title	Hours
RCE:7493	Ph.D. Thesis	10-15

Admission

Admission

Applicants must meet the department's general admission requirements. In addition, applicants must provide evidence of successful experience in counseling or a closely related profession. Applicants without experience may be admitted if their credentials indicate exceptional strengths.

Applicants also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students may be admitted for fall, spring, or summer entry, but the department strongly advises application for fall entry. Consideration of applications begins January 15 for fall entry; all application materials should be received by this date.

Teaching and Learning

Chair

- Lia M. Plakans

Undergraduate majors: elementary education (B.A.); science education (B.S., granted by the College of Liberal Arts and Sciences)

Graduate degrees: M.A. in teaching and learning; M.A.T. in teaching and learning; M.S. in teaching and learning; Ph.D. in teaching and learning

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/teach>

Department of Teaching and Learning programs prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All licensure programs are approved by the Iowa Department of Education.

Undergraduate students pursuing a major in elementary education must meet the GE CLAS Core [p. 459] requirements.

Undergraduate students pursuing a major in science education must meet the College of Liberal Arts and Sciences requirements for the Bachelor of Science degree, including the GE CLAS Core [p. 459]; see the College of Liberal Arts and Sciences Academic Policies Handbook.

The Department of Teaching and Learning offers, or jointly administers with departments in the College of Liberal Arts and Sciences, advanced degree programs in the following fields of professional interest: art education; developmental reading; English education; foreign language, second language, and English as a Second Language education; language, literacy, and culture; mathematics education; music education; science education; social studies education; special education; STEM education; and teaching, leadership, and cultural competency.

The department offers graduate degree programs in three major areas: elementary education, secondary education, and special education.

Elementary education programs:

- art education (offered in the M.A. in teaching and learning);
- developmental reading (offered in the M.A. in teaching and learning);
- language, literacy, and culture (offered in the Ph.D. in teaching and learning); and
- teaching, leadership, and cultural competency (offered in the M.A. in teaching and learning).

Secondary education programs:

- art education (offered in the M.A. in teaching and learning);
- developmental reading (offered in the M.A. in teaching and learning);
- English education (offered in the M.A. and M.A.T. in teaching and learning);
- foreign language and English as a Second Language (ESL) education (offered in the M.A., M.A.T., and Ph.D. in teaching and learning);

language, literacy, and culture (offered in the Ph.D. in teaching and learning);

mathematics education (offered in the M.A., M.A.T., and Ph.D. in teaching and learning);

science education (offered in the M.S., M.A.T., and Ph.D. in teaching and learning);

social studies education (offered in the M.A. and Ph.D. in teaching and learning);

special education (offered in the M.A. and Ph.D. in teaching and learning);

STEM education (offered in the M.S. in teaching and learning); and

teaching, leadership, and cultural competency (offered in the M.A. in teaching and learning).

The secondary education area also collaborates with the College of Liberal Arts and Sciences to offer an education option for graduate students earning an M.S. in mathematics; an M.A. and Ph.D. in music with a concentration in music education; and a combined B.A./M.A.T. in teaching and learning with a science education subprogram for undergraduates majoring in biology, chemistry, environmental sciences, or physics. In addition, the area offers an ESL endorsement for individuals who are enrolled in a Department of Teaching and Learning graduate degree program or who are licensed in-service teachers.

In addition, the M.A. in music [p. 779] is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. The concentration in music education provides students with deeper insights into music, the theory and practice of music education, and the role of music in the school curriculum.

The Ph.D. in music [p. 781] with concentration in music education prepares students for teaching, research, and administrative posts. Graduates find employment as college teachers of music education classes and activities; as band, chorus, and orchestra directors; and as administrators of music departments and schools of music. Some apply their skills in public schools as music supervisors, research and curriculum consultants, and directors of city or district school music programs. Doctor of Philosophy students whose concentration is music therapy enroll in the Ph.D. program with concentration in music education. Modifications in the curricular requirements are made to reflect the professional knowledge and skills required for positions such as college teaching or advanced clinical or research positions in music therapy. Both programs are administered by the School of Music [p. 750] (College of Liberal Arts and Sciences) in cooperation with the College of Education.

Special education program:

- special education (offered in the M.A. and Ph.D. in teaching and learning).

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Programs

Undergraduate Programs of Study

Majors

- Major in Elementary Education (Bachelor of Arts) [p. 1261]
- Major in Science Education (Bachelor of Science) [p. 1265]

Graduate Programs of Study

Majors

- Master of Arts in Teaching and Learning [p. 1270]
- Master of Arts in Teaching in Teaching and Learning [p. 1274]
- Master of Science in Teaching and Learning [p. 1280]
- Doctor of Philosophy in Teaching and Learning [p. 1282]

TEP/Licensure

Undergraduate students must be admitted into the Teacher Education Program (TEP) to be able to register for certain courses, to participate in field experiences/practicums, and to student teach. The application for admission should be submitted to the College of Education Office of Student Services. The priority deadline for fall semester admission is March 1, with applications accepted on a rolling basis until May 1. The priority deadline for spring semester admission is October 1, with applications accepted on a rolling basis until December 1. The ideal time to apply is by the priority deadline, so that students who are admitted to the program can be cleared for advising and registration in a timely manner. Applications are only considered by the faculty when all requirements, including test score minimums, are complete. Faculty of each program area review applicants to their program. Some program areas may reach capacity for acceptance before the final deadlines. Applicants are notified of admission decisions by email following faculty review.

In order to be considered for admission, students must complete a minimum of 30 s.h. of earned college credit. A cumulative g.p.a. of 2.50 is recommended but not mandatory. Some subject areas have additional admission criteria. A limited number of applicants are accepted into each TEP, so a 2.50 g.p.a. does not ensure admission. Admission decisions are based on grade-point average in the major and other criteria relevant to teaching success.

The application process includes submission of an application form, a writing sample, two letters of recommendation, and an Iowa criminal history check request form. Applicants are required to submit PRAXIS Core test scores in mathematics, reading, and writing. Applicants must have a Praxis Core Test Designated Institution Score Report with minimum scores of 156 in reading, 162 in writing, and 150 in mathematics. Applicants also must provide verification that they have completed a 10-hour preadmission clinical experience in a K-12 classroom setting.

Students should consult a College of Education advisor in their program area or contact the Office of Student Services for more information on admission criteria.

Graduate students who apply to the Graduate College for a teacher licensure program must apply separately for admission to the TEP. Priority deadlines for application to

either program are October 1 or March 1 for admission to restricted course work in the following semester. Graduate and postbaccalaureate students may submit scores on the Graduate Record Exam (GRE) General Test instead of PRAXIS scores. Applicants must have a verbal reasoning and quantitative reasoning composite score of at least 300 on the revised GRE (at least 1080 on the old GRE) and an analytical writing score of at least 3.0.

A limited number of applicants are accepted into each Teacher Education Program, so meeting the Graduate College admission requirements does not ensure admission. Admission decisions are based on grade-point average in the undergraduate major and other criteria relevant to teaching. Upon admission to the TEP, students are assigned an education advisor.

Admission to Student Teaching

Admission to the student teaching semester requires a separate application. Applications must be submitted one year before the student teaching semester. Applicants' credentials and academic and professional progress are reviewed to ensure that a student is qualified for placement in the profession. Verification that a student meets all specific program area requirements is made when the student applies for student teaching.

Consult a College of Education advisor or the Office of Student Services for information about admission and requirements for student teaching in specific licensure programs.

Financial Support

A limited number of teaching assistantships are available for graduate students. Assignments vary. Some involve supervising undergraduate majors enrolled in practicums; some involve teaching sections of undergraduate methods courses and supervising student teachers; others consist primarily of research activities. Graduate assistants may register for a maximum of 12 s.h. of credit per semester, but they must register for at least 6 s.h. per semester.

All assistantships are awarded on a competitive basis. Applicants must have been admitted to regular status in the Graduate College and to an advanced program in the College of Education. For information about assistantships, consult the College of Education advisor in the appropriate field.

Courses

- Teaching and Learning Courses [p. 1246]
- Science Education Courses [p. 1260]

Teaching and Learning Courses

EDTL:1050 Opportunities in Education **2 s.h.**

Introduction for underrepresented students to the teaching profession and its widely varied opportunities; faculty, students, recipients of awards in education; tours of Iowa City schools; reflection on and personal integration of class learning experiences, consideration of future plans.

EDTL:1129 First-Year Seminar **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

EDTL:1133 Teaching as a Profession 1 s.h.

Teaching as a profession in the American education system; examining motivations to become a teacher; historical perspectives; social, legal, and ethical issues; examining career paths in the field of education.

EDTL:2000 Big Ideas: Creativity for a Lifetime 3 s.h.

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; integration of teamwork and opportunities for individual growth that allow for personal development; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, ASP:2000, RHET:2000.

EDTL:2073 Finding Your Comfort Zone: Secrets to Success 1 s.h.

Exploration of what students need to be successful and happy at the University of Iowa; insights into the unwritten "rules" of college life; student's questions answered and become more confident about how to gain a worthwhile learning experience and enjoy college life; students with disabilities or those interested in learning more about disabilities are encouraged to enroll.

EDTL:2122 Creativity, Imagination, Play, and Human Development through the Arts 3 s.h.

Theories related to human development and visual arts; use of visual arts to make meaning from experience; ways to integrate visual arts into everyday life; cognitive and physical processes involved in making, understanding, and looking at visual art through studio experiences; theories of cognitive development; role of visual art in education; introduction to art production, history, criticism, and aesthetics. GE: Literary, Visual, and Performing Arts.

EDTL:2210 Full STEAM Ahead: The Role of Art in Science, Technology, Engineering, and Math 3 s.h.

Examination of artists' contributions to STEM and how innovations in STEM have shaped art; readings from art history, historical texts, technological advances, and scientific, engineering, and mathematics journals; how a discovery in one area can have a ripple effect across fields, and how to make diverse connections to content areas in teaching and research.

EDTL:2821 Oral Interpretation 3 s.h.

Weekly performances to develop and define communication skills for professional careers in teaching and business; poetry, prose, monologue, storytelling, duo interpretation, reader's theatre, and demonstration speeches. Same as COMM:2821.

EDTL:2963 Monsters, Victims, and Villains: Changing Perceptions 3 s.h.

Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations; students gain skills necessary to create radical opportunities for and implementation of performances including individuals with disabilities in theatre, dance, and music; students from different backgrounds experience collaborative artistic excellence while redefining audience expectations; historic background for perceptions of disability. GE: Diversity and Inclusion. Same as THTR:2605.

EDTL:3001 Introduction to Museum Studies 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, MUSM:3001, SIED:3001.

EDTL:3002 Technology in the Classroom 2-3 s.h.**EDTL:3026 Workshop for Secondary School Journalism/Communication Teachers 1-3 s.h.**

Workshops on journalism/mass media curriculum, audio/video production, photojournalism, publication design, journalistic writing techniques, advising student publications. Same as JMC:3210.

EDTL:3059 Introduction to Education and the Regents Alternative Pathway to Iowa Licensure Program 4 s.h.

Foundational knowledge and understanding of educational practices for teacher intern candidates in the Regents Alternative Pathway to Iowa Licensure (RAPIL) program; topics include students as learners, the instructional process, and assessment. Requirements: admission to the RAPIL program.

EDTL:3060 Learning and Instruction for Today's Classrooms 4 s.h.

First course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

EDTL:3061 Instructional Planning, Strategies, and Assessment 4 s.h.

Fourth course in the Regents Alternative Pathway to Iowa Licensure program. Prerequisites: EDTL:3059 and EDTL:3060. Requirements: admission to the RAPIL program.

EDTL:3062 Learning Communities 3 s.h.

Fifth course in the Regents Alternative Pathway to Iowa Licensure program. Prerequisites: EDTL:3059 and EDTL:3060 and EDTL:3063. Requirements: admission to the RAPIL program.

EDTL:3063 Creating Classrooms Conducive to Teaching and Learning 3 s.h.

Third course in the Regents Alternative Pathway to Iowa Licensure program. Prerequisites: EDTL:3060 and EDTL:3059. Requirements: admission to the RAPIL program.

EDTL:3064 Intern Seminar on Critical Issues in Education 3 s.h.

Sixth course in the Regents Alternative Pathway to Iowa Licensure program. Prerequisites: EDTL:3062 and EDTL:3063 and EDTL:3059 and EDTL:3060 and EDTL:3061. Requirements: admission to the RAPIL program.

EDTL:3065 Methods in Teaching in the Secondary Classroom 3 s.h.

Learn, identify, and implement effective content-specific secondary teaching methods with focus on active student engagement; students develop and enhance instructional planning/pedagogy with special emphasis on content-specific secondary teaching methods, including reading in content area; describe and implement process of pre-, formative, and summative assessment strategies, appropriately aligning them in the instructional design of secondary content lessons; taking specific steps toward improving professional dispositions. Prerequisites: EDTL:3060 and EDTL:3061 and EDTL:3062 and EDTL:3063.

EDTL:3071 Secondary Classroom Management 2-3 s.h.

Characteristics of the classroom environment and their implications for organization and management; concepts and principles teachers can use when thinking about managerial tasks in the classroom; for prospective middle and secondary school teachers. Prerequisites: EDTL:3090. Requirements: admission to TEP.

EDTL:3090 Orientation to Secondary Education 1 s.h.

Overview, including options for student teaching, classroom observation, lesson planning, classroom management, performance indicators, INTASC standards, blood borne pathogens, professional ethics.

EDTL:3091 Secondary Education Program Orientation and Classroom Management 1,3 s.h.

Overview including opportunities, policies and procedures, requirements and expectations, and services associated with the Teacher Education Program; characteristics of the classroom environment and their implications for organization and management; concepts and principles teachers can use when thinking about managerial tasks in the classroom; for prospective middle and secondary school teachers.

EDTL:3095 Teaching Reading in Secondary Content Areas 1,3 s.h.

Integration of reading strategies into secondary content areas for teacher candidates in secondary education.

EDTL:3103 Assessment for Instructional Planning and Practice 3 s.h.

Fundamentals of using assessment data to make instructional planning decisions that preservice educators need in their advanced course work and classrooms; practical application with curriculum-based procedures; emphasis on classroom-based procedures used to make educational decisions to plan instruction for students, particularly those who are experiencing academic difficulty. Requirements: admission to TEP.

EDTL:3114 Parent-Child Relationships 3 s.h.

Roles and relationships within and between families, culture, society; identify (family) resources and concerns based on children's development, abilities.

EDTL:3120 Methods and Materials: Music for the Classroom Teacher 2 s.h.

Development of music skills, techniques, knowledge of methods and materials for teaching music to young children; for elementary education majors. Requirements: admission to TEP.

EDTL:3123 Reading and Responding to Children's Literature 3 s.h.

Reading and teaching of children's literature; becoming more knowledgeable readers of children's literature; using children's literature in elementary classroom for aesthetic, personal, social, and critical purposes; wide range of literary texts in different genres and multiple ways readers might experience these texts given particular teaching approaches; ways in which readers interact with texts and with each other to make meaning as they read and discuss literature. Requirements: admission to elementary TEP.

EDTL:3127 Methods and Materials: Physical Education, Health, and Wellness 2-3 s.h.

Methods, curriculum. Requirements: admission to TEP.

EDTL:3130 Adaptive Physical Education for the Elementary Classroom Teacher 2 s.h.

Create and deliver quality, inclusive physical education for students with mental, physical, or emotional disabilities; identify and evaluate the needs of disabled students, plan units and lessons with appropriate modifications for all learners, write an IEP, comply with IDEA in a physical education setting. Prerequisites: EDTL:3127.

EDTL:3131 Movement Education 2 s.h.

Movement education as a basis for psychomotor and cognitive development in children; summary of basic growth and motor development; in-depth instruction on theory and application of movement education curriculum, and practice on design and execution of movement education lessons.

EDTL:3139 American Government and Civics for the Elementary Classroom Teacher 3 s.h.

Foundations and processes of American government as related to development of civic literacy in elementary students and their teachers; founding documents, legal precedents, social and economic changes throughout American history; research-based teaching and learning processes from social studies education. Requirements: admission to TEP.

EDTL:3141 Elementary School Mathematics: Number and Operations 3 s.h.

Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen number and operations content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing number and operations concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

EDTL:3142 Elementary School Mathematics: Geometry and Measurement 3 s.h.

Problem-solving approach to current trends in math education; current math content knowledge assessed at start and end of course; opportunities to strengthen geometry and measurement content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing geometry and measurement concepts and skills; research-based pedagogical strategies that help children in elementary school develop math concepts and procedures. Requirements: admission to TEP.

EDTL:3143 Methods of Elementary Art and Field Experiences 3 s.h.

Application of studio methods to teaching children in Saturday Children's Art Class Program. Same as ARTE:3143.

EDTL:3146 Elementary School Mathematics: Data/Probability and Algebra 3 s.h.

Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen data analysis/probability and algebra content knowledge; how grade K-5 children think about and learn math; core ideas of learning, teaching, planning, and assessing data/probability and algebra concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

EDTL:3154 Teaching and Learning in the Earth Sciences 3 s.h.

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of earth sciences; essential concepts in earth sciences; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EDTL:3002 and EDTL:3190. Requirements: admission to TEP.

EDTL:3158 Teaching and Learning in the Biological Sciences 3 s.h.

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of biological sciences; essential concepts in biological sciences; instruction to promote learning of essential concepts; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EDTL:3190 and EDTL:3002. Requirements: admission to TEP.

EDTL:3159 Teaching and Learning in the Chemical/Physical Sciences 3 s.h.

Meaningful and practical learning experiences that foster elementary science learning environments and engage learners in scientific practices and understanding of physical sciences; essential concepts in physical sciences; instruction to promote student learning of essential concepts; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EPLS:3000 and PSQF:1075 and EDTL:3190 and EDTL:3002. Requirements: admission to TEP.

EDTL:3160 Literacy Learning and Teaching I 3 s.h.

Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades K-3; for preservice elementary teachers. Prerequisites: EDTL:3190 and EDTL:3002. Requirements: admission to elementary TEP.

EDTL:3161 Social Studies for the Elementary Classroom Teacher 3 s.h.

Individual growth and change due to environment, economy, and technology; focus on developing teacher's understanding of social and behavioral sciences and how they relate to geography, history, and government in student's growth toward democratic citizenship; emphasis on need to develop intellectually stimulating curricula based on Iowa Core in behavioral science; lesson and curriculum development from research-based best practices in teaching social studies and driven by Iowa Core goals and objectives; technology as a teaching tool and focus of investigation in today's society. Prerequisites: EDTL:3002 and EDTL:3190. Requirements: admission to elementary TEP.

EDTL:3163 Methods: Elementary School Mathematics 2-3 s.h.

Content; techniques of teaching and means of assessment for K-6 mathematics. Prerequisites: EDTL:3190 and EDTL:3002. Corequisites: EDTL:3170 and EDTL:3174. Requirements: admission to TEP.

EDTL:3164 Literacy Learning and Teaching II 3 s.h.

Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades 3-6; for preservice elementary teachers. Prerequisites: EDTL:3190 and EDTL:3002. Requirements: admission to elementary TEP.

EDTL:3165 Elementary Science Methods I 3 s.h.

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of biological and chemical sciences; essential concepts; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment.

EDTL:3166 Elementary Science Methods II 3 s.h.

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of physical and earth/space sciences; essential concepts; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment.

EDTL:3168 History for the Elementary Classroom Teacher 3 s.h.

Development of historical literacy in elementary students and their teachers; connecting children to the past using family histories; interactions and patterns in world history; diverse perspectives in U.S. history; using primary sources to investigate state and local history. Requirements: admission to TEP.

EDTL:3170 Elementary Classroom Management 1-3 s.h.

Activities, techniques, strategies, theories related to effective classroom management. Prerequisites: EDTL:3190 and EDTL:3002. Corequisites: EDTL:3163 and EDTL:3174.

EDTL:3172 Elementary Reading Practicum 3-4 s.h.

Experience in teaching literacy to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 and EDTL:3190.

EDTL:3174 Elementary Math Practicum arr.

Experience in teaching mathematics to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 and EDTL:3190. Corequisites: EDTL:3163 and EDTL:3170.

EDTL:3175 Elementary Social Studies/Science Practicum 2 s.h.

Experience in teaching social studies and science to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; mentoring and support from supervisor with classroom experience at practicum site; onsite practicum experiences preceded by on-campus seminar with practicum coordinator and supervisors; assignments designed to enrich and augment onsite experiences and tied to student's current methods courses; for preservice teachers. Requirements: admission to TEP.

EDTL:3180 Drama in the Classroom 3 s.h.

Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as THTR:3610.

EDTL:3190 Orientation to Elementary Education 1-2 s.h.

Overview of elementary education expectations, including options for student teaching; classroom observation, lesson planning, performance indicators, INTASC standards, classroom management, information about mandatory child abuse reporting, blood-borne pathogens, professional ethics.

EDTL:3204 Art Education Studio and Field Components 3 s.h.

Art training related to processes of elementary and secondary school art teaching; studio methods applied to teaching children and adolescents. Requirements: concurrent enrollment in EDTL:3290 for Teacher Education Program student.

EDTL:3205 Methods of Secondary Art and Field Experience 3 s.h.

Art education theory and methods at secondary levels; art curriculum, unit, and lesson planning; evaluation, motivation, instructional materials; observational techniques.

EDTL:3212 Tasting Art: How the Senses Enhance Our Experience of Art 3 s.h.

Investigates how artists initiate sensory reactions in viewers through close looking at objects, careful reading of historical and contemporary texts, and producing art; examining how diverse fields such as social studies, science, math, literature, psychology, philosophy, and cultural studies have informed artists' interpretations of their environments; how to bring art into a variety of content areas to enrich the learner's understanding; how to analyze art, art history, art criticism, aesthetics, and art production.

EDTL:3215 The Museum of Today and Tomorrow: How Museums Enhance the K-12 Classroom 3 s.h.

What do museums have to offer teachers? How are they relevant to social studies, math, English, and science teachers? Students are put in charge of answering these questions and build their knowledge about art and innovative teaching strategies in the K-12 classroom and museum, practice designing lessons around a work of art, and apply their knowledge about art and curriculum into interactive online modules; students work directly with art on campus in the Lindquist Art Collection in the College of Education and the University of Iowa Museum of Art. Same as MUSM:3215.

EDTL:3290 Introduction and Practicum: Art 2-3 s.h.

Practice of learning from an experienced art teacher in an art classroom and setting; observations in an art classroom side-by-side with experience and insight gained through participating and teaching in the Saturday Art Workshop Program. Requirements: admission to TEP.

EDTL:3375 Teaching and Performing Shakespeare 3 s.h.

Students work through Shakespeare's most frequently taught plays—*Romeo and Juliet*, *Macbeth*, *A Midsummer Night's Dream*, *Hamlet*, and *The Tempest*—by focusing on various learning strategies and resources; each play is taught in a different method, using a different edition, and through distinct teaching resources, most notably on the difference between the page (close reading, archival skills, historical analysis) and the stage (watching, reviewing, and, most importantly, producing drama).

EDTL:3382 Language and Learning 2-3 s.h.

How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3190.

EDTL:3393 Reading and Teaching Adolescent Literature 3 s.h.

Reading and evaluation of literature suitable for junior and senior high school students. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3191.

EDTL:3532 Introduction and Practicum: Mathematics 3 s.h.

Experience designing and teaching lessons with varied instructional intent and use of multiple instructional strategies; study and practice methods of managing classroom learning environment; significant time spent in cooperating schools, on-campus meetings. Requirements: admission to TEP.

EDTL:3534 Methods: Middle School Mathematics 3 s.h.

Subject matter content, teaching and assessment techniques for grades 5-9 math; how students learn mathematics; mathematics curricular planning for all students.

EDTL:3605 Instrumental Techniques 2 s.h.

Same as MUS:3605.

EDTL:3610 Introduction and Practicum: Music 2 s.h.

Experience observing and assisting music teachers and students in elementary or secondary schools; six hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

EDTL:3620 Methods and Materials: General Music 3 s.h.

Methods for teaching general music in elementary and secondary schools. Prerequisites: EDTL:3002 and EDTL:3610.

EDTL:3635 Instrumental Conducting 3 s.h.

Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: MUS:3625. Same as MUS:3635.

EDTL:3640 Choral Methods 3 s.h.

Organization, implementation of effective choral music programs for all ages. Same as MUS:3640.

EDTL:3645 Choral Conducting and Literature 3 s.h.

Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under EDTL:3645. Prerequisites: MUS:3625. Same as MUS:3645.

EDTL:3650 Instrumental Methods and Materials 3 s.h.

Elementary and secondary instrumental music methods course required for K-12 music teacher certification. Same as MUS:3650.

EDTL:3905 Teaching Deaf and Hard of Hearing Students 3-4 s.h.

Issues in d/Deaf education; management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in English and/or American Sign Language. Requirements: for 4 s.h. option—concurrent enrollment in ASL:2002, if not taken as a prerequisite. Same as ASLE:3905.

EDTL:3915 Introduction: Strategist I (Elementary) 1-2 s.h.

Teaching students with mild disabilities in elementary resource placements; current trends and issues, basic and theoretical approaches, implications of federal and state statutes, multidisciplinary team approaches to providing appropriate educational programming; students complete a practicum with an elementary special education teacher. Requirements: admission to TEP.

EDTL:3963 Inclusive Theatre 3 s.h.

Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations. Same as THTR:3605.

EDTL:3976 Reading Intervention for Students At Risk 3 s.h.

Reading instructional approaches for students at risk for, or with reading disabilities; students enrolled in lab apply content while working with a reading disability student; use of effective teaching principles and research-based practices for designing and delivering instruction in reading (including oral and silent reading), vocabulary development, reading fluency, comprehension. Requirements: admission to TEP.

EDTL:4021 Science for High Ability Students 1 s.h.

Unique challenges and opportunities confronted by teachers of students with above average ability and interest in science; theory and practice; development of program outlines for science programs.

EDTL:4022 Math Programming for High Ability Students 1 s.h.

Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as PSQF:4122.

EDTL:4024 Differentiating Projects with Technology 1 s.h.

Use of digital tools to enrich student presentations; PowerPoint slide shows, presentations uploaded to World Wide Web, interactive multimedia presentations via HyperStudio.

EDTL:4025 Differentiated Instruction for the Gifted 1 s.h.

Program options for K-12 gifted students; student abilities and needs linked with various curriculums; case studies, school materials.

EDTL:4026 Reading for High-Ability Students 1 s.h.

Purposes and methods of reading instruction, with focus on developmentally appropriate needs of high-ability readers; genres of literature, enriched and accelerated reading curricula, role of reading in social and emotional development of gifted students.

EDTL:4028 Differentiating through Advanced Technology 1 s.h.

Multimedia and web-based tools and utilities that enrich classroom learning and facilitate presentations made by technologically advanced students; production and editing of digital video, computer graphics, advanced web-publishing and communication techniques; skill development.

EDTL:4029 Developing Leadership Skills for Gifted and Talented Students, K-12 1 s.h.

EDTL:4032 Middle School Curriculum and Methods 3 s.h.
Junior high and middle school development compared; characteristics of exemplary programs, disciplinary and interdisciplinary trends; variety of teaching methods (group and individual); hands-on activities. Requirements: admission to TEP.

EDTL:4065 Social Studies for High-Ability Learners 1-2 s.h.

Intersection of unique challenges presented by talented students and challenges of designing, implementing, and assessing quality inquiry-based social studies instruction; background in social studies or social studies education not required.

EDTL:4066 Curriculum Concepts in Gifted Education 3 s.h.

Analyzing and refining understanding of curriculum in context of: needs of gifted and talented students, rationale for and implementation of curriculum differentiation, and curriculum principles for and applications to gifted and talented; designed for preservice and inservice educators, as well as those interested in curriculum development, design, and delivery.

EDTL:4067 Conceptions of Talent Development 3 s.h.

Students review conceptions of talent development and explore possibilities for appropriate programming in specific fields across various stages in life; traditional opportunities in gifted education programs; stages of development in early childhood; development of knowledge and skills in addition to and beyond organized educational programs.

EDTL:4072 Thinking Skills 1 s.h.

Factors involved in teaching thinking skills as a total concept; the relationship of critical and creative thinking; review of published programs.

EDTL:4073 Programming/Curriculum for High Ability Students 1 s.h.

Programming and curriculum for K-12 students identified as gifted or highly able; in-class differentiations, special projects for pull-out programs, facilitating research projects, mentoring in advanced programming.

EDTL:4074 Differentiation at the Secondary Level 1 s.h.

Importance of differentiation for gifted learners in middle school and high school; differentiation through advanced placement programs as well as broader perspectives on differentiation; essentials for differentiation understood and applied to a lesson that will be implemented with students.

EDTL:4081 ePortfolio Design and Production 1-2 s.h.

Experience producing an ePortfolio and uploading it to the internet; practical experience using digital tools, content and design related to ePortfolio production; experience using a web browser, accessing the internet, and using a digital camera or scanner. Requirements: able to perform basic computer functions and use a World Wide Web browser. Same as EALL:4081, EPLS:4081, PSQF:4081, RCE:4081.

EDTL:4085 Current Readings and Research in Gifted Education 1 s.h.

Research in the field of gifted education and talent development; applications of research to ensure best practices in providing services and programs for high-ability learners.

EDTL:4087 Seminar: Curriculum and Student Teaching 1-3 s.h.

Discussions, role-playing, group and individual reports, analysis of critical incidents, classroom management, videotapes of student classroom performance pertinent to participants' student teaching experiences. Requirements: student teaching.

EDTL:4089 Elementary School Special Subject Area Student Teaching arr.

Supervised teaching experience in a single subject in grades 1-6.

EDTL:4091 Observation and Laboratory Practice in the Secondary School arr.

Student teaching experience in performing the duties of regular classroom teachers under supervision of experienced personnel in secondary schools.

EDTL:4092 Observation and Laboratory Practice in the Secondary School arr.

Continuation of EDTL:4091.

EDTL:4096 Topics in Teaching and Learning arr.**EDTL:4137 Introduction to Educating Gifted Students 3 s.h.**

Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as RCE:4137.

EDTL:4153 Gifted and General Education Collaboration 1 s.h.

Need for differentiated learning experiences throughout the school day for gifted students; how classroom teachers and gifted/talented resource teacher collaborate to provide appropriate instructional services to gifted students; collaborative models, planning process, and recommendations for both direct and indirect services. Requirements: internet access.

EDTL:4171 Diversity and Exceptionalities in Literacy Instruction 3 s.h.

Elaborates on content from EDTL:3160 and EDTL:3164; issues in theoretically sound reading and writing assessment, instruction in K-8 classrooms where local, state, and national goals play increasing roles; reading and writing processes; teaching and learning of reading and writing; focus on role of language and conversation in learning, content area reading instructional strategies, classroom-based reading and writing assessment, special issues in teaching, and learning with textbooks. Prerequisites: EDTL:3190 and EDTL:3002.

EDTL:4187 Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar 3 s.h.

Provides student teachers with a structured, consistent forum to critically examine and engage in professional dialogue related to the process of becoming a teacher; draws on personal classroom experiences as well as theories and ideas about education studied throughout the teacher education program; guided by the InTASC Model Core Teaching Standards and the Iowa Teaching Standards, students study and discuss principles of effective teaching practice that lead to improved student achievement; as students work through components of planning, instruction, assessment, and lesson reflection, they complete a Teacher Performance Assessment (edTPA). Requirements: elementary education major in student teaching semester.

EDTL:4188 Practicum in Teaching and Curriculum Development in Gifted Education 1-6 s.h.

Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as RCE:4188.

EDTL:4189 Practicum in Gifted/Talented Education 1 s.h.

Experience developing course materials for classes offered through the Belin-Blank Center for Gifted Education.

EDTL:4190 Supervised Teaching in the Elementary School: Interactive Phase arr.

Student teaching at the elementary level (K-9). Corequisites: EDTL:4091. Requirements: application to the Office of Teacher Education and Student Services.

EDTL:4191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase arr.

Corequisites: EDTL:4190. Requirements: application to the Office of Teacher Education and Student Services.

EDTL:4192 Special Area Student Teaching arr.

Supervised teaching and observation in specific areas of elementary curriculum.

EDTL:4193 Independent Study arr.

Requirements: senior standing.

EDTL:4199 Program Models in Gifted Education 3 s.h.

Development and refinement of preservice and inservice educators' understanding of academic programs; needs of gifted and talented students, including diverse and often underrepresented groups of students; rationale for and implementation of a comprehensive program model for gifted students. Requirements: internet access.

EDTL:4210 Museum Without Walls: Museum, Art Education, and Community Engagement in the Digital Age 3 s.h.

Collaborative work to recreate one exhibition from the University of Iowa Museum of Art that took place before the flood of 2008; creation of content that contributes to a virtual museum experience; introduction to digital tools commonly used in design of exhibitions; recreation of historical exhibitions based on documentary photographs in museum and University archives and research on the premise of the exhibition and objects on view; how digital artifacts might be used in different contexts; use of museum and digital environments as labs for lifelong and distance learning. Same as INTM:4210, MUSM:4210.

EDTL:4220 The Avant-Garde at the University of Iowa 3 s.h.

In 1968, the intermedia program was established in the School of Art and Art History as one of the first art programs that deliberately brought studio training and a range of other academic and performance disciplines together in order to foster new experimental practices; the UI also is home to the International Dada Archive and Research Center, established in 1979; using resources of the UI library and museum, students examine the ways avant-garde ideas enter into everyday life, and how radical ideas come to shape, transform, and activate new ways of learning today.

EDTL:4314 Introduction and Practicum: Secondary English 3 s.h.

Experience observing and assisting English or speech teachers and students in secondary schools; 12 hours per week in the school plus on-campus class meetings.

EDTL:4315 Learning to Teach Secondary English/Language Arts and Field Experience 3 s.h.

Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: EDTL:4314. Same as ENGL:4810.

EDTL:4355 Approaches to Teaching Writing 3 s.h.

Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as CNW:4355.

EDTL:4392 Voice, Drama, and Debate in the Secondary Schools 3 s.h.

Introduction to elements of classical and contemporary rhetoric, the art of debate, oral interpretation and public speaking, dramatic methods in the classroom, and theater management; important issues and vocabulary of drama and debate including literary, theatrical, pedagogical, and sociohistorical concepts and terms; importance of classical rhetorical strategies and their relevance in the political realm; students work through drama, the creative process of playwriting, acting, designing, and staging a play.

EDTL:4393 Critical Media Studies and Production in Secondary Schools 3 s.h.

Introduction to teaching media in secondary schools; preparation to teach critical media literacy, media law and ethics, forms of journalism writing, and production process; emphasis on essential role of media in a democratic society; exploration of instructional strategies and organization practices to guide secondary students to think critically as media consumers and producers; students write and produce their own texts and experience processes to strengthen understanding of learning standards for secondary media students—communication, collaboration, creativity, and critical thinking.

EDTL:4394 Secondary Reading Instruction 2-3 s.h.

Methods and materials used in teaching developmental reading in all junior and senior high school content areas. Prerequisites: EDTL:4314.

EDTL:4406 Foreign Language Education Practicum I 3 s.h.

Skill development for teaching languages in the early grades; curriculum design, test creation, microteaching with inservice teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4416.

EDTL:4407 Foreign Language Education Practicum II 3 s.h.

Practice in lesson design, classroom management techniques, evaluation skills during work with inservice foreign language teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4417.

EDTL:4410 Teaching K-12 Second Language Learners 3 s.h.

Second language learning and teaching in the multicultural classroom; influence of school setting, societal context. Requirements: admission to TEP.

EDTL:4416 Learning to Teach Second Languages I 3 s.h.

Approaches, methods, and techniques of teaching the modalities of listening, speaking, reading, and writing in a second language. Corequisites: EDTL:4406.

EDTL:4417 Learning to Teach Second Languages II 3 s.h.

Curriculum design, classroom management, student evaluation, technology, using context to teach culture in second languages. Prerequisites: EDTL:4410 or EDTL:6483. Corequisites: EDTL:4407.

EDTL:4418 ESL Practicum I 4 s.h.

Skill development for teaching English as a second language; curriculum design, test creation, microteaching with inservice teachers.

EDTL:4465 Methods: Teaching English as a Foreign Language 3 s.h.

Explores approaches, methods, and practices in teaching English as a foreign language; history of language teaching approaches as well as cutting-edge innovations; all four skill areas are covered (speaking, listening, reading, writing); ethical issues concerning linguistically diverse learners and the impact of English language policies around the world; students will develop skills in teaching approaches for English Language Learners (ELLs), including lesson and unit planning and materials evaluation and adaptation.

EDTL:4467 Methods: ESL and Bilingual Education 4 s.h.

Exploration of approaches, methods, and practices in teaching English to speakers of other languages in K-12 school settings; communicative and content-based approaches to language learning with practical application of theory and research; issues concerning linguistically diverse learners covered with pedagogical implications; skills in teaching approaches for English language learners; lesson and unit planning, materials evaluation and adaptation, and assessment for placement, diagnosis, exit, and evaluation of English language learners.

EDTL:4468 Instruction of English Language Learners for K-12 Classrooms 3 s.h.

Preparation to work with English Learners (ELLs) in K-12 settings; dramatic increase in this population over recent decade; need for teachers to understand sociocultural and linguistic challenges faced by ELLs and their families; proficiency in instructional and differentiation strategies for instructing ELLs; ELL variation and cultural considerations, English language development standards, second language teaching and learning, differentiation for ELLs, effective practice for ELL instruction and assessment; for students in teacher preparation program.

EDTL:4498 Language Structure for Teaching English Language Learners 4 s.h.

Exploration of theory, rules, and examples to gain practical understanding of the system of language structure; focus on working with English language learners from a variety of first language backgrounds in educational settings; principles of discourse, phonology, morphology, syntax, pragmatics, and semantics that build a framework for discussion of applications and analysis of student and teacher language; address English language learners' development in P-12 settings; strategies to evaluate learner language; increase awareness of language challenges for English language learners that can occur in spoken and written educational instruction and materials. Requirements: admission to TEP.

EDTL:4535 Methods: High School Mathematics 3 s.h.

Subject matter content, teaching and assessment techniques for grades 9-12 math; how students learn mathematics; mathematics curricular planning for all students. Prerequisites: EDTL:3534.

EDTL:4565 Mathematics in Management and Social Sciences 3 s.h.

Various real life applications of modern mathematics including management, decision making, issue of optimization, methods for optimal scheduling, voting methods, game theory, error checking, and other related strategies.

EDTL:4630 Psychology of Music 2-3 s.h.

Cognition of music, affective response, aesthetic response, musical ability. Same as MUS:4630.

EDTL:4640 Introduction to Music Research 2-3 s.h.

Preparation for conducting research on music behavior.

EDTL:4751 Science Methods I: Early Learners with Field Experience 3 s.h.

Introduction to students, schools, the purpose of schooling children in science, learning theories, science curricula, contemporary science education issues, effective science teaching.

EDTL:4752 Science Methods II: Junior High with Field Experience 3 s.h.

Developing, writing, and orally defending a robust research-based framework for teaching science that includes student goals, student actions, content, materials, activities, teaching behaviors and strategies, contemporary learning theories, self-evaluation. Prerequisites: EDTL:4751.

EDTL:4753 Science Methods III: High School with Field Experience 3 s.h.

Articulating, experiencing, practicing a research-based framework for teaching science in the real world of students, schools, teaching. Prerequisites: EDTL:4752. Corequisites: EDTL:4779.

EDTL:4779 Secondary School Science Practicum arr.

Supervised teaching experience in a single subject; secondary school setting.

EDTL:4811 Introduction and Practicum: Secondary Social Studies 3 s.h.

Experience observing and assisting social studies teachers and students in secondary schools; nine hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

EDTL:4870 Methods: Secondary Social Studies 3 s.h.

Analysis of the teaching-learning process; organization of social studies content for teaching purposes; evaluation of learning procedures and new strategies; practicum work includes microteaching, computer-assisted modules, lesson plan development, writing test items.

EDTL:4876 Advanced Methods for Teaching and Learning in a Culturally Responsive Classroom 3 s.h.

Multiculturalism and equity issues in education that support development of resources and lesson activities to appeal to a diverse student body; asynchronous online course for educators in all disciplines who are pursuing licensure or currently teaching in a K-12 classroom, advanced technological literacy not required. Eight weeks. Requirements: successful completion of a methods course in K-12 licensure program.

EDTL:4900 Foundations of Special Education 3 s.h.

Students with disabilities, gifted and talented; strategies for effective treatment, collaboration between regular and special education teachers; remediation of academic, behavioral, social problems.

EDTL:4921 Transition and Related Issues 3 s.h.

Curriculums, programs, and delivery systems that help persons with disabilities move from preschool to elementary, elementary to middle school, middle school to high school, and to postsecondary life; emphasis on ecological and task analysis, transition planning strategies, interagency collaboration, self-determination, access to resources and support services.

EDTL:4922 Supervised Teaching: Elementary Strategist I 6 s.h.

Student teaching at the elementary level in a program for students with mild to moderate disabilities. Requirements: elementary education major.

EDTL:4934 Parent-Teacher Communication 1-3 s.h.

Realities of working with parents; interpersonal skills; options for parent support services. Same as PSQF:4134.

EDTL:4936 Home/School/Community Partnerships 3 s.h.

Issues related to collaboration among families, educators, community members in implementing school programs. Same as PSQF:4136.

EDTL:4940 Characteristics of Disabilities 3 s.h.

Etiologies of mild/moderate disabilities; current educational trends; educational alternatives; importance of multidisciplinary team; psychological and social-emotional characteristics of individuals.

EDTL:4950 Behavioral and Social Interventions 3 s.h.

Individual behavioral management, behavioral change strategies, and social interaction strategies, methods, and techniques for individuals with exceptional learning needs.

EDTL:4967 Integrated Disability Studies Practicum 1-3 s.h.

Hands-on, interactive experience to learn what is involved in working with young adult students with multiple learning and cognitive disabilities; four whole-group classroom sessions and required attendance at one UI REACH course.

EDTL:4975 Explicit Instruction 3 s.h.

Empirically supported methods for teaching reading and mathematics K-12 to students with mild-moderate disabilities; assessment and curricular adaptations to individual needs.

EDTL:4982 Instructional Decision Making in Education 3 s.h.

Overview of and practical application with curriculum-based procedures for assessment and evaluation; classroom-based measures to make educational decisions for instruction of students, particularly those experiencing academic difficulty.

EDTL:4983 Academic and Behavioral Strategies for Students with Learning Disabilities and Behavioral Disorders 3 s.h.

Merge theory and practices for assessing, planning interventions, delivering instruction, and monitoring progress for individuals who have learning disabilities and emotional/behavioral disorders.

EDTL:4984 Academic Skills for Students with Special Needs 3 s.h.

Introduction to appropriate methodology for teaching academic skills to students with significant learning difficulties; how to teach students effectively regardless of the label that might be applied to them or the setting to which they might be assigned; effective application of classroom-based measurement, curriculum development, and instructional strategies for teaching academic skills to education students with special needs.

EDTL:4987 Introduction to Assistive Technology 3 s.h.

How assistive technology can be used for attainment of goals in education or work. Same as RCE:4187.

EDTL:4990 Interdisciplinary Issues in Disabilities 1-3 s.h.

Critical issues related to interdisciplinary delivery of services to persons with developmental disabilities; observation and participation in staffing and consultation; opportunity for related community experiences.

EDTL:5055 Academic Writing Workshop 3 s.h.

Drafting and workshopping academic papers including dissertations, proposals, manuscripts, conferences, and courses; discussions center on cross-disciplinary perspectives about academic writing processes and discourses; rhetorical considerations in academic writing; audience and readership within and across disciplines; clear and effective communication of data; writing choices, styles, and tones; students set writing goals and projects.

EDTL:5080 Workshop: Teacher Training for Advanced Placement Courses 1-2 s.h.

Focus on a particular academic content area.

EDTL:5083 Diagnostic Reading Instruction 3 s.h.

Examination of research, policies, and practices related to reading assessments and intervention for school-aged children and adolescents; key focus on translating theoretical foundations of reading into practice of designing targeted interventions for students with varying strengths and weaknesses in core reading components; activities provide an understanding of underlying principles of diagnostic reading instruction and field-based practice in administering, scoring, and interpreting reading assessments; making data-based decisions about instruction for individual and small groups of students. Requirements: admission to M.A. in teaching, leadership, and cultural competency program.

EDTL:5085 Generation Innovation: Technology Integration in 21st-Century K-12 Schools 3 s.h.

Exploration of the technology that shapes 21st-century U.S. schools, curriculum, and teacher professional development; examination of ways in which technology integration and use shapes student learning and identity development. Requirements: admission to M.A. program in teaching, leadership, and cultural competency.

EDTL:5090 Diversity and Identity in K-12 Schools 3 s.h.

Advanced seminar on diversity- and identity-related issues in K-12 education for practicing teachers and K-12 professionals; students engage in regular self-evaluation of practices and develop deeper understanding of racism, sexism, classism, and other forms of oppression as they relate to the practices of K-12 teachers and schools; curricular and pedagogical decision making, relative to impact on student identity. Requirements: admission to master's in teaching, leadership, and cultural competency program.

EDTL:5091 LGBTQ Topics in Education 3 s.h.

In spite of many challenges that lesbian, gay, bisexual, transgender, and queer-identified youth experience in U.S. K-12 schools, queer youth demonstrate agency and action as they create positive spaces and community for their identities; examination of the intersection of policy and practice with respect to queer identities at all levels of K-12 education; history of queerness in the U.S. with focus on the creation of the concept of compulsory heterosexuality and the manner in which this concept is reinforced in K-12 schools.

EDTL:5093 Teaching and Learning for a Global Perspective 3 s.h.

Examination of conceptualizations and themes, along with theories, strategies, and resources that can inform teaching and learning for global competence education in all disciplines; teaching for prejudice reduction and education for informed and responsible global citizenship; creation of a standards-based curriculum project; designed for practicing teachers.

EDTL:5095 Issues in U.S. Schools 3 s.h.

Addresses critical questions facing American public schools—governance, finance, and policy structures that have influenced teaching and learning in public schools; particular emphasis on disproportionate access and privilege within the institutions that comprise and support public schooling. Requirements: admission to the M.A. in teaching, leadership, and cultural competency program.

EDTL:5099 Capstone: Teaching, Leadership, and Cultural Competency 3 s.h.

Teachers as change agents and researchers in schools; bridges interdisciplinary topics of the M.A. in teaching, leadership, and cultural competency (MATLCC) program in a culminating capstone action research project; students develop an action research project that addresses a topic of interest from MATLCC course work and speaks to three primary strands of the MATLCC—teaching, leadership, and cultural competency. Requirements: completion of all M.A. in teaching, leadership, and cultural competency course work.

EDTL:5104 Language Disorders in School-Aged Children 3 s.h.

Emphasis on elementary grades; usually taken in conjunction with EDTL:4192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors. Same as CSD:5104.

EDTL:5535 Current Issues in Mathematics Education 1-3 s.h.

Recent curriculum developments, experimental programs, research relevant to classroom instruction, trends in education that may have a significant impact on mathematics programs.

EDTL:5600 Graduate Music Education Workshop 1 s.h.

For inservice music teachers; topics vary. Same as MUS:5600.

EDTL:5601 Graduate Music Education Workshop II 1 s.h.
Varied topics; for inservice music teachers. Same as MUS:5601.

EDTL:5610 Foundations of Music Education Curricula 3 s.h.
Curriculum development, instructional materials, analysis of current teaching methods and techniques in school music programs; historical foundations of music education.

EDTL:5961 Foundation of Applied Behavior Analysis 3 s.h.
Foundation knowledge and basic principles of behavior analysis in philosophical assumptions of behavior analysis, behavioral terminologies, verbal operants, and measurement concepts; first in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Corequisites: EDTL:7953.

EDTL:5962 Function of Behaviors and Interventions 4 s.h.
Functional assessment/analysis and interventions designed to change behaviors; describing and implementing components of functional behavioral assessment; using results of a functional assessment to develop a program to teach appropriate behavior and/or decrease inappropriate behaviors; development of an instructional program to teach desired behaviors; third in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Prerequisites: EDTL:5961 and EDTL:7953.

EDTL:5963 Ethics and Professional Conduct of Behavior Analysts 2 s.h.
Issues related to ethical and professional conduct of behavior analysts when working with clients according to BACB Professional Disciplinary and Ethical Standards and Guidelines for Responsible Conduct for Behavior Analysts; responsible conduct of a behavior analyst, behavior analyst's responsibility to client, assessing behavior, behavior analyst and individual behavior change program; fourth in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Prerequisites: EDTL:5961 and EDTL:5962 and EDTL:7953.

EDTL:5964 Behavior Analyst Practicum 1-4 s.h.
Development, implementation, and evaluation of techniques that produce behavior changes in clients; discussion of key issues related to techniques of applied behavior analysis; review of various theoretical, conceptual, historical, legal, and practical aspects of behavior analysis; provides a portion of the supervisory component as required by the Behavior Analyst Certification Board (BACB).

EDTL:5965 Ethics and Professional Conduct of Behavior Analysts II 3 s.h.

Addresses issues related to ethical and professional conduct of behavior analysts when working with clients according to the Behavior Analyst Certification Board (BACB) Professional Disciplinary and Ethical Standards and Guidelines for Responsible Conduct for Behavior Analysts; this is a second course in ethics and professional conduct designed to prepare students who speak Chinese to sit for the Board Certified Behavior Analyst certification exam sponsored by the BACB; students in this course will examine the BACB Guidelines for Responsible Conduct and issues related to (a) interventions, (b) behavior change systems, and (c) implementation, management, and supervision. Prerequisites: EDTL:5961 and EDTL:5963 and EDTL:7953.

EDTL:5966 Advanced Topics in Applied Behavior Analysis 2 s.h.
Preparation for students who speak Chinese to sit for the certification exam sponsored by the Behavior Analyst Certification Board (BACB); covers behavior-change considerations, behavior-change systems, intervention, and issues related to implementation, management, and supervision. Prerequisites: EDTL:5961 and EDTL:5962 and EDTL:6975 and EDTL:7953.

EDTL:6104 Literature for Children II 3 s.h.
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as ENGL:6104.

EDTL:6164 Early Literacy Development and Instruction 2-3 s.h.
Understanding of early reading and writing experiences; relationship of reading to other communication areas; knowledge of instructional approaches, techniques, materials, assessment procedures; interrelationship of home and school experiences; identification of current and crucial issues and relevant research.

EDTL:6165 Reading and Writing Across Intermediate Grades 3 s.h.
Issues in teaching, learning, and assessment of students grades 4-9; fostering positive literate identities, literacy engagement, strategies for reading, writing, and critically responding to texts in a range of genres and formats and across content areas.

EDTL:6167 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms 3 s.h.
Theoretical and practical organization of developmentally appropriate curricula and teaching methods to promote learning.

EDTL:6171 Advanced Reading Clinic Techniques 2-3 s.h.
Instructional procedures for children and early adolescents with severe learning problems in reading; causes of reading disorders; educational prognosis for severely disabled readers. Corequisites: EDTL:6172.

EDTL:6172 Advanced Reading Clinic Practicum 2-3 s.h.
Practice in selecting and using instructional procedures that address the needs and interests of struggling literacy learners, with emphasis on teaching to students' strengths; how to fit clinical teaching techniques into an overall literacy instructional program. Corequisites: EDTL:6171.

EDTL:6267 Seminar: Current Issues in Art Education 3-4 s.h.
Analysis of literature in art education and related disciplines. Same as ARTE:6267.

EDTL:6293 Individual Instruction arr.

- EDTL:6315 M.A. Seminar: English Education** arr.
Significant developments in English education; primary and collateral readings. Same as ENGL:6315.
- EDTL:6393 Master's Thesis** arr.
- EDTL:6400 Fundamentals of Second Language Assessment** 3 s.h.
How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as SLA:6503.
- EDTL:6402 Second Language Program Management** 3 s.h.
Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as SLA:6504.
- EDTL:6403 Language Policy and Planning** 3 s.h.
Sociology and politics of national policies involving language, internationally; development of a research-based policy perspective on language issues in the country in which the student intends to teach.
- EDTL:6409 Cultural Curriculum** 3 s.h.
Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as SLA:6970.
- EDTL:6480 Issues in Foreign Language Education** 3 s.h.
Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as SLA:6500.
- EDTL:6483 Second Language Classroom Learning** 3 s.h.
Synthesis of empirical findings on children's and adults' learning of a second or foreign language; emphasis on theoretical underpinnings of approaches, methods, techniques in language teaching. Same as ASIA:6483, SLA:6506.
- EDTL:6484 Reading in a Second Language** 3 s.h.
Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as SLA:6501.
- EDTL:6497 Principles of Course Design for Second Language Instruction** 3 s.h.
Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as SLA:6502.
- EDTL:6530 Workshop in School Mathematics** 0-3 s.h.
Recent developments in school mathematics teaching methods and curriculum relevant to a selected issue; one to three weeks of intensive examination, experience.
- EDTL:6531 Technology in School Mathematics** 2-3 s.h.
Methods, materials, issues, pedagogy, assessment; use, evaluation of technology for mathematics teaching and learning; implications for organization, development of course content.
- EDTL:6534 Foundations of Mathematics Education** 2-3 s.h.
History of U.S. mathematics education; learning theory applied to teaching, learning mathematics; curriculum design; curriculum/standards and achievement patterns in the United States and other countries; equity; research literature.
- EDTL:6536 Teaching of Geometry** 2-3 s.h.
Current developments in teaching middle school/junior high and high school geometry; selection, organization of content; research on teaching and learning.
- EDTL:6539 Teaching of Algebra** 2-3 s.h.
Current developments in curriculum and instructional methods in secondary school algebra; classroom use of the history of algebra, use of technologies, implications of current research for the algebra classroom.
- EDTL:6563 STEM Through Mathematical Modeling** 3 s.h.
Prepares potential STEM teachers or in-service teachers who want to develop integrated STEM learning environments to learn mathematical modeling as an interdisciplinary instructional approach; mathematical modeling practice to learn and teach mathematics, science, engineering, and technology focused on students' understanding of new concepts from an individual knowledge basis; engagement in problem-based learning where individuals develop conjectures, critique arguments, and revise ideas to reach conclusions; students will understand how people learn new concepts and how teachers should provide adequate learning environments for students to learn and understand the core concepts of STEM.
- EDTL:6570 Foundation of School Mathematics Curriculum** 3 s.h.
Elementary and secondary background developments in school and mathematics curriculum; definitions, historical perspective, reform, theories of knowledge, implementation, evaluation, international perspectives, issues in mathematics curriculum.
- EDTL:6600 Individual Projects in Music Education** 1-2 s.h.
Projects of special concern to individual music teachers in public schools.
- EDTL:6757 Learning in the Science Classroom** 2-3 s.h.
Assumptions about learning and about learning theories and their impact on pedagogical actions; how some concepts are planned and implemented.
- EDTL:6758 Writing in the Science Classroom** 3 s.h.
Literacy in the science classroom; theoretical and pedagogical perspectives; practical classroom activities that lead to effective writing and increased learning.
- EDTL:6759 Advanced Pedagogy** 3 s.h.
Theoretical and practical perspectives on pedagogy; how to assess practice, provide feedback, and build learning pathways for teachers.
- EDTL:6761 STEM Research and Leadership Seminar** 3 s.h.
Broad overview of research supporting new and innovative teaching practices in STEM disciplines and integrated STEM learning; focus on relevant journals related to STEM learning and teaching; students will summarize, critique, and discuss a variety of research perspectives and articles and describe how the information relates to their current teaching; students explore ways to improve their STEM pedagogical and instructional practices and methods for assessing critical student outcomes; students develop awareness of research that provides a foundation for effective STEM teaching and learning and strategies for implementing research supported practices in STEM learning contexts of all types.

EDTL:6762 STEM Experiential Learning 3 s.h.

Overview of research supporting new and innovative teaching practices in STEM disciplines and integrated STEM learning; focus on problem-based and experiential learning curriculum, instruction, and assessment by engaging in authentic experiences and reflecting on how these influence practice and student learning; facilitates ability to solve real world STEM problems of interest to students and community through engagement with community partners; assists students to acquire and demonstrate 21st-century competencies the STEM workplace identifies as critical; provides authentic, meaningful, and cross-curricular experience in facilitating student engagement in real-world situations.

EDTL:6764 STEM Extracurricular Experience and Capstone 6 s.h.

Engages teachers in STEM experience outside the traditional classroom; provides 90-hour STEM inclusive experience coupled with a capstone project; engagement with STEM community leaders, business partners, or outreach leaders to develop a plan for participation in and investigation of a STEM related experience; may work with a STEM extracurricular activity in a school or university, a STEM related business or industry partner, or a STEM related grant funded project through a university; course completion is accomplished through a capstone sharing of their experience, how the experience has solidified their understanding of STEM, and how the experience will impact their classroom activities.

EDTL:6765 STEM Independent Research 3 s.h.

Opportunity to develop an independent research project and explore a STEM education question of personal interest; students design and carry out research in an authentic STEM learning environment, collect and analyze data, develop claims and conclusions based on their research, present findings, and develop a plan for utilizing findings to improve STEM education learning environments. Prerequisites: EDTL:6761.

EDTL:6766 Physical Science Topics in STEM Education 3 s.h.

Increase knowledge of physical science content in a form that is relevant to education standards, such as Next Generation Science Standards (NGSS), and connected to engaging and contemporary issues in physical science; weekly expectations differentiated to provide opportunities for deepening knowledge of science; students gain insight into teaching science and work together to think critically on the conceptual basis of subject matter appropriate for learners in their context; for educators at all levels (e.g., elementary, secondary, informal settings).

EDTL:6833 History and Foundations of Social Studies Education 3 s.h.

Historical, philosophical, social foundations of social studies education; recent debates over content and instructional processes; student research proposals.

EDTL:6840 Theories and Perspectives in Global Education 3 s.h.

Examination of theories and perspectives within global education that help to understand historical and contemporary social, political, economic, and cultural issues; relationship to international studies, international education, global cultures, human rights, social justice, and other areas; interaction with global educators who conduct research and/or teach in institutes of higher education around the world.

EDTL:6841 Attaining a Global Perspective 2-3 s.h.

Rationales, conceptualizations, and themes in global perspectives in education, implications for curriculum change; elements of perspective consciousness, cultural universals, cultural diversity, cross-cultural awareness, global systems, global history, global issues; application and evaluation of ideas within fields of study and varied teaching situations.

EDTL:6842 Examining Power, Resistance, and Change Through Global Education 3 s.h.

Examines historical and contemporary movements for equity and social justice led by students and educators around the world; examines national and transnational narratives of resistance to develop a deeper understanding of the intersections of power, place, and resistance in education, past, present, and future; students will read and analyze diverse narrative, autobiographic, and ethnographic accounts of global social actions to more deeply understand the intersections of identity, privilege, power, and how resistance works.

EDTL:6906 Practicum with Exceptional Persons arr.

Practicum experience with students with disabilities; experiences differ depending upon student's program of study.

EDTL:6909 Seminar: Graduate Supervised Teaching 1 s.h.

For students enrolled in graduate student teaching practicum. Requirements: special education major.

EDTL:6936 Administration of Students with Special Needs 3 s.h.

Foundation for and skill practice in tasks performed by directors of special education and others administering to needs of special education students, and economically and socially deprived students; for prospective school administrative personnel. Same as EPLS:6236.

EDTL:6950 Strategist I Student Teaching: Elementary arr.

Student teaching in an elementary mild and moderate special education program.

EDTL:6951 Strategist I Student Teaching: Secondary arr.

Student teaching in a secondary mild and moderate special education program.

EDTL:6953 Strategist II Student Teaching: Elementary arr.

Student teaching in K-8 learning disabilities or behavior disorders.

EDTL:6954 Strategist II Student Teaching: Secondary arr.

Student teaching in secondary learning disabilities or behavior disorders.

EDTL:6955 Social and Behavioral Interventions 3 s.h.

Design, implementation, and evaluation of function-based interventions for students with significant behavioral challenges; functional behavior assessment, multi-component intervention design, and single-subject methodology to test effects of intervention in a K-12 school.

EDTL:7004 Schooling in the United States 3 s.h.

Governance, finance, and policy structures that have influenced teaching and learning in public schools.

EDTL:7008 Seminar: Research and Current Issues arr.

Review of literature, critical analysis of reported research, and study of current issues and problems for a specific curricular area; topics vary.

EDTL:7015 Ph.D. Seminar in Language, Literacy, and Culture arr.

Historical, recent research and theory in literacy education; topics vary.

EDTL:7033 Seminar on Teacher Education 3 s.h.

History, structure, and politics of teacher education; current practice and agendas for reform; new developments in teacher assessment.

EDTL:7040 Advanced Topics in Teaching and Learning arr.

Topics vary.

EDTL:7070 Introduction to Qualitative Methods in Literacy Research 3 s.h.

Conceptual and practical exploration of qualitative research design methods, including data collection, analysis, and reporting; understanding proposal writing.

EDTL:7071 Critical Discourse Analysis in Educational Research 3 s.h.

Critical discourse analysis (CDA) as theory and method; social and power relations, identities, and knowledge through written, visual, and spoken texts in social settings, such as schools, families, communities; theoretical and methodological traditions of CDA in educational research; critical approaches to analyzing spoken, written, and visual texts. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7072 Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting 3 s.h.

Advanced course in traditional and contemporary qualitative data analysis methods and varied forms of reporting to understand, critique, and conduct research about literacy learning and teaching. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7073 Ethnographic Methods, Theories, and Texts 3 s.h.

Practical and theoretical background for conducting ethnographic field studies in literacy, schooling, language, or a field of student's choice; methods, methodologies, and perspectives from anthropology, sociology, folklore, journalism, literary criticism, cultural, critical, and composition theory; read historical and contemporary ethnography, consider ethnographic forms of expression (films, graphics, fiction, poems); roles, responsibilities, and ethics of writer, reader, viewer, and informant; tools, methods, and writer's techniques to develop an ethnographic portfolio. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7075 Educational Ethnography 3 s.h.

Study of culture and social organization; how ethnographers become participant-observers of varying degrees in the social setting they study; opportunities to explore ethnographic research methods; focus on ethnography in educational settings; methods used in a variety of contexts including communities, businesses, families, and other social organizations; ethnography committed to social justice; social theory, issues of power and privilege, unequal access to socioeconomic and educational opportunities.

EDTL:7092 Field Service Project arr.

Individual field service project in a specific curricular area; for advanced students.

EDTL:7093 Research Project arr.

Individual research projects in a specific curricular area; for advanced students.

EDTL:7165 Reading Clinic: Supervision arr.

Supervised experience in guiding and improving teacher performance in clinical practicums.

EDTL:7380 Practicum in College Teaching arr.

Supervised college teaching experience in courses related to major academic areas; collaboration with faculty course instructors.

EDTL:7385 Teaching and Learning in Higher Education 3 s.h.

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as EPLS:7385, GRAD:7385, PSQF:7385, RCE:7385.

EDTL:7405 Research Methods in Second Language Teaching and Learning 3 s.h.

Overview of common research methods used to study second language (L2) teaching and learning and related fields; variety of readings from current L2 publications, presentations, video testimonials by active L2 researchers, discussions of readings, and activities designed to process and apply concepts; field research methods; designing a rigorous research study on topic of student's choice; speaking and writing with confidence about research methods used in other studies.

EDTL:7406 Proposal Writing for Second Language Research 3 s.h.

Procedures and techniques for writing research proposals at the doctoral level; written research proposal dealing with a question in second language teaching and learning.

EDTL:7410 Mixed Methods Research 3 s.h.

Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identification and processing arguments for and against mixed methods research; extend understanding of research in education; how to assess strengths and weaknesses of published mixed methods studies; investigation of one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: EALL:5150. Requirements: formal introduction to quantitative and qualitative research methods, and familiarity with basic steps of research process. Recommendations: direct experience conducting research studies not required. Same as EPLS:7392.

EDTL:7493 Ph.D. Thesis arr.**EDTL:7535 Seminar: Research in Mathematics Education** arr.

Analysis of current research, research methodology, curriculum developments in mathematics education; topics vary.

EDTL:7600 Seminar: Current Topics in Music Education 2-3 s.h.

Major areas of professional and research interest.

EDTL:7640 Advanced Research in Music Education 3 s.h.

Design, performance, analysis, and reporting of music research.

EDTL:7707 Research: Science Education arr.

Planning of individual research projects by M.S. and Ph.D. students.

EDTL:7750 Seminar: Science Education 0-2 s.h.

Discussion of completed faculty and doctoral candidates' research, national issues, program features.

EDTL:7751 Advanced Qualitative Data Analysis 3 s.h.

Varied approaches to qualitative data analysis and philosophical foundations; analysis and interpretation of qualitative data; writing qualitative research findings. Prerequisites: EDTL:7070 or EPLS:7373 or PSQF:7331 or RCE:7338.

EDTL:7755 Independent Study in Science Education Research 2-3 s.h.**EDTL:7756 Research Apprenticeship in Science Education 3 s.h.**

Practical experiences in science education research in a collaborative, team-oriented environment; apprenticeship model of instruction in which students' participation in authentic tasks and their learning are mutually constitutive; engagement in actual research practices to produce an empirically based product; development of expertise with some aspect of research methodology determined by instructor; for graduate students with interests in research or development based in K-16 contexts.

EDTL:7774 Qualitative Research with Computer-Aided Qualitative Data Analysis Software 3 s.h.

Qualitative data analysis using computer-aided qualitative data analysis software (CAQDAS); emphasis on methodological approaches to data analysis, and practical and experiential aspects of using CAQDAS to conduct these stages of analysis; opportunity to work with ATLAS.ti, NVivo, Dedoose, and the Coding Analysis Toolkit (CAT); capstone product is a research report based upon qualitative analysis; students strongly encouraged to analyze data from their own research.

EDTL:7932 Field Service Project in Special Education Internship arr.

Part-time or full-time experience as an intern in school districts or area education agencies; develops skills in supervision and administration of special education.

EDTL:7943 Proseminar: Issues, Trends, and Research in Special Education 2-3 s.h.

Conceptual and practical development of research across special education and related disciplines; empirical review of the literature; focus on professional writing skills.

EDTL:7944 Proseminar: Issues, Trends, and Research in Special Education II 2-3 s.h.

Recent research from a variety of special education areas reviewed by students; simulated comprehensive examinations. Prerequisites: EDTL:7943.

EDTL:7945 Current Issues and Trends in Learning Disabilities 3 s.h.

Readings and discussions of current issues and trends in learning disabilities (e.g., definition, prevalence, interventions, subtyping, assessment).

EDTL:7948 Contemporary Research in Behavioral Disorders 3 s.h.

In-depth analysis of current research in behavioral disorders; emphasis on evaluating its methodology and contribution to the field.

EDTL:7952 Seminar: Behavioral Assessment and Evaluation 3 s.h.

Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as PSQF:7352.

EDTL:7953 Seminar: Single Subject Design Research 3 s.h.

Reviews of single subject research, development of student proposals; focus on special education, applied research.

Science Education Courses

SIED:3001 Introduction to Museum Studies 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, EDTL:3001, MUSM:3001.

SIED:4102 Societal and Educational Applications of Earth Science and Environmental arr.

Major ideas and principles of earth and environmental sciences; emphasis on common applications in today's world.

SIED:4103 Societal and Educational Applications of Biological Sciences arr.

Basic conceptual themes of biology, how they have been derived; emphasis on a current social issue related to biology.

SIED:4105 Societal and Educational Applications of Physical Sciences arr.

Major ideas of physics and how they have been derived; emphasis on how such ideas affect modern society.

SIED:4106 Societal and Educational Applications of Chemical Concepts arr.

Principles of chemistry as applied in industry, communication, daily living.

SIED:4115 Directed Study arr.**SIED:4135 The Nature of Science 3-4 s.h.**

Ideas on understanding and ways of thinking that are essential in a world shaped by science, technology, engineering, and mathematics; focus on increasing science literacy by examining the nature of science; comparison of characteristics specific to individual science disciplines; identification of great episodes and debates in history of science and habits that are essential for science literacy; scope and sequence of content and process skills for K-12 curriculum, instruction, and assessment.

Elementary Education, B.A.

Requirements

The Bachelor of Arts with a major in elementary education requires a minimum of 120 s.h., including at least 81 s.h. of credit for the major. Students must complete all requirements for the elementary education major and the Teacher Education Program (TEP), including student teaching. Students also must complete the GE CLAS Core [p. 459].

As a requirement for completion of an approved TEP for initial teaching licensure, the state of Iowa requires a passing score on edTPA, a performance-based assessment. Passing the edTPA is required before recommendation for licensure or certification to any state.

The B.A. with a major in elementary education requires the following work.

Foundation Courses

Students may complete the foundation courses before being admitted to the major in elementary education, but the courses are not prerequisite to admission to the major.

Code	Title	Hours
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

Courses for the Major

Code	Title	Hours
First Semester		
All of these:		
EDTL:3002	Technology in the Classroom	2
EDTL:3103	Assessment for Instructional Planning and Practice	3
EDTL:3123	Reading and Responding to Children's Literature	3
EDTL:3127	Methods and Materials: Physical Education, Health, and Wellness	2
EDTL:3190	Orientation to Elementary Education	2
MATH:1140	Mathematical Basis of Elementary Geometry	3
or EDTL:3142	Elementary School Mathematics: Geometry and Measurement	
Second Semester		
All of these:		
EDTL:3120	Methods and Materials: Music for the Classroom Teacher	2
EDTL:3160	Literacy Learning and Teaching I	3

EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3165	Elementary Science Methods I	3
EPLS:4180	Human Relations for the Classroom Teacher	3

Third Semester

All of these:		
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Literacy Learning and Teaching II	3
EDTL:3166	Elementary Science Methods II	3
EDTL:3170	Elementary Classroom Management	2
EDTL:3174	Elementary Math Practicum	1

Fourth Semester

All of these:		
EDTL:3172	Elementary Reading Practicum	4
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
MATH:1120 or EDTL:3141	Logic of Arithmetic Elementary School Mathematics: Number and Operations	3-4
STAT:1010	Statistics and Society	3

Student Teaching

Students seeking initial licensure must complete the following.

Code	Title	Hours
EDTL:4187	Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar	3
EDTL:4190	Supervised Teaching in the Elementary School: Interactive Phase	6
EDTL:4191	Supervised Teaching in the Elementary School: Pre- and Post-Active Phase	6

Endorsements

Students have the option of completing an endorsement in one of the following areas: art, English, English as a Second Language (ESL), mathematics, middle school, music, reading, science, social studies, and special education (Instructional Strategist I: Mild/Moderate). Courses in the endorsement area may be taken pass/nonpass if they are offered with the pass/nonpass option. Requirement lists for each endorsement area are available from the Department of Teaching and Learning.

The University of Iowa also offers an added endorsement in talented and gifted education.

Transfer Students

Before they student teach, transfer students must complete the following courses at the University of Iowa.

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom	2
EDTL:3190	Orientation to Elementary Education	1-2
A practicum		
Two of these:		
EDTL:3123	Reading and Responding to Children's Literature	3
EDTL:3160	Literacy Learning and Teaching I	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Literacy Learning and Teaching II	3

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Student Services to contact all institutions where they have done professional preparatory work.

TEP: Secondary Education

The College of Education offers the Teacher Education Program (TEP) in secondary education for undergraduate students in the College of Liberal Arts and Sciences. Students must complete all requirements for graduation from the College of Liberal Arts and Sciences, including the GE CLAS Core [p. 459] and the requirements for their majors (see College of Liberal Arts and Sciences [p. 17] in the Catalog). They also must complete all requirements of the College of Education's TEP.

Licensure/certification requires a major of at least 30 s.h. of course work in one of the secondary school subject areas listed below. Licensure/certification course requirements for each major are available from the Department of Teaching and Learning. Candidates for secondary school teaching licensure/certification also may receive approval to teach in additional subject areas by completing an approved program of 12-24 s.h. or more of course work in those areas.

As a requirement for completion of an approved TEP for initial teaching licensure, the state of Iowa requires a passing score on edTPA, a performance-based assessment. Passing the edTPA is required before recommendation for licensure or certification to any state.

The College of Education offers secondary school teacher preparation programs in the following areas.

Art

*Coaching

English

*English as a second language

Mathematics

*Middle school

Music

*Reading

Science, including biology, chemistry, physics, earth science, and 9-12 all science

Social science, including anthropology, economics, geography, history, political science, psychology, and sociology

*All social sciences

*Talented and gifted

World languages—Chinese, French, German, Italian, Japanese, Latin, Spanish

*Available as an additional approval area only; a major in one of the other areas is required for licensure.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Students planning to teach art or music typically complete a program that prepares them for both elementary- and secondary-level licensure.

Secondary teacher preparation programs in foreign language also offer a program that leads to licensure/certification as a subject matter specialist in grades K-8. This K-8 licensure/certification is available only in the same subject area as the secondary certification.

For more information and the name of an advisor, contact the Department of Teaching and Learning.

Requirements

Undergraduates working toward licensure/certification to teach in secondary schools must complete the following requirements in addition to the requirements of their major. All course work must be completed before student teaching.

Code	Title	Hours
EDTL:3002	Technology in the Classroom (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:1075	Educational Psychology and Measurement	3
One or more introduction and practicum courses in the major field		2-3
One or more methods of teaching courses in the major field		3-6
One college-level mathematics course, except MATH:0100, MATH:0300, and MATH:1005		
Student teaching		15

For initial licensure in all subject areas, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 70-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special programs provide experience in districts with diverse populations, including Aldine, Texas (Houston area) and Rialto, California. In most program areas, students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must

be submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and February 15 for students planning to student teach the following spring semester.

Transfer Students

Transfer students must complete the following work before they student teach.

Code	Title	Hours
EDTL:3002	Technology in the Classroom	2-3
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1

Appropriate methods courses

A practicum at the University of Iowa

All course work in the major

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Student Services to contact all institutions where they have done professional preparatory work.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Elementary Education, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students apply to the Elementary Education B.A. program through a selective process. Acceptance is not guaranteed. ^a		
Hours		0
First Year		
Fall		
CSI:1600	Success at Iowa	2
PSQF:1075	Educational Psychology and Measurement ^b	3
GE: Natural Sciences without Lab ^c		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE: World Languages First Level Proficiency or elective course ^d		4 - 5
Seminar: first-year seminar		1
Seek out volunteer experiences for 10-hour pre-admission school field experience		
Hours		16-18
Spring		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE: World Languages Second Level Proficiency or elective course ^d		4 - 5
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts ^{b, e}	3
GE: Social Sciences ^c		3
Hours		13-15

Summer

Exam: Praxis exam

Begin preparing materials for College of Education application (e.g. essays, letters of recommendation)

Hours 0

Second Year

Fall

STAT:1010 or STAT:1020	Statistics and Society or Elementary Statistics and Inference	3
GE: Historical Perspectives ^c		3
GE: World Languages Second Level Proficiency or elective course ^d		4 - 5
EDTL:4900	Foundations of Special Education ^b	3
GE: International and Global Issues ^c		3
Hours		16-17

Spring

EPLS:3000	Foundations of Education ^b	3
GE: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
GE: Diversity and Inclusion ^c		3
GE: Natural Sciences with Lab ^c		4
Admission Application: apply to the College of Education		
Hours		14-15

Third Year

Any Semester

The curriculum shown in the third, fourth, and fifth years on this plan begins upon acceptance into the College of Education.

Hours 0

Fall

EDTL:3190	Orientation to Elementary Education	2
EDTL:3002	Technology in the Classroom	2
EDTL:3120	Methods and Materials: Music for the Classroom Teacher	2
EDTL:3123	Reading and Responding to Children's Literature	3
Major: math: statistics, numbers/operations, geometry		3
Hours		12

Spring

EPLS:4180	Human Relations for the Classroom Teacher ^g	3
EDTL:3160	Literacy Learning and Teaching I	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3165	Elementary Science Methods I	3

EDTL:3127	Methods and Materials: Physical Education, Health, and Wellness	2
	Hours	14
Fourth Year		
Fall		
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Literacy Learning and Teaching II	3
EDTL:3170	Elementary Classroom Management	2
EDTL:3174	Elementary Math Practicum	1
EDTL:3166	Elementary Science Methods II	3
GE: Values and Culture ^c		3
	Hours	15
Spring		
EDTL:3103	Assessment for Instructional Planning and Practice	3
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
EDTL:3172	Elementary Reading Practicum	4
Major: math: statistics, numbers/operations, geometry		3
GE: Literary, Visual, and Performing Arts ^c		3
	Hours	16
Fifth Year		
Fall		
EDTL:4187	Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar ^h	3
EDTL:4190	Supervised Teaching in the Elementary School: Interactive Phase ^h	6
EDTL:4191	Supervised Teaching in the Elementary School: Pre- and Post-Active Phase ^h	6
Exam: edTPA ⁱ		
	Hours	15
	Total Hours	131-137

Career Advancement

The B.A. program prepares students to teach kindergarten through grade 6. In Iowa, the elementary specialization areas are designated as kindergarten through grade 8.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

- a The Academic Advising Center advises Elementary Education Interest students. Students are advised for success, based on academic strengths, and not necessarily for a four-year plan. Students may apply for Elementary Education admission after 30 s.h. are earned.
- b The following foundation courses may be completed prior to admission to the Elementary Education program, but are not prerequisites for admission: PSQF:1075, EDTL:2122, EDTL:4900, EPLS:3000.
- c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Fulfills a major requirement and a GE Core Course.
- f Please see your advisor and the College of Education website for detailed application instructions and deadlines.
- g Fulfills a major requirement and may fulfill a GE requirement.
- h All course work must be completed prior to student teaching.
- i As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The test is required before recommendation for licensure or certification to any state.

Science Education, B.S.

Learning Outcomes

Students who major in science education gain:

- knowledge in two or more areas of science;
- a specified proficiency in mathematics as a tool of science (with more mathematics study required for the physical science emphases than for the biological ones);
- a view of science from a historical, philosophical, and cultural perspective; and
- experience with the application of scientific knowledge.

Overview

Science education provides preparation in more than one discipline of science; a consideration of science from a philosophical, historical, and sociological perspective; an introduction to applied science (technology); and an education sequence.

Program planning in science education requires the cooperation and involvement of a variety of University departments and colleges. Most of the program's requirements are drawn from courses offered by these varied academic units.

Research

Each faculty member in science education is responsible for one or more areas of research. Major interests include studies of effective teaching and learning, science through writing, philosophy and sociology of science, individualized learning, social issues in science and technology, curriculum planning and development, professional development, intellectual development related to teaching and learning science, studies of effective use of hands-on activities, and evaluation and assessment of science instruction and programs.

Programs and Projects

A wide range of funded programs provides ample opportunity for students to be involved in innovative development and research in science education.

Science education faculty members collaborate on a number of international research projects in many countries. Activities include faculty exchanges and cross-national studies.

International students enrich the opportunities for graduate studies in science education. New international collaborative efforts are under way each year.

Requirements

The Bachelor of Science with a major in science education (awarded by the College of Liberal Arts and Sciences) requires a minimum of 120 s.h., including at least 48-50 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.70 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The major in science education is interdisciplinary. It is intended for students interested in education; it is not intended to prepare students for advanced study in one area of science. When graduates of the science education program elect to pursue graduate study in a specific area of science,

they often must complete additional course work in that discipline after they are admitted to the Graduate College.

The science education curriculum includes courses offered by science departments in the College of Liberal Arts and Sciences, science applications courses, and courses in the history, philosophy, and sociology of science.

The major offers five emphasis areas: all-science, biology, chemistry, earth science, and physics. The all-science emphasis area is open only to students who will earn teacher licensure and would like equal preparation in biology, chemistry, earth science, and physics. Students who choose the all-science emphasis area do not choose a secondary emphasis area. They must complete all requirements for teacher licensure in order to graduate in the all-science emphasis area.

Students who do not choose the all-science emphasis area may elect whether or not to earn teacher licensure. They choose a primary and a secondary emphasis area from biology, chemistry, earth science, and physics, acquiring depth in the primary emphasis area equivalent to six semesters of sequential study and preparation in the secondary area equivalent to four semesters of sequential study.

All science education students must complete the requirements for their emphasis area(s) plus the broad field science block. Those who wish to earn teacher licensure also must complete the College of Education's Teacher Education Program (TEP), including the 47 s.h. professional education sequence; see "Teacher Licensure" below.

Special Rules

The Science Education Program may involve many faculty advisors and more than one college or department. Consequently, the following special rules apply to science education students.

At least 10 s.h. of graded credit in science must be earned at the University of Iowa.

No credit from the CLEP Natural Science General Examination may be applied toward the major in science education.

Courses for the major may not be taken pass/nonpass. Grades from all courses applied toward the science education major are used in computing a student's grade-point average in the major, both at the University of Iowa and overall.

Since mathematics forms an integral part of so many aspects of modern science, all-science emphasis area education students are urged to complete appropriate advanced courses in both pure and applied mathematics (including statistics and computer science) so that they may be qualified to do graduate work and quantitative research later.

The B.S. with a major in science education requires the following course work.

All-Science Emphasis Area

Students who choose the all-science emphasis area do not choose a secondary emphasis area. They complete a minimum of 48 s.h. for the major, including at least 36 s.h. in the following course work (at least 9 s.h. in each of the four science disciplines—biology, chemistry, earth science, and physics), and 12 s.h. in the broad field science block. They

also must complete all requirements for teacher licensure (see "B.S. with Teacher Licensure" below).

Biology

Code	Title	Hours
At least 9 s.h. from these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2673	Ecology	3
BIOL:3172	Evolution	4
HHP:3500	Human Physiology	3

Chemistry

Code	Title	Hours
At least 9 s.h. from these:		
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
CHEM:2021	Fundamentals of Chemical Measurements	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3

Earth Science

Code	Title	Hours
At least 9 s.h. from these:		
EES:1030	Introduction to Earth Science	3-4
EES:1040	Evolution and the History of Life	3-4
EES:1050	Introduction to Geology	4
EES:1080	Introduction to Environmental Science	3-4
EES:3000	Geologic Training Assignment	1-3
EES:3070	Marine Ecosystems and Conservation	3

Physics

At least 9 s.h. chosen as follows.

Code	Title	Hours
At least one of these:		
ASTR:1070	Stars, Galaxies, and the Universe	3-4
PHYS:1200	Physics of Everyday Experience	3
No more than one of these:		
PHYS:1511	College Physics I	4
PHYS:1611	Introductory Physics I	4
PHYS:1701	Physics I	4
No more than one of these:		
PHYS:1512	College Physics II	4
PHYS:1612	Introductory Physics II	3-4
PHYS:1702	Physics II	4

Broad Field Science Block

Students must complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4
SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4
SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4

Biology Emphasis Area

Students who choose biology as their primary emphasis area complete a minimum of 50 s.h. for the major, including 23-25 s.h. in the following biology course work plus at least 15 s.h. in a secondary emphasis area (chemistry, earth science, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
This sequence:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
One of these:		
BIOL:1311	Human Genetics in the Twenty-First Century	3
BIOL:2512	Fundamental Genetics	4
One of these:		
BIOL:2374	Biogeography	3
BIOL:2673	Ecology	3
One of these:		
BIOL:1370	Understanding Evolution	3
BIOL:3172	Evolution	4
One of these:		
BIOL:3343	Animal Physiology	3
HHP:3500	Human Physiology	3
One of these:		
BIOC:3110	Biochemistry	3
BIOL:2723	Cell Biology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3363	Plant Developmental Biology	3
And both of these:		
Course work in a secondary emphasis area (chemistry, earth science, or physics)		15
Course work listed under "Broad Field Science Block" below		12

Broad Field Science Block

Students must complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4
SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4
SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4

Chemistry Emphasis Area

Students who choose chemistry as their primary emphasis area complete a minimum of 50 s.h. for the major, including 23 s.h. in the following chemistry course work plus at least 15 s.h. in a secondary emphasis area (biology, earth science, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3250	Inorganic Chemistry (spring)	3
One of these:		
BIOC:3110	Biochemistry	3
CHEM:3110	Analytical Chemistry I	3
CHEM:4431	Physical Chemistry I	3
And both of these:		
Course work in a secondary emphasis area (biology, earth science, or physics)		15
Course work listed under "Broad Field Science Block" below		12

Broad Field Science Block

Students must complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4
SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4

SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4
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Earth Science Emphasis Area

Students who choose earth science as their primary emphasis area complete a minimum of 48 s.h. for the major, including at least 21 s.h. in the following earth science course work plus at least 15 s.h. in a secondary emphasis area (biology, chemistry, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
Both of these:		
EES:1040	Evolution and the History of Life	4
EES:1080	Introduction to Environmental Science	4
One of these:		
EES:1030	Introduction to Earth Science	3-4
EES:1050	Introduction to Geology	4
One of these:		
EES:2831	Geologic Field Methods	3
EES:3000	Geologic Training Assignment	1-3
EES:3300	Sedimentary Geology	4
EES:3840	Structural Geology	4
One of these:		
EES:3020	Earth Surface Processes	3
EES:3210	Principles of Paleontology	3
EES:3360	Soil Genesis and Geomorphology	3
One of these:		
EES:1290	Energy and the Environment	3
GEOG:1050	Foundations of GIS	4
GEOG:4010	Field Methods in Physical Geography	3
One of these:		
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
And both of these:		
Course work in a secondary emphasis area (biology, chemistry, or physics)		15
Course work listed under "Broad Field Science Block" below		12

Broad Field Science Block

Students must complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4

SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4
SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4

Physics Emphasis Area

Students who choose physics as their primary emphasis area complete a minimum of 47 s.h. for the major, including at least 20 s.h. in the following physics course work plus at least 15 s.h. in a secondary emphasis area (biology, chemistry, or earth science) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (if physics is a secondary emphasis area)	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701- PHYS:1702	Physics I-II	8
One of these:		
PHYS:2703	Physics III	4
PHYS:3710	Intermediate Mechanics	3
One of these:		
ASTR:1070	Stars, Galaxies, and the Universe (if physics is a secondary emphasis area)	3-4
ASTR:1080	Exploration of the Solar System (if physics is a secondary emphasis area)	3-4
ASTR:1771	General Astronomy I	4
One of these:		
PHYS:3811	Electricity and Magnetism I	3
PHYS:3850	Electronics	4
One of these:		
PHYS:1200	Physics of Everyday Experience (if physics is a secondary emphasis area)	3
PHYS:1410	Physics of Sound	3-4
And both of these:		
Course work in a secondary emphasis area (biology, chemistry, or earth science)		15
Course work listed under "Broad Field Science Block" below		12

Broad Field Science Block

Students must complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
At least two of these:		

SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4
SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4
SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4

Teacher Licensure

In order to earn licensure to teach in elementary and/or secondary schools, students must satisfy all requirements for the science education major and for graduation and must complete the College of Education's Teacher Education Program (TEP).

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

In order to be considered for admission to the TEP, students must have completed a minimum of 30 s.h. of course work with a cumulative g.p.a. of at least 2.50. Admission decisions are based on grade-point averages in science courses and other criteria relevant to teaching. A limited number of applicants are accepted to the TEP, so having the required grade-point average does not ensure admission. Contact the Office of Student Services for information about applying to the TEP.

The TEP requires the following professional education courses, which total a minimum of 47 s.h.

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom	2-3
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:1075	Educational Psychology and Measurement	3
These taken in sequence:		
EDTL:4751	Science Methods I: Early Learners with Field Experience	3
EDTL:4752	Science Methods II: Junior High with Field Experience	3
EDTL:4753	Science Methods III: High School with Field Experience	3
EDTL:4779	Secondary School Science Practicum (taken with EDTL:4753)	2

These three taken concurrently:

EDTL:4087	Seminar: Curriculum and Student Teaching (section 91)	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
And:		
One college-level math course, excluding MATH:0100, MATH:0300, and MATH:1005		3

Honors

Honors in the Major

The science education program offers outstanding students the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and fulfill other requirements; contact the Science Education program for more information about graduating with honors in the science education major.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the science education major.

Academic Plans

Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in science education.

Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Teaching and Learning, M.A.

Art Education

The Master of Arts in teaching and learning with an art education subprogram requires a minimum of 38 s.h. of graduate credit. The program prepares highly qualified teachers of art for elementary and secondary schools and community colleges. Its strong academic emphasis helps teachers who are creative artists to become highly literate in the history and language of art.

Requirements

The M.A. plan of study includes a total of 18 s.h. in studio art and art history (either 12 s.h. of studio art and 6 s.h. of art history, or 12 s.h. of art history and 6 s.h. of studio art); a total of 8 s.h. in EDTL:6267 Seminar: Current Issues in Art Education; and a total of 12 s.h. in additional course work, specified after a student begins the program.

M.A. students also must complete a studio thesis or a written thesis.

Admission

Applicants must meet the admission requirements of the Graduate College. They must have completed the equivalent of the minimum course work in art required for a University of Iowa B.A. or B.F.A. in art and must have a license/certificate to teach art. Applications must include a representative portfolio of the applicant's work, consisting of eight digital reproductions of artwork and one example of written work, which may be a paper previously written for a course or an original paper. Deficiencies in undergraduate art or courses recommended for teacher licensure/certification are evaluated following admission so that students can make up required course work concurrent with work for the degree.

Developmental Reading

The Master of Arts in teaching and learning with a developmental reading subprogram requires a minimum of 33 s.h. of graduate credit with thesis and a minimum of 35 s.h. of graduate credit without thesis. The program prepares graduate students for positions as reading specialists in kindergarten and grades 1-12. The required course work develops the skills, knowledge, and competence needed for supervisory, curricular, and remedial teaching positions in reading. The program also builds a background in reading for students who want to specialize further in the area and eventually to teach and/or conduct research at a college or university.

Successful completion of this program, combined with one year of successful teaching experience that includes teaching reading as a significant part of the responsibility, qualifies a student for certification as a reading specialist.

The M.A. in teaching and learning with a developmental reading subprogram requires the following course work.

Required Courses

Code	Title	Hours
All of these:		
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
EDTL:4394	Secondary Reading Instruction	2-3
EDTL:6164	Early Literacy Development and Instruction	2-3
EDTL:6165	Reading and Writing Across Intermediate Grades	3
EDTL:6167	Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms	3
EDTL:6171	Advanced Reading Clinic Techniques	2-3
EDTL:6172	Advanced Reading Clinic Practicum	2-3
EDTL:7008	Seminar: Research and Current Issues (Reading)	3
One of these:		
PSQF:4106	Child Development	3
PSQF:4130	Early Adolescent Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:6200	Educational Psychology	3

Students who have completed educational psychology and/or human growth and development course work relating only to grades K-8 should choose PSQF:4130 Early Adolescent Development, PSQF:4133 The Adolescent and Young Adult, or PSQF:6200 Educational Psychology from the list above. Those who have completed work relating only to grades 5-12 should choose PSQF:4106 Child Development or PSQF:6200 Educational Psychology.

Code	Title	Hours
One of these:		
PSQF:4150	Introduction to Educational Measurement	3-4
PSQF:6238	Assessment of Learning Differences	3-4
An approved literacy assessment course		
One of these:		
EDTL:7165	Reading Clinic: Supervision	arr.
EPLS:6383	Supervision and Evaluation	3

Thesis

A thesis is required for the thesis option.

Code	Title	Hours
EDTL:6393	Master's Thesis	2

Electives

Students, in consultation with their advisors, may select the remaining required semester hours as electives from areas such as curriculum, supervision, language arts, testing and evaluation, linguistics, or speech pathology.

Comprehensive Examination

The comprehensive examination consists of two three-hour exams. Each three-hour exam is based on an aspect of reading or literacy. With agreement of a student's advisor and committee, a comprehensive project may be substituted for the written examination in one or both areas.

Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00; hold an early childhood, elementary, or secondary school teaching certificate; and show evidence of completing two years of successful teaching experience.

English Education

The Master of Arts in teaching and learning with an English education subprogram requires a minimum of 30 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00 while enrolled in the program. The program is intended for experienced teachers of English. It provides opportunities for professional development and preparation for department chairs, supervisors of English, and curriculum specialists for secondary schools.

M.A. students specialize in English education and in one or two other areas. The other area(s) may include reading, writing, curriculum, adolescent literature, or a literary area. Students and their advisors plan the program of study together. The only required course is EDTL:6315 M.A. Seminar: English Education. At the end of the program, students take a comprehensive examination in English education and in their chosen area(s), or they may choose to write a thesis.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have taken extensive course work in English and should have taught English for at least two years. Application should be made to the College of Education.

Foreign Language and ESL Education

The Master of Arts in teaching and learning with a foreign language and English as a Second Language (ESL) education subprogram requires a minimum of 33-36 s.h. of graduate credit. Students take at least 15 s.h. in second language education course work, 9 s.h. in graduate language or linguistics, and 9 s.h. in the cognate area. They must earn 9 s.h. in courses numbered 5000 or above. Students must maintain a g.p.a. of at least 3.00 while enrolled in the program. Candidacy for the master's degree is reevaluated annually.

The program is designed for students who would like to pursue a foreign language and ESL education specialization in teaching (kindergarten through college) or in related fields (e.g., language laboratory directors, instructional materials designers, or evaluation specialists). It also offers enrichment in foreign language pedagogical knowledge for practicing teachers. Students may design programs with a special focus.

The M.A. in teaching and learning with a foreign language and ESL education subprogram requires the following work, including these suggested courses.

Code	Title	Hours
All of these:		
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6483	Second Language Classroom Learning	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3
At least 6 s.h. from these:		
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6480	Issues in Foreign Language Education	3
EDTL:6484	Reading in a Second Language	3

Target Language

In consultation with their advisor, students select at least 9 s.h. of graduate language courses in their area of interest

Cognate Area

Students complete at least 9 s.h. of course work chosen in consultation with their advisor

Master's Examination

Students take a written exam during the semester in which they plan to graduate. The exam covers second language education and the two study areas selected by a student. It is written by the graduate committee, which consists of at least three faculty members, two of whom must be from foreign language education. The candidate and the advisor discuss and formalize the exam's content and process eight months before the exam.

Admission

Applicants must meet the admission requirements of the Graduate College. They must be proficient in English and in another language and must have earned at least 20 s.h. in undergraduate, upper-division foreign language course work. Applicants should submit a statement of purpose explaining their graduate study goals. A g.p.a. of at least 3.00 in undergraduate course work and some experience living, working, and/or studying in the culture of the applicant's chosen target language are preferred. International applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

Mathematics Education

The Master of Arts in teaching and learning with a mathematics education subprogram requires a minimum of 32 s.h. of graduate credit. The program provides students with advanced specialization in mathematics and education as a better foundation for K-12 teaching.

Required Courses

M.A. students take a minimum of 9 s.h. of course work in mathematics approved by their advisor. They also take a

minimum of four courses in mathematics education, which must include EDTL:5535 Current Issues in Mathematics Education and three courses chosen in consultation with their advisor.

Students choose a cognate area, usually enrolling in three or more courses in the area. Suggested areas include educational psychology, educational statistics and measurement, history or philosophy of education, pure or applied mathematics, instructional design and technology, counselor education, curriculum, administration, and special education. Courses are chosen in consultation with a faculty member from their cognate area.

Students also complete a sufficient number of electives in mathematics and education, chosen with the approval of their advisor, to complete 32 s.h. of credit.

Comprehensive Examination

Students take three two-hour comprehensive exams: one in mathematics education, the second in mathematics, and the third in their cognate area.

Admission

Applicants must meet the admission requirements of the Graduate College. Except in unusual cases, they should hold a professional license/certificate to teach school mathematics. A combined score of 300 on the verbal and quantitative sections of the Graduate Record Exam (GRE) General Test is preferred.

Social Studies Education

The Master of Arts in teaching and learning with a social studies education subprogram requires 38 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00. The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas for classroom teachers, high school department chairs, supervisors, and others interested in advancing their competence in history and the social sciences and greater proficiency in teaching and supervision.

The subprogram provides interdisciplinary study in education, history, social science, or related areas for classroom teachers or others interested in advancing their competence in instruction and their subject area.

Requirements

Students create a course of study in consultation with their advisor that aligns with their interests related to social studies education and/or their profession. Students distribute the program's required 38 s.h. among three concentration fields in history or a social science (or related area), social studies and global education, and general education. At least 9 s.h. must be earned in history or a social science and in general education courses numbered 3000 or above. Students also must earn at least 12 s.h. in courses numbered 6000 or above offered through the social studies education program.

Students must complete the following course work.

Social Studies Education Course

Code	Title	Hours
This course:		
EDTL:6833	History and Foundations of Social Studies Education	3

Global Education Courses

Code	Title	Hours
Two of these:		
EDTL:6840	Theories and Perspectives in Global Education	3
EDTL:6841	Attaining a Global Perspective	2-3
EDTL:6842	Examining Power, Resistance, and Change Through Global Education	3

Students who choose the thesis option complete a research or investigative problem. If the thesis is research or investigation in history, social science, or a related area, the thesis director is a member of the appropriate department. If the thesis is an investigative problem in social studies education, the thesis director is a College of Education faculty member.

Comprehensive Examination

Candidates select one faculty member from each concentration area to serve as a committee member responsible for creating and reviewing a question for the written exam. Committee members are selected in consultation with a candidate's advisor. The required comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required. Typically, applicants are expected to hold a secondary teaching license/certificate.

Special Education

The Master of Arts in teaching and learning with a special education subprogram requires a minimum of 32 s.h. of graduate credit. The program prepares individuals to deliver appropriate levels of service to students with disabilities at the elementary and secondary levels, in either public or private settings. Applicants with a master's degree and special education certification may request admission in order to obtain an additional area of special education licensure/certification (i.e., professional improvement). Students typically receive licensure/certification in at least one area upon completing the program. Contact the Department of Teaching and Learning for specific program requirements.

Special education programs are offered in K-8 and 5-12 Instructional Strategist I: Mild/Moderate, and K-12 Instructional Strategist II: BD/LD. These programs are designed to prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All teacher licensure/certification programs are approved by the Iowa Department of Education.

Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00 and/or at least 3.00 on a minimum of 12 s.h. of graduate course work. A combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test is preferred. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Application materials must include a completed Graduate College application form; copies of official transcripts for all college course work; an official report of Graduate Record Exam (GRE) General Test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

Teaching, Leadership, and Cultural Competency

The Master of Arts in teaching and learning with a teaching, leadership, and cultural competency subprogram requires a minimum of 33 s.h. of graduate credit. The program is offered completely online. The program addresses identified needs within the profession: English Language Learner (ELL) instruction, cultural competency in the classroom, evidenced-based frameworks for technology integration, educational leadership, and teacher leader/instructional coaching best practices.

Students take a 24 s.h. core, including courses in instructional leadership, cultural competency and diversity, assessment, technology, and curriculum; and 9 s.h. of specialized course work. Iowa teachers can apply their course credits toward their ongoing learning requirements for maintaining licensure. The program requirements also are aligned with the National Board for Professional Teaching Standards (NBPTS) certification process.

The M.A. in teaching and learning with a teaching, leadership, and cultural competency subprogram requires the following course work.

Code	Title	Hours
All of these:		
EDTL:5090	Diversity and Identity in K-12 Schools	3
EDTL:5095	Issues in U.S. Schools	3
EDTL:6483	Second Language Classroom Learning	3
EPLS:5090	Instructional Coaching for Teaching Excellence	3
PSQF:4740	Issues in K-12 Assessment	3
PSQF:4750	Learning Environments: Design, Context, and Activity	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3
EDTL:5099	Capstone: Teaching, Leadership, and Cultural Competency	3
Specialization courses (consult advisor)		9

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree, a g.p.a. of at least 3.00 in undergraduate course work, and a valid United States teaching license in K-12 education. Applicants should supply two letters of recommendation from individuals familiar with their work in schools or in an educational program. International applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Teaching and Learning, M.A.T.

English Education

The Master of Arts in Teaching in teaching and learning with an English education subprogram requires a minimum of 45 s.h. of graduate credit. The program is designed for students who have an undergraduate degree in English and few or no professional education courses. Successful completion of the program enables students to receive a credential to teach English in secondary schools.

The M.A.T. in teaching and learning with an English education subprogram requires the following course work.

English

Code	Title	Hours
All of these:		
EDTL:3382	Language and Learning	3
EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:4355	Approaches to Teaching Writing	3
EDTL:6315	M.A. Seminar: English Education	arr.

Students may take the following English courses as part of the M.A.T. program or as part of their undergraduate program:

A course in Shakespeare

Three courses in American literature

A course in British literature

A course in nonfiction or creative writing, in addition to EDTL:4355

Education

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4092	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4314	Introduction and Practicum: Secondary English (must be completed before enrollment in EDTL:4315 and EDTL:4394)	3

EDTL:4315	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

Comprehensive Examination

The comprehensive examination involves a series of reflective projects supervised by English education faculty. The projects encompass issues explored throughout the course of study and involve integration of theory and practice.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (English education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a B.A. in English or the equivalent, with an undergraduate g.p.a. of at least 3.00. They also must take the Graduate Record Exam (GRE) General Test and meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential. Applicants are expected to have no more than 6 s.h. of course work in professional education courses before admission.

Foreign Language and ESL Education

The Master of Arts in Teaching in teaching and learning with a foreign language and English as a Second Language (ESL) education subprogram requires a minimum of 54 s.h. of graduate credit. The program is designed for superior liberal arts and sciences graduates who have had few or no professional education courses. Successful completion of the program leads to elementary and/or secondary teacher licensure. The M.A.T. is available in Chinese, French, German, Japanese, Latin, and Spanish.

Students must take 24 s.h. of post-secondary course work in their language of licensure to obtain their teaching license. This work can be taken prior to entry into this program as part of an undergraduate degree program.

The M.A.T. in teaching and learning with a foreign language and ESL education subprogram requires the following course work. Students also must complete at least 9 s.h. in graduate course work either in the language department corresponding to their language of licensure or in foreign language teaching.

Professional Education

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1,3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

Foreign Language Teaching

Code	Title	Hours
All of these (27 s.h.):		
EDTL:4087	Seminar: Curriculum and Student Teaching	1
EDTL:4091	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4092	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4406	Foreign Language Education Practicum I	3
EDTL:4407	Foreign Language Education Practicum II	3
EDTL:4416	Learning to Teach Second Languages I	3
EDTL:4417	Learning to Teach Second Languages II	3
EDTL:6483	Second Language Classroom Learning	3

K-12 Licensure

The K-12 licensure option requires the following course.

Code	Title	Hours
EDTL:4089	Elementary School Special Subject Area Student Teaching	1-4

Comprehensive Examination

A comprehensive examination is required. The examination reflects a candidate's depth and breadth of knowledge in foreign language and ESL education, including but not limited to theory and practice as well as knowledge of and proficiency in the target language and/or literature of the candidate's choice. The candidate and the advisor discuss the exam's content and format eight months before the exam.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (foreign language and ESL education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a bachelor's degree with a major or a strong concentration in a second language and must have an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements.

ESL Endorsement

An ESL endorsement enables an individual to teach English as a Second Language in K-12 in the state of Iowa. Because teaching endorsements are additional areas of expertise added to a teaching license, applicants must be current students in a Teacher Education Program (TEP) or licensed in-service teachers.

Admission

Applicants to the ESL endorsement program must submit a one-page essay explaining why they wish to teach ESL and a transcript of all university-level course work, along with the English as a Second Language Added Endorsement Program K-12 application. Applicants whose first language is not English must provide evidence of a minimum score of 26 (internet-based) on the speaking section of the Test of English as a Foreign Language (TOEFL) and have completed one of the following.

Code	Title	Hours
Four semesters of commonly taught languages such as French, German, Hebrew, Italian, Portuguese, Russian, or Spanish; or a proficiency level of Intermediate Low on the ACTFL Guidelines		
Three semesters of less commonly taught languages such as Arabic, Chinese, or Japanese; or a proficiency level of Novice High on the ACTFL Guidelines		
LING:3001	Introduction to Linguistics (with a grade of B or higher)	3

Applicants are admitted to the ESL endorsement program twice a year; application deadlines are October 1 and March 1.

Mathematics Education

The Master of Arts in Teaching in teaching and learning with a mathematics education subprogram requires a minimum of 49 s.h. of graduate credit. The program is designed primarily for students who decide they would like to become teachers and have already completed a B.S. or B.A. in mathematics. It features advanced work in mathematics along with the courses required for certification. It is a means by which students can obtain both a master's degree and certification.

This program assumes a student has completed a baccalaureate degree in mathematics equivalent to one

that would be completed at the University of Iowa, but has no previous course work in education. More course work may be advised if there are mathematics courses a student has not taken as part of the undergraduate mathematics baccalaureate degree program to render the student's degree equivalent to one from the University of Iowa.

The M.A.T. in teaching and learning with a mathematics education subprogram requires the following course work.

Education

Code	Title	Hours
The first three courses should be taken during the first semester of registration:		
EDTL:3002	Technology in the Classroom	2-3
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
All of these:		
EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:3534	Methods: Middle School Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3
The following courses are taken concurrently and constitute the student teaching semester:		
EDTL:4087	Seminar: Curriculum and Student Teaching	1-3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4092	Observation and Laboratory Practice in the Secondary School	arr.

And:

One additional graduate-level mathematics education course in consultation with an advisor

Graduate Mathematics Requirements

Code	Title	Hours
If necessary, courses that fulfill the University of Iowa mathematics major with at least one additional mathematics graduate course (one of the following):		
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3
MATH:4120	History of Mathematics	3

Comprehensive Examination

The comprehensive exam includes a required two-part exam in mathematics and mathematics education. At the discretion of the examining committee, this exam may consist of two parts and is both written and oral. The mathematics and mathematics education comprehensive examinations will not duplicate course examinations, but will assess both mathematics education and the mathematics specialization area chosen by a student.

Admission

Applicants must meet the admission requirements of the Graduate College. They also must take the Graduate Record Exam (GRE) General Test and meet all Teacher Education Program (TEP) application requirements. Candidates should have completed a baccalaureate degree program in mathematics equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa. An undergraduate g.p.a. of at least 3.00 is required for admission and must be maintained throughout the enrollment period.

Combined B.A./M.A.T.

The College of Liberal Arts and Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts in mathematics/Master of Arts in Teaching degree in education with a mathematics education subprogram in as little as five years.

The Combined B.A./M.A.T. (4+1) program is a seamless process whereby students can progress from undergraduate to graduate status. The usual period of study for both the Bachelor of Arts and the Master of Arts in Teaching degree is six years. Through careful planning, many of the courses required for the M.A.T. program can be taken during the undergraduate years, creating an opportunity to focus the fifth year of study on the comprehensive and student teaching requirements. Visit B.A./M.A.T. (4+1) Mathematics on the College of Education website.

Admission

Students are eligible to apply to the 4+1 program during their sophomore or junior year if they have a cumulative g.p.a. of at least 3.25 or if they meet special considerations. Application materials must include a completed application to the Teacher Education Program (TEP); two recommendations from University of Iowa faculty; a career plan describing how this program will enhance the student's scholarly and or career goals; and an unofficial transcript of student's prior work.

Students who submit completed applications will be notified within 30 days if they have been accepted into the program. The program accepts a limited number of students each year on a competitive basis. Once accepted into the program, a student meets with an advisor to select an advisory committee to plan a course of study.

During the sixth semester, a student in the program who has completed 80 s.h. of undergraduate work and maintained a 3.00 minimum g.p.a. must apply to the Graduate College. Application to the Graduate College must include a completed Graduate College application form; a letter of application/statement of purpose; one additional letter of recommendation from a faculty member in the mathematics major; Graduate Record Exam (GRE) General Test scores; and

Test of English as a Foreign Language (TOEFL) test scores for international students.

Students will be granted undergraduate/graduate credit for course work during the seventh semester; they begin paying graduate tuition during the eighth semester until completion of the program. The baccalaureate degree must be conferred at the end of the eighth semester or in the program's fourth year.

Science Education

The Master of Arts in Teaching in teaching and learning with a science education subprogram requires a minimum of 48 s.h. of graduate credit. The program is designed primarily for graduates of bachelor's degree programs in science who decide that they would like to become teachers. It features advanced work in science along with the courses required for certification, enabling students to earn a master's degree and teaching certification at the same time.

The program assumes students have completed considerable course work in science (at least 56 s.h.) as undergraduates, but no previous course work in education. Students' science course work should be equivalent to that required by the University of Iowa Science Education program.

The M.A.T. in teaching and learning with a science education subprogram requires the following work.

Professional Education Foundation Sequence

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200 or PSQF:1075	Educational Psychology Educational Psychology and Measurement	3
Science education courses taken in the following sequence:		
EDTL:4751	Science Methods I: Early Learners with Field Experience	3
EDTL:4752	Science Methods II: Junior High with Field Experience	3
These two taken concurrently:		
EDTL:4753	Science Methods III: High School with Field Experience	3

EDTL:4779	Secondary School Science Practicum	2
These three taken concurrently:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Electives

A minimum of one graduate course in biology, chemistry, earth science, or physics is required. Students who have satisfied portions of the required science course work listed above must take additional science course work to meet the minimum requirement of 48 s.h.

Comprehensive Examination

Students complete comprehensive examinations before their student teaching semester. Two comprehensive exams, one in science education and one in a science specialization area, are required. Students may not duplicate course examinations in these areas. The science education exam, under the guidance and supervision of the examining committee, consists of two parts, written and oral. Detailed requirements for the science education comprehensive examination are available from the Department of Teaching and Learning office.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (science education).

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or the equivalent in one of the sciences. A g.p.a. of at least 3.00 is required for admission and must be maintained throughout the program. Applicants must meet all Teacher Education Program (TEP) application requirements.

Combined B.A./M.A.T.

College of Liberal Arts and Sciences students who want to teach science and are working toward a Bachelor of Arts degree with a major in biology, chemistry, environmental sciences, or physics may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees.

B.A. students are admitted to the combined program before their fourth year. They may begin taking education courses during their third year, but they may not earn graduate credit

for them until their fourth and fifth years, after they have been admitted to the combined program. Students take 30 s.h. of course work during the fifth year and must complete all remaining requirements for both degrees that year.

Science Specialization (Broad Field Science Block)

The following courses are required for the undergraduate degree in science education at the University of Iowa. They need not be repeated by M.A.T. candidates who need one or more advanced courses in their major science area, or by students from other interdisciplinary science discipline programs that prepare teachers for grades 6-9.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	3-4
Two of these (unless completed during undergraduate study):		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	3-4
SIED:4103	Societal and Educational Applications of Biological Sciences	3-4
SIED:4105	Societal and Educational Applications of Physical Sciences	3-4
SIED:4106	Societal and Educational Applications of Chemical Concepts	3-4

Education courses required for the combined program are listed under "Combined B.A./M.A.T." above. Requirements for the B.A. degree are listed under the B.A. in biology [p. 152], B.A. in chemistry [p. 181], B.A. in environmental sciences [p. 415], and B.A. in physics [p. 813] (College of Liberal Arts and Sciences) in the Catalog.

Social Studies Education

The Master of Arts in Teaching in teaching and learning with a social studies subprogram requires of 38 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00. The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas for classroom teachers, high school department chairs, supervisors, and others interested in advancing their competence in history and the social sciences and greater proficiency in teaching and supervision.

This subprogram is for students who have a bachelor's degree in history or a social science and who wish to obtain a teaching license/certificate while earning the M.A.T. degree. Students must apply to both the Graduate College and the College of Education.

Requirements

Students should have completed considerable work in the social sciences and/or history as undergraduates. Students in the College of Education's Teacher Education Program (TEP) for secondary education in social studies may not apply credit they have earned as undergraduates in required licensure courses to the 38 s.h. required for the M.A., even though the credit counts toward state teaching licensure.

Students who completed EDTL:4811 Introduction and Practicum: Secondary Social Studies and/or EDTL:4870 Methods: Secondary Social Studies as undergraduate or postbaccalaureate students at the University of Iowa are required to retake these courses during the M.A.T. program and before student teaching. Required teaching licensure course work completed at other colleges or universities is reviewed on a case-by-case basis.

Students who were accepted to the undergraduate TEP before they received a baccalaureate degree must complete a college-level math course.

For licensure, students must complete 30 s.h. in a history or social science area; the 30 s.h. may include previous undergraduate and/or graduate-level course work. Required professional education course work not completed as part of the baccalaureate degree must be completed for licensure.

Students also must complete 15 s.h. in an additional history or social science licensure area; previous undergraduate course work may apply.

Students must complete all of the following professional education courses, unless they completed some of them as part of their bachelor's degree. In such cases, the semester-hour requirement is reduced accordingly, but it never is below 38 s.h. All students must take the course work required for meeting all Iowa Department of Education requirements for teacher licensure/certification.

Professional Education Courses

Code	Title	Hours
All of these:		
EDTL:3002	Technology in the Classroom (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
EDTL:4811	Introduction and Practicum: Secondary Social Studies	3
EDTL:4870	Methods: Secondary Social Studies	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

Social Studies Education Course

Code	Title	Hours
This course:		
EDTL:6833	History and Foundations of Social Studies Education	3

Global Education Courses

Code	Title	Hours
Two of these:		
EDTL:6840	Theories and Perspectives in Global Education	3
EDTL:6841	Attaining a Global Perspective	2-3
EDTL:6842	Examining Power, Resistance, and Change Through Global Education	3

Students must earn at least 12 s.h. in courses numbered 6000 or above through the social studies education program and a minimum of 9 s.h. of graduate course work in history or a social science area. Students should take at least one course taught by the instructor who will serve on the examining committee in the history or social science area.

Comprehensive Examination

Candidates select one faculty member from each concentration area to serve as a committee member responsible for creating and reviewing a question for the written exam. Committee members are selected in consultation with a candidate's advisor. The required comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations of the Graduate College. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (social studies education).

Admission

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required.

Teaching and Learning, M.S.

Science Education

The Master of Science in teaching and learning with a science education subprogram requires a minimum of 38 s.h. of graduate credit. The program is designed for teachers and supervisors (K-college) and professionals in related fields, such as medical education, college teaching, museum program management, and outreach programs. It is intended to provide experience in understanding teaching and learning and the research processes required to advance the field.

M.S. students complete course work in four areas: science education, education, research, and science. Their individual programs of study are approved by the science education faculty.

The M.S. in teaching and learning with a science education subprogram requires the following course work.

Required Courses

Code	Title	Hours
All of these:		
EDTL:6757	Learning in the Science Classroom (no substitute for this course)	3
EDTL:6759	Advanced Pedagogy (no substitute for this course)	3
EDTL:7755	Independent Study in Science Education Research (taken twice for 3 s.h. each)	6
Two science content courses chosen in consultation with advisor		6
A minimum of 12 s.h. chosen from these:		
EDTL:6758	Writing in the Science Classroom	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:6200	Educational Psychology	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6275	Constructivism and Design of Instruction	3
RCE:7338	Essentials of Qualitative Inquiry	3
One additional qualitative or quantitative research methods course chosen in consultation with advisor		
May include one of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Thesis

Students must complete a thesis, for which they earn 2-4 s.h. of credit.

Code	Title	Hours
EDTL:6393	Master's Thesis	2-4

Final Examination

A final oral examination is administered on campus in which candidates defend their thesis. This examination includes a critical inquiry into the purposes, methods, and results of the thesis research investigation.

The final examination is conducted by a committee of no fewer than three members of the graduate faculty. In some cases, the committee must include a member from outside science education; consult the department.

Admission

Applicants must meet the admission requirements of the Graduate College. They should hold an undergraduate major in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis. The department recommends that applicants have teaching licensure/certification unless they are preparing for careers in allied health, museums, or community colleges.

STEM Education

The Master of Science in teaching and learning with a STEM education subprogram requires 36 s.h. of graduate credit. The program focuses on science, technology, engineering, and mathematics (STEM) education. The M.S. allows students to earn the degree and complete course work for the State of Iowa K-12 STEM specialist endorsement from the Board of Educational Examiners (BOEE). Degree requirements fit the schedule of a practicing teacher by including online, hybrid, night, weekend, and summer course work, with periodic on-campus meetings.

The M.S. in teaching and learning with a STEM education subprogram requires the following course work.

Required Courses

Code	Title	Hours
STEM Pedagogy Courses		
All of these:		
EDTL:4565	Mathematics in Management and Social Sciences	3
EDTL:6563	STEM Through Mathematical Modeling	3
EDTL:6761	STEM Research and Leadership Seminar	3
EDTL:6762	STEM Experiential Learning	3
EDTL:6766	Physical Science Topics in STEM Education	3
College of Education Course		
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3
Science/Mathematics Courses		
All of these:		
EDTL:4193	Independent Study	3
EDTL:7755	Independent Study in Science Education Research	3

Science or math graduate-level courses at the 3000 level or above in the following subject areas: BIOL, CHEM, EES, MATH, PHYS, or other courses if approved (consult advisor)

Additional Course Work

6 s.h. from these:

EDTL:4565	Mathematics in Management and Social Sciences	3
EDTL:6530	Workshop in School Mathematics	1-3
EDTL:6531	Technology in School Mathematics	2-3
EDTL:6534	Foundations of Mathematics Education	2-3
EDTL:6757	Learning in the Science Classroom	2-3
EDTL:6758	Writing in the Science Classroom	3
EDTL:6759	Advanced Pedagogy	3
EDTL:6766	Physical Science Topics in STEM Education	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:6200	Educational Psychology	3
PSQF:6275	Constructivism and Design of Instruction	3
RCE:7338	Essentials of Qualitative Inquiry	3

STEM Extracurricular Experience

This course:

EDTL:6764	STEM Extracurricular Experience and Capstone	6
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K-12 STEM Specialist Endorsement

If students wish to obtain the K-12 STEM specialist endorsement along with the Master of Science degree, they must:

Demonstrate completion of 12 s.h. of science and 12 s.h. of math content course work. Credit is granted for math and science content course work completed as part of the M.S. program.

Complete 3 s.h. of engineering or technological design course work. Students can fulfill this requirement with ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing.

Admission

Applicants must meet the admission requirements of the Graduate College. These include:

- a bachelor's degree from a regionally accredited American college or university or an equivalent degree from another country as determined by the Office of Graduate Admissions with an undergraduate major in a given science or math area (or combination of science areas), science education, math education, or in elementary education with a science or math emphasis;
- a minimum g.p.a. of 3.00 or the foreign equivalent as determined by the Office of Graduate Admissions; and

- international applicants whose first language is not English must score at least 81 (internet-based) with a minimum score of 600 on the Test of English as a Foreign Language (TOEFL) or a minimum International English Language Testing System (IELTS) score of 7.0 (with no subscore lower than 6.0).

Teaching licensure/certification is recommended for the M.S. degree and required if the candidate seeks the K-12 STEM specialist endorsement from the Board of Educational Examiners (BOEE).

Teaching and Learning, Ph.D.

Ph.D. Required Research Courses

Students admitted to doctoral programs must complete the program's research requirements.

Required Core Courses

All Ph.D. students in the Department of Teaching and Learning must complete one or both of the following core courses, depending upon program requirements.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Required Cognates

All Ph.D. students in the Department of Teaching and Learning must complete two approved cognate areas as part of their doctoral study plan. Most comprehensive exams in the department are designed to cover the student's core area plus two cognate areas, so selection of cognate areas is important. Cognates also may enhance students' employment possibilities, since they represent a minor area of study.

The following list of cognates offered by program areas in the department is not exhaustive; students may select cognates from this list, or they may customize their own cognate areas in consultation with their advisors.

Curriculum Theory and Development

Code	Title	Hours
Three of these:		
EDTL:4876	Advanced Methods for Teaching and Learning in a Culturally Responsive Classroom	3
EDTL:6570	Foundation of School Mathematics Curriculum	3
EDTL:7004	Schooling in the United States	3
EDTL:7075	Educational Ethnography	3
EPLS:6265	Standards-Based Education and Accountability	3
EPLS:6381	Analysis and Appraisal of Curriculum	3
PSQF:6255	Construction and Use of Evaluation Instruments	3

Foreign Language and ESL Education

Code	Title	Hours
This course:		
EDTL:6483	Second Language Classroom Learning	3
Two of these, chosen in consultation with faculty:		
EDTL:6400	Fundamentals of Second Language Assessment	3

EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6480	Issues in Foreign Language Education	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3

Gifted Education

Code	Title	Hours
Administrative Strand		
Two of these, chosen in consultation with faculty:		
EPLS:4110	Administration and Policy in Gifted Education	2
EPLS:4111	Evaluation of Gifted Programs	1
EPLS:4113	Staff Development for Gifted Programs	1
Programming Strand		
Both of these:		
EDTL:4066	Curriculum Concepts in Gifted Education	3
EDTL:4199	Program Models in Gifted Education	3
Psychology Strand		
Two of these, chosen in consultation with faculty:		
RCE:4120	Psychology of Giftedness	3
RCE:4121	Identification of Students for Gifted Programs	3
RCE:4137	Introduction to Educating Gifted Students	3
RCE:5226	Assessment of Giftedness	3
RCE:5237	Seminar in Gifted Education	3

Global Education

Code	Title	Hours
All of these:		
EDTL:6840	Theories and Perspectives in Global Education	3
EDTL:6841	Attaining a Global Perspective	3
EDTL:6842	Examining Power, Resistance, and Change Through Global Education	3

Language, Literacy, and Culture

Code	Title	Hours
Both of these:		
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture (when topic is introduction to language, literary, and culture)	arr.

EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture (topic chosen in consultation with advisor)	arr.
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General Emphasis

This course:

EDTL:7008	Seminar: Research and Current Issues (topic chosen in consultation with advisor)	arr.
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Elementary Emphasis

One of these:

EDTL:6104	Literature for Children II	3
EDTL:6164	Early Literacy Development and Instruction	2-3
EDTL:6165	Reading and Writing Across Intermediate Grades	3

Secondary Emphasis

One of these:

EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:6315	M.A. Seminar: English Education	arr.

Mathematics Education

Code	Title	Hours
Both of these:		
EDTL:5535	Current Issues in Mathematics Education	1-3
EDTL:7535	Seminar: Research in Mathematics Education	arr.

Two of these:

EDTL:6530	Workshop in School Mathematics	1-3
EDTL:6531	Technology in School Mathematics	2-3
EDTL:6534	Foundations of Mathematics Education	2-3
EDTL:6536	Teaching of Geometry	2-3
EDTL:6539	Teaching of Algebra	2-3

Science Education

Code	Title	Hours
All of these:		
EDTL:6757	Learning in the Science Classroom	2-3
EDTL:6759	Advanced Pedagogy	3

Special Education

Code	Title	Hours
Three or four of these, depending on requirements of the major program:		
EDTL:7040	Advanced Topics in Teaching and Learning	arr.
EDTL:7945	Current Issues and Trends in Learning Disabilities	3
EDTL:7948	Contemporary Research in Behavioral Disorders	3
EDTL:7953	Seminar: Single Subject Design Research	3

Foreign Language and ESL Education

The Doctor of Philosophy in teaching and learning with a foreign language and English as a Second Language (ESL) education subprogram requires a minimum of 80 s.h. of graduate credit. The program provides students with the necessary content-area knowledge and research skills for independent research, program administration, and varied leadership positions in foreign language and ESL education. It is designed for individuals who have demonstrated success in foreign language and ESL teaching and who wish to prepare for positions in academia, government, or the private sector where in-depth knowledge of foreign language educational issues is required.

Most courses for the Ph.D. should be numbered 5000 or above. At least 30 s.h. must be taken in the core area of foreign language education. Students and their advisor discuss core area course work and cognate area specializations. Their progress toward the degree and their scholarship development is reviewed by the program's faculty and discussed by students and their advisor each year.

The Ph.D. in teaching and learning with a foreign language and ESL education subprogram requires the following course work. Students may be able to count some courses completed for the master's degree toward the 80 s.h. required for the Ph.D.

Required Courses

Foreign Language Education Core

Students must complete the following (21 s.h.).

Code	Title	Hours
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6483	Second Language Classroom Learning	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3
EDTL:7406	Proposal Writing for Second Language Research	3

Students must complete both of the following Ph.D. core courses.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Core Electives

Students may take the following courses in addition to, but not instead of, the courses listed under "Foreign Language Education Core" above. Students must have their advisor's consent to substitute other courses as electives.

Code	Title	Hours
EDTL:6402	Second Language Program Management	3
EDTL:6480	Issues in Foreign Language Education	3
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture (when topic is relevant)	arr.
SLA:6920	Multimedia and Second Language Acquisition	3

In addition, students must complete an approved cognate area; see "Required Cognates" under Ph.D. Required Research Courses [p. 1282] in this section of the Catalog.

The program requires 16 s.h. of course work in research methods. Three courses must be taken from the "First Tier Requirements" list, and two courses must be taken from the "Second Tier Requirements" list. Students who have little experience with social/behavioral sciences research methods when they enter the program may be advised to take remedial course work in research methods, which does not count toward the 16 s.h. requirement.

First Tier Requirements

These courses should be taken in the first two years of study (10 s.h.).

Code	Title	Hours
Both of these:		
EDTL:7405	Research Methods in Second Language Teaching and Learning	3
PSQF:6243	Intermediate Statistical Methods	4
One of these:		
EDTL:7070	Introduction to Qualitative Methods in Literacy Research	3
EPLS:7373	Qualitative Research Design and Methods	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is qualitative educational research methods)	3
RCE:7338	Essentials of Qualitative Inquiry	3

Second Tier Requirements

Two additional research methods courses should be chosen in consultation with a student's advisor. These courses should be taken after the first tier courses have been completed (6 s.h.).

Advanced Qualitative Courses

Code	Title	Hours
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7075	Educational Ethnography	3

EDTL:7751	Advanced Qualitative Data Analysis	3
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Advanced Research Design Courses

Code	Title	Hours
EDTL:7410	Mixed Methods Research	3
PSQF:6265	Program Evaluation	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when the topic is conducting research online)	arr.

Advanced Quantitative Courses

Code	Title	Hours
EPLS:6206	Research Process and Design	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3
PSQF:6255	Construction and Use of Evaluation Instruments	3
PSQF:6257	Educational Measurement and Evaluation	3

Remedial Course Work

These courses may be required if a student is not familiar with research methods in social/behavioral sciences.

Code	Title	Hours
EALL:5150	Introduction to Educational Research	3
PSQF:4143	Introduction to Statistical Methods	3

Comprehensive Examination

In order to qualify to take the comprehensive examination, students must successfully complete the required course work and an extended research activity. After successful completion of the required course work and the research activity, and upon recommendation of the program's faculty, a student is eligible to sit for the comprehensive examination. Completion of the required course work and research activities does not guarantee advancement to the examination.

After passing the comprehensive examination, students consult with their advisor to choose a Ph.D. dissertation committee of at least five faculty members, who approve the dissertation proposal. The student then conducts research under the primary guidance of the advisor.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have at least two years of experience teaching foreign language or ESL and should hold a master's degree or have completed a significant amount

of graduate course work in a foreign language or foreign language education. Applicants must have a g.p.a. of at least 3.00 in graduate course work. International applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) with a speaking score of 26 and a writing score of 25.

Application materials should include a statement of purpose explaining the applicant's professional goals, transcripts of all undergraduate and graduate work, Graduate Record Exam (GRE) General Test scores, a sample of academic writing, and three letters of recommendation.

Language, Literacy, and Culture

The Doctor of Philosophy in teaching and learning with a language, literacy, and culture subprogram requires a minimum of 88-90 s.h. of graduate credit. The program brings together scholarly traditions and contemporary theory in literacy and cultural studies. Course work provides a broad background in relevant theoretic and research literature and opportunities to conduct original studies that explore the nature of literacy practices both in and out of school. Graduates find employment in university and college teaching, research, curriculum development, and administration of literacy programs.

Required Courses

Students complete an introductory seminar in language, literacy, and culture; at least 9 s.h. of additional doctoral seminars in the program; approved cognate areas (see "Required Cognates" under Ph.D. Required Research Courses [p. 1282] in this section of the Catalog); and 9-12 s.h. of graduate course work outside the Department of Teaching and Learning with 6 s.h. of those outside the College of Education. Students also earn 10-12 s.h. of dissertation credit.

Students are required to take 19 s.h. in research course work.

Code	Title	Hours
Both of these:		
EDTL:7070	Introduction to Qualitative Methods in Literacy Research	3
PSQF:6243	Intermediate Statistical Methods	4
Additional credit hours as outlined below:		12
A sequence of courses that meets the specific research interests of a student (selected in consultation with an advisor and the language, literacy, and culture faculty)		
Semester hours may be taken in any combination of qualitative, quantitative, or other relevant research paradigms		
Courses may be taken either within or outside of the College of Education		
It is recommended that students take EALL:5150 Introduction to Educational Research (3 s.h.) early in their programs of study		
And, students complete one of these core courses:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Comprehensive Examination and Dissertation

As students near the completion of their course work, they identify several key strands for review and synthesis. With guidance from their advisors, students prepare for three forms of written and oral exams: they answer take-home questions in two areas of literacy; they submit a substantive issues paper, typically a report of an exploratory study or a review of research literature on a topic of special interest; and they design a syllabus for a literacy course and write a reflective commentary that demonstrates understanding of the relationship between theory and practice.

Following successful completion of all components of the comprehensive exam, students work with a faculty member to develop a proposal for a study that will make an original contribution to the understanding of some aspect of literacy. After the proposal has been approved, students conduct research and report their findings under the primary guidance of a dissertation chair.

For detailed information, see Language, Literacy, and Culture on the Department of Teaching and Learning website.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have at least three years of experience teaching or tutoring language or literacy (reading, writing, English, language arts) and should have earned a master's degree in a literacy-related field. Application materials should include a statement of purpose explaining the applicant's reasons for pursuing graduate study and describing future goals; transcripts of all undergraduate and graduate course work; Graduate Record Exam (GRE) General Test scores; a sample of academic writing; and three letters of recommendation.

Applications for admission and for financial aid are reviewed December 1 each year.

Mathematics Education

The Doctor of Philosophy in teaching and learning with a mathematics education subprogram requires a minimum of 80-90 s.h. of graduate credit. Students must have a cumulative g.p.a. of 3.00 or higher in all graduate work in mathematics, all University of Iowa graduate work in mathematics, all graduate work, and all University of Iowa graduate work.

The program prepares supervisors, teacher education personnel, community college personnel, and researchers in mathematics education. It is administered by the College of Education. Students must update graduate course work completed more than 10 years before admission to the program.

The Ph.D. program teaching and learning with a mathematics education subprogram requires the following course work.

Required Courses

Students must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses

listed under Ph.D. Research Requirements on the College of Education website.

Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, students must complete an approved cognate area; see "Additional Requirements" below.

Students must complete a minimum of 24 s.h. of graduate work in the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science, as approved by their advisor. Electives are encouraged in the pure mathematics and applied mathematics sequences.

Students who completed their mathematics requirement at another institution must complete at least 6 s.h. of additional course work in mathematics at the University of Iowa, chosen with advisor approval. They also must complete at least six courses in mathematics education, including EDTL:5535 Current Issues in Mathematics Education and EDTL:7535 Seminar: Research in Mathematics Education.

Additional Requirements

Students concentrate in two additional comprehensive examination areas in either the mathematical sciences or education. A minimum of three courses usually are required for a comprehensive examination area, but candidates should consult with faculty members in the areas selected to determine which courses they should take in order to adequately prepare for the examinations.

Students must complete a total of at least 36 s.h. in College of Education courses; this includes the course work listed above. They must complete an approved cognate area; a partial list of potential cognate areas is available from the mathematics education program.

Comprehensive Examination

Students take three written comprehensive examinations, one in mathematics education and two in other fields of education or mathematics; an oral examination follows the written examinations.

Dissertation

Students must earn 10 s.h. of dissertation credit in EDTL:7493 Ph.D. Thesis. Each candidate completes a dissertation on a research problem in mathematics education. A prospectus of the proposed research must be presented to the dissertation committee before the candidate undertakes the study. Upon completion of the dissertation, the candidate defends the dissertation in an oral examination.

Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate major in mathematics or the equivalent, a current teaching license/certificate, and at least two years of teaching experience are strongly preferred. A faculty review committee makes admission decisions.

Science Education

The Doctor of Philosophy in teaching and learning with a science education subprogram requires a minimum of 85 s.h. of graduate credit. The program is designed for individuals who aspire to positions as college and university science educators; major supervisors in national, state, and local systems; teachers in small liberal arts colleges; instructors of general education science courses at major universities; research directors in science education; and professionals in medical and/or allied health education.

The Ph.D. in teaching and learning with a science education subprogram requires the following course work.

Required Courses

All Ph.D. students in science education must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative course work, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the College of Education website. Course selections must be consistent with other requirements for the degree.

Core Courses

All doctoral students in science education must complete one or both of the following core courses. Students may not substitute other courses for these.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, all doctoral students in the Department of Teaching and Learning must complete an approved cognate area; see "Required Cognates" under Ph.D. Required Research Courses [p. 1282] in this section of the Catalog.

Science Education

Code	Title	Hours
All of these (15 s.h.):		
EDTL:6757	Learning in the Science Classroom	3
EDTL:6759	Advanced Pedagogy	3
Graduate-level science education courses chosen in consultation with advisor		9

Education

Code	Title	Hours
All of these (9 s.h.):		
EALL:5150	Introduction to Educational Research	3
PSQF:6200	Educational Psychology	3
PSQF:6275	Constructivism and Design of Instruction	3

Research in Science Education

Code	Title	Hours
Both of these (21 s.h.):		
EDTL:7750	Seminar: Science Education (taken three times for 1 s.h. each)	3
EDTL:7755	Independent Study in Science Education Research (taken six times for 3 s.h. each)	18

Science Area

Students complete a family of courses (total of 12 s.h.) in a major science area.

Dissertation

Students earn 10 s.h. of thesis credit in EDTL:7493 Ph.D. Thesis.

Admission

Applicants must meet the admission requirements of the Graduate College. They should have completed a bachelor's degree in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis; have a cumulative g.p.a. of at least 3.00 on undergraduate and graduate work; and have a combined score of at least 300 on the verbal and quantitative portions of the Graduate Record Exam (GRE) General Test. Applicants must submit three letters of recommendation; a statement of purpose describing their reasons for pursuing graduate work and their goals for graduate study; and an example of their academic writing.

Social Studies Education

The Doctor of Philosophy in teaching and learning with a social studies education subprogram requires a minimum of 90 s.h. of graduate credit. The program prepares secondary department chairs, supervisors, curriculum directors, teacher education personnel, and college instructors in the social sciences and in social studies education.

The required 90 s.h. of credit includes course work and the dissertation (10 s.h.).

Required Courses

Students are required to complete 16 s.h. of course work focused on research methodology.

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	4
One of these:		
EDTL:7070	Introduction to Qualitative Methods in Literacy Research	3
EPLS:7373	Qualitative Research Design and Methods	3
PSQF:7331	Seminar: Educational Psychology I - Current Topics (when topic is qualitative educational research requirements)	arr.

RCE:7338	Essentials of Qualitative Inquiry	3
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In consultation with advisor, 9 s.h. of research methodology course work appropriate to dissertation design from these:

Qualitative Methodology		
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7410	Mixed Methods Research	3
EDTL:7751	Advanced Qualitative Data Analysis	3
EDTL:7953	Seminar: Single Subject Design Research	3
EPLS:5240	Topics in Education (when topic is introduction to historical methodology)	arr.
PSQF:6265	Program Evaluation	3
RCE:7444	Qualitative Research in the Multicultural Context	3

Quantitative Methodology

EPLS:6206	Research Process and Design	3
EPLS:6209	Survey Research and Design	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

Students that want to take a course that is not listed above to receive credit toward their program requirements must obtain prior approval from their advisor and from the social studies education program.

Core Courses

In addition, students must complete one or both of the following core courses.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Social Studies Education Course

Code	Title	Hours
This course:		
EDTL:6833	History and Foundations of Social Studies Education	3

Global Education Courses

Code	Title	Hours
Two of these:		
EDTL:6840	Theories and Perspectives in Global Education	3

EDTL:6841	Attaining a Global Perspective	2-3
EDTL:6842	Examining Power, Resistance, and Change Through Global Education	3

The remaining course work must be distributed among approved cognate areas (see "Required Cognates" under Ph.D. Required Research Courses [p. 1282] in this section of the Catalog), history, social sciences or related areas, and professional education, depending on a student's background and goals.

Seminars and courses numbered 5000 or above are required in each of the study areas that constitute the major.

Comprehensive Examination

Students take three three-hour examinations, one in each of the study areas. Depending on the distribution of course work, the nine hours of written examinations may be rearranged. The Ph.D. examining committee consists of five members, who are selected according to the nature of the student's Ph.D. program and distribution of course work. An oral examination is conducted by the committee following the written exam.

Dissertation

Candidates, in consultation with their committee, may choose to complete a dissertation organized by either chapters or publishable articles, depending on their career goals and the nature of their study. In either case, the scholarly pursuit must be on a philosophical or social science research problem in social studies education. The candidate must present a prospectus of the proposed scholarship to the committee before undertaking the dissertation. Upon completion, the candidate defends the dissertation in an oral exam.

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree in history, the social sciences, or education; a master's degree in history, the social sciences, or education; a cumulative g.p.a. of at least 3.00; and a combined verbal and quantitative score of at least 310 on the Graduate Record Exam (GRE) General Test. At least two years of teaching experience is strongly preferred. Applicants who did not write a thesis as part of their M.A. must submit seminar papers or field research as equivalents.

Special Education

The Doctor of Philosophy in teaching and learning with a special education subprogram requires a minimum of 90 s.h. of graduate credit. The program prepares students for teaching and research positions in higher education, and for curriculum, supervisory, and research positions in state and local education agencies. The program permits students to study and practice extensively in their special education interest area and in an interest area outside of special education.

The Ph.D. curriculum includes an emphasis on research skills, all facets of special education, an approved cognate area (see "Required Cognates" under Ph.D. Required Research Courses [p. 1282] in this section of the Catalog), and at least one specialization area.

Required Courses

Code	Title	Hours
This course:		
EALL:5150	Introduction to Educational Research	3

Quantitative Research Requirements (13-15 s.h.)

Both of these:

PSQF:4143	Introduction to Statistical Methods	3
PSQF:6243	Intermediate Statistical Methods	4

Two of these:

EPLS:6206	Research Process and Design	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	4
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

Qualitative Research Requirements (6 s.h.)

This course:

EDTL:7953	Seminar: Single Subject Design Research	3
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One of these:

EDTL:7410	Mixed Methods Research	3
EPLS:7373	Qualitative Research Design and Methods	3

Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

Proseminar Courses

Code	Title	Hours
Both of these:		
EDTL:7943	Proseminar: Issues, Trends, and Research in Special Education	3
EDTL:7944	Proseminar: Issues, Trends, and Research in Special Education II	3

Minor

Students also must complete an interdisciplinary minor in a discipline outside of special education (minimum of 12 s.h.).

Comprehensive Examination and Dissertation

In addition, students are required to write the comprehensive examination and complete a doctoral dissertation, earning a minimum of 10 s.h. in the following course.

Code	Title	Hours
EDTL:7493	Ph.D. Thesis	10

Admission

Applicants must meet the admission requirements of the Graduate College. They must have a master's degree or equivalent in special education; those without an M.A. thesis must have completed an equivalent project. Applicants should have a graduate g.p.a. of at least 3.50 and a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants should have at least one year of full-time teaching experience with exceptional children; several years are preferred.

Application materials must include a completed Graduate College application form, copies of official transcripts for all college course work, an official report of Graduate Record Exam (GRE) General Test scores, three current letters of recommendation, and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

UI REACH

Director

- William Loyd Jr.

Faculty: <https://education.uiowa.edu/directories>

Website: <https://education.uiowa.edu/services/reach>

Program of Study

UI REACH (Realizing Educational and Career Hopes) is a transition certificate program for college students with disabilities, such as autism, intellectual disabilities, and learning disabilities. UI REACH provides a Big Ten college experience and empowers young adults to become independent members of the community. Course work, campus life, and career experiences prepare students to reach their full potential. The program also offers alumni events.

The program offers courses on academic skill building, career preparation, student and community life skills, and socialization. Courses are taught by College of Education instructors.

Students live in a University of Iowa residence hall, where they receive support from specially trained undergraduate resident assistants. A fully inclusive college environment provides students with age-appropriate community opportunities and interactions with other students.

For more information, visit the UI REACH website.

Courses

UI REACH Courses

REA:0001 Academic Success 2 s.h.

Tools that help students succeed in academic courses; basic organization, efficient note taking, study and test-taking skills; participation in activities that increase awareness of classroom dynamics; solutions for test anxiety; ways to approach diverse learning experiences; how class content relates to study hall and residential facilities; seminar.

REA:0010 Social Skills I 2 s.h.

Basic interpersonal skills needed to succeed in academic, social, and employment environments; structured learning process for gaining discrete social skills necessary to initiate and maintain conversations in a variety of settings; awareness of feelings and cues in conversation to respond appropriately and have successful reciprocal interactions; lectures, modeling, role play, and practice in the community.

REA:0020 Computers and Technology I 2 s.h.

Training in computer literacy and practical skills for computer use in everyday life; computer parts and functions, the Windows operating system, computer applications; use of the personal computer to improve personal, academic and workplace productivity; group discussion, demonstrations, and multimedia experience support diverse learning styles.

REA:0021 Computers and Technology II 2 s.h.

Builds on REA:0020; fundamental computer competencies and strategies to simplify everyday life and enhance workplace performance; opportunity to improve practical skills for the workplace, communication with others, and daily life; tools for improving personal organization and communication and for meeting academic, entertainment, and workplace needs; group discussion, demonstration, independent exploration, and a multimedia experience support diverse learning styles.

REA:0030 Health and Wellness I - Exploration 2 s.h.

Importance of health and wellness, personal relationships, sexuality and making healthy choices; overview of health and wellness topics college students face—nutrition, substance use, risky behaviors, personal relationships, sexual health, mental health.

REA:0031 Health and Wellness II - Healthy Lifestyles 2 s.h.

Health and wellness personalized for students; help in assessing individual health and wellness decisions and behaviors to improve current and long-term health and wellness; small group discussion, individual assessments, real-life exploration, interactions with health educators, one-on-one student support; second in a series.

REA:0040 Personal Finance and Math I 2 s.h.

Understanding of numbers, operations, and managing personal finances; computation strategies, problem-solving strategies, skills for good consumers; opportunity to practice math skills in the community and the workplace; first in a series.

REA:0041 Personal Finance and Math II 2 s.h.

Skills and knowledge needed for managing personal finances; banking, budgeting, insurance, how to be a good consumer; students plan for their financial future by studying paycheck information, actual income, and tax responsibility; research on independent living costs; second in a series.

REA:0050 Lifetime Reading and Writing 2 s.h.

Enhancement of leisure reading; library visit to discover interesting genres, activities to review books, discussion of components (e.g., plot, characters); techniques of good readers; writing tools for success in daily living; writing forms including short organizational forms (e.g., to-do lists, grocery lists), family correspondence, business letters; observation and demonstration of writing techniques; use of writing as a form of self-expression, organization, and communication with others.

REA:0062 Social Skills II 2 s.h.

Continuation of REA:0010; more advanced relationship skills that require self-regulation; self-awareness; applying skills for communicating under stress; structured learning process including repetitive practice and modeling as key components.

REA:0070 Life Skills I - Transitions 2 s.h.

Components of successful independent and community living; personal safety issues, effective communication skills for interacting with peers and college personnel, how to access broad community resources for living, work, and leisure; students develop a plan for personal daily routines; classroom activities, practical experiences on campus and in the community.

REA:0072 Life Skills II - On Your Own 2 s.h.

Goal setting and planning for independent living after college; how to use daily living skills from college in students' planned home communities; skills required for finding and managing a home or apartment, using community resources and agencies, and meeting basic needs; how to be interdependent and independent in the community.

REA:0073 Life Skills III - Transition Planning 2 s.h.

Work on transition plan during spring semester of final year—goal setting and planning for independent living after college; how to use daily living skills from college in students' planned home communities; using community resources and agencies; meeting basic needs; how to be interdependent and independent in student's home community; identification of transition team members; plan and lead transition meeting.

REA:0074 Household Management II 3 s.h.

Continuation of REA:0075; preparation for independent apartment living; experiential training, assessment to determine support needs; apartment living, personal care, value shopping and budgeting, preparing meals, successful community living.

REA:0075 Household Management I 3 s.h.

Independent living skills introduced in the life skills and health and wellness courses; hands-on experience in room care, clothing care, food/kitchen safety, meal planning and nutrition, food preparation, simple recipes, grocery shopping, event planning.

REA:0076 Community Leisure and Advocacy 1 s.h.

Utilizing community resources while promoting self-advocacy and leadership; student support for transitioning from a university setting to community living; exploration of community resources related to recreation, entertainment, and independent living using multiple media sources for information gathering; field trips to investigate local resources; research related resources within students' home communities. Requirements: enrollment in UI REACH Program.

REA:0078 Historical Documentary Making 2 s.h.

History of disabilities (learning and physical disabilities); ground work for making a historical documentary; desktop documentary software used by student teams to produce documentaries on history of disability rights movement. Requirements: enrollment in UI REACH program.

REA:0079 Service Learning 2 s.h.

Classroom-based learning combined with community service; available resources and ways to better a community; assessment of community needs, research volunteer organizations, service-learning opportunities within the community.

REA:0081 Personal Leadership 1 s.h.

Self-advocacy and awareness of individual strengths as empowerment for leadership roles in the community; qualities of a leader, value of mentors, importance of community service; elements of work-life balance; opportunities to participate in life-long service learning and leadership.

REA:0090 Current Events 1-2 s.h.

Forum to increase knowledge and ability to comment on current events; voting and political process, civic responsibilities in the local and federal elections process, how students can participate; use of various forms of media (i.e., print, broadcast, internet) to develop critical thinking skills related to awareness of current events and their impact; personal safety issues; effective communication skills for interacting with peers and college personnel.

REA:0091 Psychology 1 s.h.

Basic concepts of psychology, with focus on daily life and understanding behavior; situations encountered as persons with an intellectual disability; differences between a psychologist, psychiatrist, and counselor; role of professionals; individual differences and social influences on behavior; introduction to scientific method, conducting basic experiments.

REA:0100 Career Exploration 4 s.h.

Opportunity to explore, enhance, or broaden work interests, skills, and potential career opportunities; interest inventories, review of vocational experiences, interactive employer presentations, informational interviews, job site experiences; focus on self-assessment of one's individual vocational strengths.

REA:0101 Job Search Strategies 2 s.h.

Fundamental tools and techniques for getting a job; students create a résumé, including references and updated work history; interview techniques, information gathering, thank-you letters, work-related vocabulary, appropriate behaviors and attitudes for a successful job search; role playing, demonstrations, real-world practice.

REA:0102 Entrepreneurism 2 s.h.

Characteristics, advantages, and disadvantages of self-employment; legal aspects of forming a business, marketing, acquiring start-up funding and other resources; financial obligations and monitoring of funds required for a successful business; students write a business plan.

REA:0103 Job Search Strategies II 2 s.h.

Continuation of REA:0101; update résumés, references, and cover pages; appropriate behaviors and attitudes for successful job search; seek and apply for jobs with assistance from instructor.

REA:0200 Business Support Seminar 1 s.h.

Aspects of careers in business support; office procedures, word processing skills, oral and written communication, records management, business terminology.

REA:0202 Education Career Seminar 1 s.h.

Aspects of careers in education; additional training typically required for careers in education, child/student needs, lesson planning.

REA:0203 Health Services Seminar 1 s.h.

Aspects of careers in health services; office procedures and equipment, customer service skills, terminology used in health care environments.

REA:0204 Hospitality Seminar 1 s.h.

Aspects of careers in hospitality; customer service skills, phone and counter etiquette, vocabulary used in the hospitality industry.

REA:0205 Human Services Seminar 1 s.h.

Aspects of careers in human services; types of human services environments, interpersonal relationships and boundaries, paperwork requirements, terminology commonly used in human services environments.

REA:0207 Marketing/Sales Seminar 1 s.h.

Aspects of careers in marketing and sales; customer service skills, use of retail equipment, marketing techniques and the importance of product appearance, pricing and advertising, vocabulary used in a retail sales environment.

REA:0208 Parks and Natural Resources Seminar 1 s.h.

Aspects of careers in parks and natural resources management; operation and maintenance of equipment, safety procedures, customer service skills, typical vocabulary for positions involving care and management of shrubs, trees, flowers, and turf.

REA:0209 Skilled Trades Seminar 1 s.h.

Aspects of careers in the skilled trades; occupational skill standards in specific skilled trades, apprenticeships or advanced training required, safety in the workplace, vocabulary typical for specific skilled-trade work environments.

REA:0210 Information/Technology Seminar 1 s.h.

Aspects of careers in information technology; occupational skill requirements and standards, knowledge of typical equipment employees must operate, safety in the workplace, typical vocabulary for information technology work environments.

REA:0211 Culinary Arts Seminar 1 s.h.

Different types of careers in the food industry; workplace skills and tasks; continuing training and education options; equipment and food safety; basic preparation steps, food presentation, place settings; field trips. Requirements: enrollment in UI REACH program.

REA:0213 Recreation Seminar 1 s.h.

Aspects of careers in recreation, training and education requirements, tasks at work, and job prospects.

REA:0250 Academics and Life Skills Exploration I 1-3 s.h.

Expand basic academic and/or life skills with discovery, experiential learning, progress monitoring, and self-reflection; focus on strengthening foundational skills in practical academics and life skills; first of a two-part series.

REA:0251 Academics and Life Skills Exploration II 1-2 s.h.

Builds on basic academic and/or life skills explored in REA:0250; UI REACH instructors and university faculty work together to enhance learning opportunities while providing explicit, interactive learning opportunities; progress monitoring, reflection, and focus on maintenance of basic academic and life skills; second of a two-part series.

REA:0252 Academics and Life Skills Enrichment I 1-3 s.h.

Broaden and diversify academic and student life experiences; address specific interest areas of students; focus on communication, relationships, academics, and independent life; individualize, extend, and provide depth to student's current level of knowledge and skills.

REA:0253 Academics and Life Skills Enrichment II 1-2 s.h.

Builds on extended and diversified learning opportunities provided in REA:0252; transfer of skills and knowledge to new situations and environments encountered as students transition to workplace and home communities.

REA:0300 Internship I - Prep arr.

Introduction to functional skills, job expectations, environments of the workplace; students venture out into the community and see first-hand what a specific career or job entails; role of the influencer; small groups, job shadowing, tryouts—depending on individual needs and abilities; create a résumé; summer job searching skills; preparation for Internship II—applications, interviews, contacting employers.

REA:0301 Internship II arr.

Internship experience leading to increased independence in the workplace (e.g., more independent operation of equipment, socialization, workplace safety, problem solving, conflict management); opportunity to acquire additional workplace skills in the student's career emphasis area; employers and mentors guide students in fulfilling their job responsibilities; students maintain a journal and discuss their experience with their advisor or instructor; second of three consecutive internships.

REA:0302 Internship III arr.

Internship experience with opportunities to develop more advanced skills for independent communication, problem solving, and workplace performance in the student's career emphasis area; employers and mentors observe the student in the workplace; students maintain a journal and discuss their experience with their advisor or instructor; third of three consecutive internships.

REA:0303 Internship IV arr.

Individualized community work experiences with periodic classroom seminars; building independent work skills, such as researching bus routes and emailing weekly journals; students, instructors, and employers evaluate student's work performance.

REA:0304 Internship V arr.

Continuation of REA:0303; community work experiences with periodic classroom seminars; emphasis on work skills in student's career area of choice; soft skills needed to be an independent worker.

REA:0305 Advanced Internship arr.

Development of advanced workplace skills in time management, communication, problem solving, and performance; one or more internships individualized to meet needs for further workplace soft skill development; observation in workplace by instructors, employers and mentors; journaling and discussion of experience with UI REACH staff; tracking time via method that works for individual needs; internship experiences and classroom seminars; emphasis on work skills in any career area and soft skills needed to be an independent worker. Requirements: UI REACH fourth year enrollment.

REA:0325 Computer and Technology Literacy I 2 s.h.

Self-paced course to improve personal, academic, and career computer literacy and skills; online learning modules and computer-based programs to increase computer skills; email and internet searching, online learning options, online banking and purchasing, Microsoft Office programs, and online career resources.

REA:0326 Computer and Technology Literacy II 2 s.h.

Self-paced course builds on skills learned in REA:0325; extends and provides depth to student's current level of skill; course work focuses on enhancing personal, academic, and career computer literacy; group discussion, demonstration, independent exploration, and practice to further develop computer skills; email, online career resources, Google Drive, social networking, and budgeting.

REA:0400 Independent Study arr.

Independent study coordinated with the student's UI REACH advisor.

REA:0501 Special Topics**arr.**

Topics include leisure resources, current events, science, family life, consumerism, community involvement, self-determination, self-advocacy, leadership, assistive technology, mentoring; course assignments, instruction, and student assessment in classroom and/or community settings; may be required or elective course.

College of Engineering

Dean

- Alec B. Scranton

Executive Associate Dean

- Larry J. Weber

Associate Dean, Academic Programs

- Nicole M. Grosland

Associate Dean, Diversity and Outreach

- Tonya L. Peebles

Associate Dean, Research, Graduate Studies, and Faculty

- Milan Sonka

Director, Center for Bioinformatics and Computational Biology

- Thomas L. Casavant

Director, Center for Computer-Aided Design

- Karim Abdel-Malek

Codirectors, Iowa Institute for Biomedical Imaging

- Colin P. Derdeyn, Milan Sonka

Director, IIHR—Hydroscience and Engineering

- Gabriele Villarini

Undergraduate degree: B.S.E.

Undergraduate certificates: naval hydrodynamics; technological entrepreneurship; wind energy

Graduate degrees: M.S.; Ph.D.

Graduate certificate: sustainable water development

Website: <https://www.engineering.uiowa.edu/>

Engineering is defined by ABET (formerly known as Accreditation Board for Engineering and Technology) as that profession in which knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to use, economically, the materials and forces of nature for the benefit of mankind.

In short, engineering is the application of science and mathematics to solve problems for society.

The major aim of engineering is the creation of a new process, product, material, or system. This activity demands a high degree of creativity and problem-solving ability coupled with a full understanding of engineering fundamentals, good judgment, and a practical sense of economics.

The College of Engineering prepares students for one or more of the many career opportunities in the engineering profession. Such opportunities include positions in design, production, development, research, management, and consulting. Engineers are employed in industrial organizations, governmental agencies, and private practice.

The College of Engineering's mission is to develop, disseminate, transfer, and preserve technical knowledge that improves people's lives. The college endeavors to:

- provide a well-rounded and superior engineering education that draws upon resources of a comprehensive research university to attract outstanding undergraduate and graduate students in selected engineering fields;
- conduct high-quality research in selected areas, enabling faculty members and students to keep pace with new developments and ensuring that the newest concepts are taught in its courses; and
- serve the needs of the University, industry, government, and the general populace by making its facilities and faculty expertise accessible.

College Organization

The College of Engineering has six departments and four research units. The Department of Biomedical Engineering, Department of Chemical and Biochemical Engineering, Department of Civil and Environmental Engineering, Department of Electrical and Computer Engineering, Department of Industrial and Systems Engineering, and Department of Mechanical Engineering offer a total of eight undergraduate programs of study with Bachelor of Science in Engineering degrees offered in:

biomedical engineering,
chemical engineering,
civil engineering,
computer science and engineering,
electrical engineering,
environmental engineering,
industrial engineering, and
mechanical engineering.

The college also offers combined undergraduate degrees with the College of Liberal Arts and Sciences and the Tippie College of Business; a dual degree with the University of Northern Iowa; a combined bachelor's/master's degree program in each engineering discipline; and a combined bachelor's/master's degree with the School of Urban and Regional Planning (also see the graduate Certificate in Transportation Studies [p. 1491] in the Graduate College). For additional information, see "Combined and Dual Degrees" in the Bachelor of Science in Engineering [p. 1311] section of the Catalog.

In addition, the College of Engineering partners with the Tippie College of Business to offer the Certificate in Technological Entrepreneurship [p. 1413] for undergraduate engineering students. The College of Engineering also teams with the College of Liberal Arts and Sciences to offer the Certificate in Wind Energy [p. 1415], which is open to all University of Iowa undergraduates. And, the college offers the undergraduate Certificate in Naval Hydrodynamics [p. 1409], the undergraduate Certificate in Technological Entrepreneurship [p. 1413], and the graduate Certificate in Sustainable Water Development [p. 1411].

The College of Engineering offers Master of Science and Doctor of Philosophy degrees in:

biomedical engineering,
chemical and biochemical engineering,
civil and environmental engineering,
electrical and computer engineering,
industrial engineering, and
mechanical engineering.

The research units are the Center for Bioinformatics and Computational Biology, the Center for Computer-Aided Design, the Iowa Institute for Biomedical Imaging, and IIHR—Hydroscience and Engineering.

Diversity and Inclusion in the College of Engineering

The College of Engineering is committed to developing an inclusive community of learning and scholarship with the sustainable support systems that enable participants of all ages (pre-K-12, college, graduate students, staff, and faculty) to succeed. This welcoming extends beyond the college to the wider University of Iowa community and to national venues. Inclusion efforts are led by the Outreach, Admissions, Scholarship and Inclusion Services (OASIS) team. Diversity programs offered by the Ethnic Inclusion Effort for Iowa Engineering (eI2) and by Women in Science and Engineering (WiSE) help to nourish the college community. Project Lead the Way (PLTW) and FIRST Tech Challenge (FTC), as well as general pre-engineering summer camps, engage K-12 students and teachers in the Midwest expanding inclusion practices to broaden participation of underrepresented groups in science and engineering disciplines. These programs enjoy the support from several international engineering and manufacturing firms, federal agencies, and private foundations. The associate dean for diversity and outreach manages these efforts and further serves to increase recruitment and retention of diverse undergraduate and graduate students, faculty, and staff within the college.

Diversity and Inclusion in Graduate Programs

Diversity programs have served to build and nourish the graduate community within the College of Engineering. The college is active in recruiting graduate students of diverse backgrounds and provides mentoring, networking, professional development, and financial support for many graduate students. The success in mentoring underrepresented students in engineering has been built on strong collaboration with other campus units and has been supported through private, state, and federal funding.

Signature programs within the College of Engineering which support graduate students include the Ethnic Inclusion Effort for Iowa Engineering (eI2) and Women in Science and Engineering (WiSE) which provide opportunities for graduate professional development. In addition, the college is a diversity leader as a part of the University Center for Exemplary Mentoring, supported by the Alfred P. Sloan Foundation, and as a member of The National GEM Consortium.

Professional Licensure

Licensure as a professional engineer is governed by the laws of each state. Most states' minimum requirements include graduation from an accredited engineering curriculum of at least four years, followed by at least four years of practical experience and successful completion of two major examinations.

The agency that controls and monitors the licensing procedure in Iowa is the Engineering and Land Surveying Examining Board. The first step in the procedure for students enrolled in an accredited program is to pass an examination on engineering fundamentals given near the time of graduation. Following graduation and the successful completion of the engineering fundamentals exam, graduates

receive an Engineer-in-Training (EIT) certificate. The final step in the procedure is to pass the principles and practice exam in a specialty area following a minimum of four years of approved professional experience. At this point, the graduate engineer becomes a licensed Professional Engineer.

Student Organizations

The College of Engineering is invested in creating inclusive opportunities for students to further develop their leadership skills and to become more engaged and committed student leaders. In turn, student organizations are empowered to maximize their impact around the college, the university, and the community. The College of Engineering is home to more than 30 student groups comprised of honors organizations, departmental and multidisciplinary organizations, diversity and professional organizations, and industry-specific organizations. The Student Development Center (SDC) and Outreach, Admissions, Scholarships, and Inclusion Services (OASIS), as well as the dean's office, in conjunction with the Engineering Student Council, work together to support recognized student organizations. Engineering Student Council plans and carries out activities involving the entire college and acts on college-wide matters of general student interest.

Several engineering professional societies have University of Iowa student chapters: American Institute of Chemical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Biomedical Engineering Society, Institute of Electrical and Electronics Engineers, and Institute of Industrial and Systems Engineers.

The following student organizations are multidisciplinary and are open to all engineering students:

American Institute of Aeronautics and Astronautics is a professional organization affiliated with the field of aerospace engineering;

American Wind Energy Association focuses on career development, research, and advocacy for wind energy;

Artineers is an organization that fosters collaborations between engineering and the arts;

Engineering Sales Club helps engineering students develop the professional skills required for careers in technical sales and consulting;

Engineering World Health, Continental Crossings, and Engineers Without Borders work to reduce poverty and improve global sustainability;

FIRST Alumni Organization brings together students who participated in the FIRST program while in high school and are willing to give back to the community through mentoring and volunteering at FIRST events;

Human Factors and Ergonomics Society promotes the discovery and exchange of knowledge concerning the characteristics of human beings that are applicable to the design of systems and devices;

Iowa Marine Autonomous Racing Club is a design team that focuses on competing in the annual RoboBoat competition sponsored by the Office of Naval Research and the Association for Unmanned Vehicle Systems International;

UI Robotics Club is an all-encompassing robotics club where members may compete, volunteer, mentor, and learn;

Society of American Military Engineers promotes and facilitates engineering support for national security;

Society of Automotive Engineers is a technical organization that designs and fabricates a mini-Baja car to compete at regional and national competitions; and

Theta Tau, a national professional engineering fraternity, focuses on developing engineering leaders for service, profession, and brotherhood.

The University chapter of Tau Beta Pi, a national honorary society for students in all engineering fields, gives special recognition to superior students in their junior and senior years. The work of students who are outstanding in specific engineering disciplines is recognized by Alpha Eta Mu Beta (biomedical engineering), Omega Chi Epsilon (chemical engineering), Chi Epsilon (civil engineering), Eta Kappa Nu (electrical engineering), Alpha Pi Mu (industrial engineering), and Pi Tau Sigma (mechanical engineering).

Student organizations that support the enrollment of women and members of minority populations in the college include the Multi-Ethnic Engineering Student Association; the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers; the National Society of Black Engineers; Out in Science, Technology Engineering, and Mathematics; the Society of Asian Scientists and Engineers; the Society of Hispanic Professional Engineers; the Society of Women Engineers; and Women in Science and Engineering.

For more information, visit Student Organizations on the college's website.

Programs

Undergraduate Programs of Study

The College of Engineering offers the Bachelor of Science in Engineering [p. 1304]; see that section of the Catalog for detailed information about the B.S.E., including requirements, admission, and academic rules and procedures. B.S.E. degrees are offered in Biomedical Engineering [p. 1316], Chemical and Biochemical Engineering [p. 1328], Civil and Environmental Engineering [p. 1343], Electrical and Computer Engineering [p. 1362], Industrial and Systems Engineering [p. 1381], and Mechanical Engineering [p. 1395]. For information about each B.S.E. major, see the Catalog's College of Engineering department sections. The College of Engineering also offers two undergraduate certificates in Naval Hydrodynamics [p. 1408] and Wind Energy [p. 1414].

Graduate Programs of Study

The College of Engineering offers the Master of Science and Doctor of Philosophy; see College of Engineering Graduate Studies for an overview and Biomedical Engineering [p. 1316], Chemical and Biochemical Engineering [p. 1328], Civil and Environmental Engineering [p. 1343], Electrical and Computer Engineering [p. 1362], Industrial and Systems Engineering [p. 1381], and Mechanical Engineering [p. 1395] departmental sections in the Catalog for information about principal research and study areas, degree requirements, admission, and financial support for individual graduate programs. The College of Engineering also offers a graduate certificate in Sustainable Water Development [p. 1410].

High School Programs

FIRST: FTC

For Inspiration and Recognition of Science and Technology (FIRST) gives students the opportunity for real-world application of science, technology, engineering, and math (STEM) concepts. Students participate in an atmosphere that encourages team building, entrepreneurship, and sportsmanship. FIRST Tech Challenge (FTC) allows teams of students to be responsible for designing, building, and programming robots to compete in an alliance format against other teams. Teams are required to develop strategy and build robots based on sound engineering principles. Students learn about working in a team environment, effective communication skills, the ability to fail and succeed at the same time, and competing fairly while being supportive of their competition.

Project Lead The Way

Project Lead The Way (PLTW) is a four-year high school sequence taught in conjunction with traditional math and science courses. The program's curriculum emphasizes critical thinking, creativity, innovation, and real-world problem solving. PLTW courses provide students with in-depth, hands-on knowledge of engineering and technology-based careers.

Facilities and Resources

Seamans Center for the Engineering Arts and Sciences

The Seamans Center for the Engineering Arts and Sciences is home to the College of Engineering. The Seamans Center provides space for learning, teaching, research, and collaboration that meet the needs of 21st-century engineering. Additional work rooms and conference areas join the Seamans Center's expanded classrooms and flexible research space in an environment designed to serve the needs of the college's students, faculty, and staff.

Construction was completed on an addition that provides state-of-the-art collaborative classrooms and learning spaces that further enhance the creative learning opportunities for students. The Seamans Center provides the welcoming and collaborative facilities that support the active and engaging educational and research programs in the College of Engineering.

Engineering Student Services

The professional staff of Engineering Student Services administers student services for the College of Engineering, including advising, tutoring, student records, and global engineering. It also is the administrative home of Engineering Professional Development and the Hanson Center for Technical Communication.

Engineering Professional Development

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinates the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other

programming related to career development. EPD offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation. EPD partners with the Pomerantz Career Center to facilitate on-campus interviewing and administration of the University's online recruiting system, HireaHawk.

Global Engineering

In the world's global society, engineering graduates in all disciplines are expected to have a level of global competence in order to successfully interact with colleagues and customers around the world. Successful engineers are able to communicate across cultures, work in ethnically and culturally diverse teams, and can effectively deal with ethical issues and conflicts arising from such differences.

University of Iowa engineering students have numerous opportunities to study abroad. Students can immerse themselves in another culture while taking required engineering courses in English for a winter, summer, semester or full academic year. Students can also explore opportunities abroad to fulfill their minor or elective focus area requirements.

In addition to studying abroad, engineering students can pursue additional opportunities abroad, such as volunteering abroad, conducting research in other countries, and global internships.

Lichtenberger Engineering Library

The Lichtenberger Engineering Library is a branch of the University of Iowa Main Library and is a center of engineering college activity. Its collections include more than 140,000 volumes and electronic full-text access to over 5,000 engineering and scientific journals. It offers electronic access to primary engineering and scientific indexes and abstracts, and full-text access to standards and U.S. patents. The library also maintains a substantial collection of publications from major engineering societies and a collection of national and international standards. Tools also are available for check out to students and faculty in order to allow for more hands-on projects and use in class assignments. Example tools include screwdrivers, scales, and light meters. The library provides 35 computer workstations with specialized software packages and a significant amount of study space for students. The study spaces allow for individual as well as group study. The library features individual study carrels, group tables, lounge chairs, a collaborative work station, and movable whiteboards. Library personnel are available to assist with specialized engineering-related reference and informational questions. Personnel also provide course- and topic-specific instructional programs to further critical thinking and lifelong learning skills.

Hanson Center for Technical Communication

The Hanson Center for Technical Communication (HCTC) assists undergraduate engineering students develop and polish their communication skills. The center's director and assistant director supervise a staff of professional writing consultants and peer tutors.

HCTC writing consultants are professional instructors who work in teams to help engineering faculty members present and evaluate writing-intensive assignments. They also

provide individual feedback and assessment of students' work throughout the writing process.

HCTC peer consultants are engineering students who have strong communication skills. Peer tutors conduct one-on-one tutoring sessions at the center, helping their fellow students develop skills for organization and audience analysis and for creating precise technical descriptions and persuasive, logical narratives.

Engineering Computer Services

Engineering Computer Services (ECS) provides information technology administration for curricular, administrative, and research computing at the College of Engineering. The college has three drop-in computer labs with 180 high-end Linux and Windows computer workstations, 24-seat and a 45-seat computer classrooms and labs, and a 250-seat virtual computer lab with graphics support that students can access on the internet. Numerous public domain applications and commercial engineering applications support the full range of engineering classes. Software is upgraded annually, and hardware is upgraded every four years. The college's computer labs are open 24 hours a day, every day of the year.

Engineering Electronics Shop

The Engineering Electronics Shop (EES) is a full-service electronics facility that supports sales and service for the College of Engineering and the University. EES provides design, construction, repair, calibration, and preventive maintenance services for teaching and research laboratories. EES maintains more than 100,000 parts in stock, including electronic components, computer and office supplies. The shop has laser cutting and etching equipment, a printed circuit board mill, and 3-D printers. EES also maintains a large set of rental lockers for students.

Engineering Machine Shop

The Engineering Machine Shop (EMS) is a full-service, light manufacturing facility that supports curricular, research, and operational needs of the College of Engineering and the University. EMS provides professional design and fabrication services and gives students, staff, and faculty controlled access to a variety of manufacturing equipment. The shop has a high resolution 3-D scanner and several high resolution 3-D printers. EMS also supports College of Engineering clubs with its projects support facility.

Research Centers

The College of Engineering has four major research centers. College of Engineering researchers also collaborate with researchers from outside the college in several interdisciplinary research units.

College of Engineering Research Centers

Center for Bioinformatics and Computational Biology

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research center dedicated to applying high performance networking and computing to basic life science and applied biomedical research. With faculty and students representing more than 20 traditional disciplines, the CBCB has contributed to the understanding of inherited human diseases, including blinding eye disease, cancer, deafness, diabetes, autism, schizophrenia, hypertension,

obesity, and heart disease. For almost 20 years, the CBCB has been at the cutting edge of high throughput molecular discovery and interpretation in transcriptomics, genomics, and proteomics. At the confluence of these efforts lies the current wavefront of personalized genomic medicine, to which the CBCB plays a central role in partnership with labs, centers, and institutes across the University's Carver College of Medicine and basic science programs across campus. The CBCB also has been a nexus for industry start-ups and partnerships with numerous commercial enterprises. The center is jointly sponsored by the College of Engineering and the Carver College of Medicine.

Center for Computer-Aided Design

The Center for Computer-Aided Design (CCAD) focuses on modeling and simulation, and conducts basic and applied research in six units: the Operator Performance Laboratory (research in human performance); the Virtual Soldier Research Program (research in human modeling and simulation); the National Advanced Driving Simulator (research in driving and transportation); the Reliability and Sensory Prognostic Systems Program; the Musculoskeletal Imaging, Modeling, and Experimentation Program (computational modeling of anatomic structures); Advanced Manufacturing Technology (virtual testing of manufacturability, design effectiveness, and performance); and the Biomechanics of Soft Tissues focusing on understanding, diagnosis, and treatment of diseases of the soft tissues in the human body.

Iowa Institute for Biomedical Imaging

The Iowa Institute for Biomedical Imaging (IIBI) conducts research in the following areas: medical imaging (CT, MR, OCT, PET, SPECT, ultrasound, multimodality imaging), medical image analysis and computer-aided diagnosis; cardiovascular image analysis (angiography-intravascular ultrasound data fusion, MR image analysis of congenital heart disease, coronary CT image analysis, early detection of cardiovascular disease); pulmonary image analysis (CT and MR image analysis of the lung); cell image analysis (cell tracking, shape analysis); virtual surgery planning (augmented reality for surgical planning), cancer-related assessment of tumor progression/regression, staging, general machine learning; and disease/treatment outcome prediction. The institute is sponsored by the College of Engineering and the Carver College of Medicine.

IIHR—Hydrosience & Engineering

IIHR—Hydrosience & Engineering is a world-renowned center for education, research, and public service focusing on hydraulic engineering and fluid mechanics. Based in the C. Maxwell Stanley Hydraulics Laboratory, a five-story red brick building on the banks of the Iowa River, IIHR is a unit of the College of Engineering. IIHR students, faculty members, and research engineers work together to understand and manage one of the world's greatest resources—water. Students from around the world benefit from IIHR's comprehensive multidisciplinary approach, which includes basic fluid mechanics, laboratory experimentation, and computational approaches.

IIHR activities include fluid dynamics (turbulent flows, vortex dynamics, ship hydrodynamics, biological fluid flow, atmospheric boundary layer, experimental and computational fluid dynamics); environmental hydraulics (hydraulics structures, river mechanics, hydraulic structures, fish passage, sediment management, heat disposal in water bodies and power productions, bioremediation of groundwater,

computational hydraulics, water-quality monitoring); water and air resources (air pollution, hydroclimatology, hydrogeology, hydrology, hydrometeorology, remote sensing, water resources and basin-scale processes); environmental engineering and science (PCBs in the air and water, innovative ways of removing contaminants from the soil and water, ultra-fine particles of pollutants in the atmosphere, bioremediation strategies for persistent groundwater contaminants); and water sustainability (development of sound strategies and technological solutions to meet the challenges facing society's growing need for water resources). In 2009, the Iowa Flood Center was founded at IIHR as the only center devoted solely to flood-related research and education.

The University of Iowa's Water Sustainability Initiative (WSI) brought new interdisciplinary expertise to the institute in 2013 when the WSI faculty members (based in the Colleges of Liberal Arts and Sciences, Engineering, and Public Health) affiliated with IIHR. The Iowa Geological Survey joined IIHR in 2014, bringing new expertise in Iowa's subsurface resources, groundwater modeling, innovative geophysical skills, and more.

Students gain hands-on experience through close cooperation with faculty and staff on research projects funded by industry, government, and other organizations.

Interdisciplinary Research Units

Center for Biocatalysis and Bioprocessing

The Center for Biocatalysis and Bioprocessing (CBB) concentrates on biocatalysis and bioprocessing education, research, and technology transfer. Its research includes fermentation; bioprocessing of small molecules, peptides, proteins and biocatalysis; pilot-scale technology transfer; structural biology of biocatalysts; biocatalyst screening and discovery; bioremediation; cloning of genes and optimization of protein expression in microorganisms; and GMP operations for producing clinical-grade biotherapeutics.

Center for Global and Regional Environmental Research

The Center for Global and Regional Environmental Research (CGRER) is devoted to studying and bettering the environment. Its focus includes multiple aspects of global environmental change, including regional effects on nature ecosystems, environments, and resources on human health, culture, and social systems. The center helps Iowa's agencies, industries, and people prepare for accelerated environmental change.

Center for Health Effects of Environmental Contamination

The Center for Health Effects of Environmental Contamination (CHEEC) is a multidisciplinary environmental health research center dedicated to supporting and conducting research to identify, measure, and prevent adverse health outcomes related to exposure to environmental toxins, particularly water contaminants. The center also conducts educational programs on environmental health and works with environmental database design, development, and systems support for environmental health research.

Environmental Health Sciences Research Center

The Environmental Health Sciences Research Center (EHSRC) researches the adverse health effects of environmental contaminants among rural and agricultural populations. The

center is at the forefront of research on rural environmental health problems such as pesticide-induced cancers and birth defects, community and occupational exposures to airborne hazards from concentrated livestock operations, asthma among rural children, and remediation of rural hazardous waste sites. It also trains scientists to characterize mechanisms that underlie environmental disease and approaches to their prevention.

Injury Prevention Research Center

The Injury Prevention Research Center (IPRC) is a multidisciplinary unit whose focus includes injury prevention, acute care, biomechanics, and surveillance activities. The center's current work involves examining different types of residential smoke detectors, using simulation technology to study driving safety among persons with sleep apnea and persons on antiseizure medication, using bicycling simulation to study risk taking in children, and studying the effect of interpersonal violence on women's health.

Optical Science and Technology Center

The Optical Science and Technology Center (OSTC) involves researchers from the College of Engineering and the College of Liberal Arts and Sciences. The center's objective is to catalyze research in the optical sciences by establishing an environment that promotes collaborative science and the development of innovative technology. Broad areas of interest include development of novel semiconductor materials with unique electronic and optical properties; design, fabrication, and characterization of nanostructures and nanomaterials; photopolymerization processes; exploration of environmental science; and application of novel optical devices in the biosciences.

Orthopedic Biomechanics Laboratory

The Orthopedic Biomechanics Laboratory researches the application of advanced innovative computational formulations and novel experimental approaches to clinically oriented problems across the spectrum of musculoskeletal biomechanical research, including total joint replacement (hip, spine, knee, ankle) posttraumatic arthritis, osteonecrosis of the hip, high-energy limb trauma, carpal tunnel syndrome, and articular contact stresses as they relate to joint degeneration.

Photopolymerization Center

The Photopolymerizations Center (IUCRC) works to advance the fundamental understanding of the kinetics and mechanisms of photopolymerizations; to establish a venue for active discussions and collaborations among industrial and academic researchers; to explore high-risk, cutting-edge research on photopolymerization processes that could lead to technological innovations; and to promote and/or develop novel applications that exploit the unique set of advantages offered by photopolymerizations.

Public Policy Center

The Public Policy Center (PPC) facilitates interdisciplinary academic research on policy related to health, transportation and vehicle safety, social and education related issues, environment, and politics. It works to provide policy makers and the public with information they can use to help communities and individuals thrive in sustainable ways.

Courses

The college's individual undergraduate programs and course requirements for each engineering major also are described in the Catalog's College of Engineering department sections. Each undergraduate program builds upon a core program (see Bachelor of Science in Engineering [p. 1304] in the Catalog). Not all core courses are required for each engineering major. Core program courses are intended for College of Engineering students. Undergraduates in other disciplines who wish to register for core program courses should contact Engineering Student Services.

Core Engineering Courses

ENGR:0000 Engineering Internship/Co-op 0 s.h.

For engineering majors participating in the Cooperative Education and Internship Program and averaging 35-40 hours per week on assignment.

ENGR:0002 Engineering Half-Time Internship 0 s.h.

For engineering majors participating in the Cooperative Education and Internship Program and averaging 15-20 hours per week on assignment.

ENGR:0004 Engineering Academic Internship arr.

Academic credit for engineering majors participating in the Cooperative Education and Internship Program. Requirements: for international students—F-1 or J-1 visa, engineering undergraduate standing, full-time internship offer letter in hand (at least 40 hours/week and one semester in length), internship approved by International Student and Scholar Services for F-1 Curricular Practical Training (CPT) or J-1 Academic Training (AT), concurrent registration in approved 3 s.h. distance education or evening course, and preapproval of internship by Engineering Professional Development; non-international students may be eligible on case-by-case basis.

ENGR:0006 Engineering Global Internship/Co-op 0 s.h.

For engineering majors participating in the Cooperative Education and Internship Program working on a global assignment.

ENGR:1000 Engineering Success for First-Year Students 1 s.h.

Introduction to engineering student life; electronic resources; keys to and skills for success; coping with adversity; selecting a major; advising; curriculum choices and career objectives; ethics; communication; internships and co-ops; job search skills.

ENGR:1029 First-Year Seminar arr.

Introduction to engineering fields of study; work closely with a faculty member or senior administrator; participation that eases the transition to college-level learning; cutting-edge research taking place in the College of Engineering.

ENGR:1100 Introduction to Engineering Problem Solving 3 s.h.

Development and demonstration of specific problem solving skills; directed project or case study involving actual engineering problems and their solutions.

ENGR:1300 Introduction to Engineering Computing 3 s.h.

Engineering problem solving using computers; introduction to digital computations, problem formulation using a procedural high-level language; structured, top-down program design methodology; debugging and testing; introduction to use of software libraries; examples from numerical analysis and contemporary applications in engineering. Corequisites: MATH:1550.

ENGR:1430 Introduction to Engineering Design 3 s.h.

Problem-solving skills taught through a design-development process; use of solid-modeling computer design software to create, analyze, and communicate models of product solutions. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1431 Principles of Engineering 3 s.h.

Introduction to engineering and engineering technology; exploration of varied technology systems and manufacturing processes to show how engineers and technicians use math, science, and technology to solve engineering problems and help people; concerns about social and political consequences of technological change. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1432 Digital Electronics 3 s.h.

Applied logic, with focus on application of electronic circuits and devices; use of computer simulation software to design and test digital circuitry before circuits and devices are built. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1433 Computer Integrated Manufacturing 3 s.h.

Builds on computer solid modeling skills developed in ENGR:1430 on of robotics and automation principles; robotics in automated manufacturing, design analysis; students use CNC equipment to produce models of their 3-D designs. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1434 Civil Engineering and Architecture 3 s.h.

Overview of civil engineering and architecture; interrelationship and dependence of each field on the other; roles of civil engineers and architects, project planning, site planning, building design, project documentation and presentation; students use state-of-the-art software to solve real-world problems and provide solutions for projects and activities. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1435 Aerospace Engineering 3 s.h.

Experience applying scientific and engineering concepts to design materials and processes for aeronautics and flight; aerospace information systems, star sailing or astronautics rocketry, propulsion, physics of space science, space life sciences; habitat and crew systems with life support, biology of space science, principles of aeronautics, structures and materials, systems engineering. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1436 Biotechnical Engineering 3 s.h.

Experiences from the fields of biotechnology, bioengineering, biomedical engineering, and biomolecular engineering; biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocess engineering, forensics, bioethics. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1437 Computer Science Principles 3 s.h.

Implementation of the College Board's 2013 Computer Science Principles framework; development of computational thinking, career paths that utilize computing, professional tools to foster creativity and collaboration; use of Python as a primary tool; incorporation of multiple platforms and languages for computation; development of programming expertise, exploration of internet workings; projects and problems including app development, visualization of data, cybersecurity, robotics, simulation. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1438 Computer Science A 3 s.h.

Development of computational thinking skills through Android app development for mobile platforms; utilization of industry-standard tools such as Android Studio, Java programming language, XML, and device emulators; students collaborate to create original solutions to problems of their own choosing by designing and implementing user interfaces and Web-based databases; curriculum is a College Board-approved implementation of AP Computer Science A. Requirements: enrollment in Project Lead the Way program and consent of UI Project Lead the Way director.

ENGR:1440 Environmental Sustainability 3 s.h.

Investigation and design of solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy; application of knowledge through hands-on activities and simulations. Requirements: enrollment in Project Lead The Way program and consent of UI Project Lead The Way director.

ENGR:1450 STEM Innovator: Solving Problems Through Innovation and Entrepreneurship 3 s.h.

Work with STEM (science, technology, engineering, mathematics) industry mentors to engage in innovation and entrepreneurship by employing conceptual understandings and practices of engineering and science within an entrepreneurship framework; students solve real-world STEM problems that are of interest to them and their community, and acquire and demonstrate 21st-century skills working on authentic, meaningful, and cross-curricular projects; exposure to potential STEM careers and preparation to be successful in postsecondary STEM majors and careers of the future. Requirements: enrollment in Project Lead the Way program and consent of UI Project Lead the Way director.

ENGR:1550 FIRST Tech Challenge - Introduction to Engineering Problem Solving 3 s.h.

Introduction to engineering problem solving and design; projects introduce students to common elements of engineering problem solving and design (e.g., application of organizing principles to describe engineered systems, economic analysis upon which to base decisions, technical presentation and analysis of data), and provides an opportunity for students to apply common elements of problem solving in the solution of engineering problems in context of a structured problem solving and design process. Taught in high schools by state certified teachers.

ENGR:2110 Engineering Fundamentals I: Statics 2-3 s.h.

Vector algebra, forces, couples, moments, resultants of force couple systems; friction, equilibrium analysis of particles and finite bodies, centroids; applications. Prerequisites: MATH:1550. Corequisites: MATH:1560 and PHYS:1611.

ENGR:2120 Engineering Fundamentals II: Electrical Circuits**3 s.h.**

Kirchhoff's laws and network theorems; analysis of DC circuits; first order transient response; sinusoidal steady-state analysis; elementary principles of circuit design; SPICE analysis of DC, AC, and transient circuits. Corequisites: MATH:2560.

ENGR:2130 Engineering Fundamentals III: Thermodynamics**3 s.h.**

Basic elements of classical thermodynamics, including first and second laws, properties of pure materials, ideal gas law, reversibility and irreversibility, and Carnot cycle; control volume analysis of closed simple systems and open systems at steady state; engineering applications, including cycles; psychrometrics. Prerequisites: PHYS:1611 and CHEM:1110. Corequisites: MATH:1560.

ENGR:2510 Fluid Mechanics**4 s.h.**

Fluid properties; hydrostatics; transfer of mass, momentum, and energy in control-volume and differential forms; dimensional analysis and similitude; laminar and turbulent flow in conduits; flow past bluff bodies and airfoils; engineering applications; experimental laboratories, computer simulation projects. Prerequisites: MATH:2560 and ENGR:2710. Corequisites: ENGR:2130.

ENGR:2710 Dynamics**3 s.h.**

Vector calculus, Newton's laws, 3-D motion of particles and multiparticle systems, 2-D motion of rigid bodies applications. Prerequisites: ENGR:2110 and MATH:1550.

ENGR:2720 Materials Science**3 s.h.**

Concepts and examples of selection and applications of materials used by engineers; mechanical, electrical, and thermal properties that govern a material's suitability for particular applications; lectures supplemented by laboratory experiments. Prerequisites: CHEM:1110. Corequisites: MATH:1550.

ENGR:2730 Computers in Engineering**2-3 s.h.**

Advanced programming; good software engineering techniques including pseudocode and documentation, dynamic data structures, recursive programming, procedural and object-oriented computing, inheritance, and standard template library; contemporary and global impact of software and computers on society; robot programming lab arranged (using C/C++ language). Prerequisites: ENGR:1300.

ENGR:2750 Mechanics of Deformable Bodies**3 s.h.**

Elementary theory of deformable bodies, stress, strain; axial, transverse, bending, torsion, combined and buckling loads; deflection of beam. Prerequisites: ENGR:2110. Corequisites: MATH:2560.

ENGR:2760 Design for Manufacturing**3 s.h.**

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes, including casting, welding, machining, forming; laboratory exercises and projects. Corequisites: ENGR:2720.

ENGR:4000 Engineering Honors Seminar**1 s.h.**

Completion of an approved project under the supervision of a faculty member. Requirements: engineering honors and junior or higher standing.

ENGR:4001 Leadership Seminar: Mediocrity is Not an Option**1 s.h.**

Skills needed to gain competitive edge in professional world with understanding that mediocrity is not an option; importance of developing a career plan, power of networking, significance of soft skills, value of mentoring; participation in series of discussions and activities; deeper insight of strengths and weaknesses, how to enhance skills that employers desire, and become effective leaders in workplace; presentation by retired chief operating officer of a leading aerospace company.

ENGR:4003 Women in Science and Engineering Leadership Seminar**1 s.h.**

WiSE peer mentors develop practical mentoring and leadership skills while participating in a one-on-one relationship with a first-year UI student in a STEM major; peer mentors meet monthly with mentees, submit meeting reflection/evaluations, and attend three educational or social events hosted by WiSE or another University entity during the semester.

ENGR:4005 Developing Cultural Intelligence for STEM Leadership**1 s.h.**

How cultural values impact technological innovation; knowledge and strategies to develop skills for leadership in the global marketplace; activities include the Cultural Intelligence (CQ) assessment and mapping of cultural values and case studies for innovation; students use CQ dimensions to develop a plan to deepen CQ skills; exploration of culturally intelligent collaboration and problem solving in science, technology, engineering, and mathematics (STEM) fields; how to represent these skills in professional settings. Requirements: upper-level undergraduate or graduate standing.

ENGR:4010 Engineering Grand Challenges Program Fellow**0 s.h.**

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary course work, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted as a fellow into the Engineering Grand Challenges Program and are working on completion of the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

ENGR:4011 Engineering Grand Challenges Program Scholar**0 s.h.**

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary course work, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted as a scholar to the Engineering Grand Challenges Program and are working on completion of the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

ENGR:4012 Engineering Grand Challenges Program Final 0 s.h.

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary course work, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted to the Engineering Grand Challenges Program and are in the final semester of completing the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

ENGR:5200 COE Fellows Seminar 1 s.h.

Aspects of professional development for academic research, including applications for graduate fellowships, types of student aid, stewardship of discretionary accounts, identifying and meeting milestones in the Ph.D. process, integrating into the research team, teaching in a variety of academic settings, writing research articles, developing a curriculum vitae, networking in professional organizations, preparing research presentations, critical thinking, creating inclusive laboratory and classroom environments, and the impact of engineering on sustainability.

ENGR:6431 Concepts of Physical Science and Principles of Engineering 5 s.h.

Understanding the field of engineering and engineering technology; technology systems and manufacturing processes explored to learn how engineers and technicians use math, science, and technology to solve engineering problems and benefit people; concerns about social and political consequences of technological change. Requirements: Project Lead The Way high school teacher.

ENGR:6433 Concepts in Physical Science with Computer Integrated Manufacturing Applications 5 s.h.

Introduction to high-tech, innovative nature of modern manufacturing; opportunities related to understanding manufacturing; manufacturing processes, product design, robotics, automation; students may earn a virtual manufacturing badge recognized by the National Manufacturing Badge system; proper paradigm for relating these concepts to secondary level students. Requirements: Project Lead The Way teacher.

ENGR:6434 Concepts of Physical Science with Civil Engineering Applications 5 s.h.

Civil engineering and architecture field experience; proper paradigm for relating concepts to secondary-level students, history of civil engineering, architectural design, surveying, cost and efficiency analysis, sustainable design, soil testing, site evaluation and layout. Requirements: Project Lead The Way high school teacher.

ENGR:6437 Concepts of Physical Science with Computer Engineering 5 s.h.

Field of computer science and software engineering; exploration of pedagogy to learn how engineers and technicians use math, science, and technology to solve engineering problems and benefit people; concerns about social and political consequences of technological change. Requirements: Project Lead The Way high school teacher.

ENGR:6438 Concepts of Physical Science with Medical Detectives Training 2 s.h.

Field of medical testing and forensics, exploration of pedagogy; how medical personnel use math, science, and technology to solve problems and benefit people; solving medical mysteries through hands-on projects and labs; how to measure and interpret vital signs; how systems of human body work together to maintain health. Requirements: Project Lead The Way high school or middle school teacher.

ENGR:6439 Concepts of Physical Science with Engineering Design and Development 5 s.h.

Experiences from engineering design and development fields; proper paradigm for relating concepts to secondary-level students; teamwork to design and develop an original solution to a technical problem by applying engineering design process; research to choose, validate, and justify a technical problem; teams design, build, and test solutions, then present and defend original solution to an outside panel; developed by Project Lead The Way.

ENGR:6440 Concepts in Physical Science with Environmental Sustainability Applications 1,5 s.h.

Investigation and design of solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy; proper paradigm for relating these concepts to secondary level students; application of knowledge through hands-on activities and simulations. Requirements: Project Lead The Way teacher.

ENGR:6450 Concepts in Physical Science with K-5 STEM Launch Applications 1-2 s.h.

Introduction to Project Lead the Way (PLTW) launch curriculum; 24 modules (K-5 grade level) that align to Common Core State Standards for math and English language arts, Next Generation Science Standards, and other national and state standards; 10-hour modules presented in pairs that combine to create a thematic unit; flexibility of teachers and schools to introduce modules that they want, when they want, and at the grade level they want; proper paradigm for relating these concepts to elementary (K-5) students, training other elementary teachers. Requirements: Project Lead The Way teacher.

ENGR:6451 Concepts in Physical Science with Introduction to Computer Science 2-3 s.h.

Preparation for teaching beginning computer science course; creation of simple applications for mobile devices using MIT App Inventor; impact of computing on society, application of computing across career paths, skill building and awareness of digital citizenship and cybersecurity; transfer of programming skills gained in MIT App Inventor to text-based programming in Python to create strategy games; proper paradigm for relating these concepts to secondary students.

ENGR:6462 Concepts in Computer Science A Applications 5 s.h.

Developing computational thinking skills through the medium of Android App development for mobile platforms; utilize industry-standard tools such as Android Studio, Java programming language, XML, and device emulators; students collaborate to create original solutions to problems of their own choosing by designing and implementing user interfaces and Web-based databases; course curriculum is a college board-approved implementation of AP CS A; focus on the proper paradigm for relating these concepts to secondary level students. Requirements: consent of UI Project Lead The Way director.

ENGR:6470 Concepts in Principles of Biomedical Science Applications **5 s.h.**

Introductory course of the Project Lead The Way Biomedical Science program; students explore concepts of biology and medicine to determine factors that led to the death of a fictional person; students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life; activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems; course also stresses the proper paradigm for relating these concepts to secondary level students. Requirements: consent of UI Project Lead The Way director.

ENGR:7270 Engineering Ethics **1 s.h.**

Introduction to practical issues associated with being a responsible scientist; topics in responsible conduct of research in engineering and the sciences using case studies, presentations, and discussions with visiting speakers; conforms to mandates set by the Office of the Vice President for Research and the Graduate College to train graduate students and postdoctoral scholars/fellows in responsible conduct of research. Requirements: first-year graduate standing in College of Engineering.

ENGR:7604 Engineering Ethics for Post Docs **0 s.h.**

Introduction to practical issues associated with being a responsible scientist; topics in responsible conduct of research in engineering and the sciences using case studies, presentations, and discussions with visiting speakers; conforms to mandates set by the Office of the Vice President for Research and the Graduate College to train graduate students and postdoctoral scholars/fellows in responsible conduct of research. Requirements: new postdoctoral research scholar/fellow in College of Engineering.

Bachelor of Science in Engineering

Undergraduate major: B.S.E.

Website: <https://www.engineering.uiowa.edu/>

The College of Engineering offers the Bachelor of Science in Engineering (B.S.E.) with majors in biomedical engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, environmental engineering, industrial engineering, and mechanical engineering. The undergraduate majors are designed to attract the best and brightest students and prepare them to be engineers who will succeed in a workplace filled with diverse people, attitudes, and ideas; to compete in the global marketplace; to work effectively in multidisciplinary teams; and to confidently understand, use, and develop modern technology.

Six of the eight B.S.E. programs of study are accredited by ABET and the B.S.E. programs in computer science and engineering, and in environmental engineering are preparing for their initial accreditation review. Each major has its own set of articulated program educational objectives, and all are designed to ensure that graduates possess the following general attributes:

- ability to apply knowledge of mathematics, science, and engineering;
- ability to design and conduct experiments as well as to analyze and interpret data;
- ability to design a system, component, or process to meet desired needs;
- ability to function on multidisciplinary teams;
- ability to identify, formulate, and solve engineering problems;
- understanding of professional and ethical responsibility;
- ability to communicate effectively in oral, written, and graphical forms;
- a broad education necessary to understand the impact of engineering solutions in a global and societal context;
- recognition of the need to engage in lifelong learning and the ability to do so;
- knowledge of contemporary issues; and
- ability to use the techniques, skills, and modern engineering tools necessary for successful engineering practice.

The University of Iowa B.S.E. programs of study distinguish the College of Engineering from other engineering colleges in the region. They draw on the University's recognized strengths to offer unique opportunities for students who wish to pursue a wide range of career options and an education that goes beyond technology.

Each program emphasizes a broad understanding of fundamental principles common to all engineering disciplines and provides students with the opportunity to specialize in a selected engineering discipline. All build on the University's research strengths. Program flexibility is provided by a curriculum in which each student develops engineering competency within a particular academic program and complements it with a tailored thematic option in support of chosen career objectives (e.g., engineering practice, project management, research, and development).

This Catalog section provides information about requirements that all B.S.E. students must fulfill, regardless of their engineering major, as well as admission information and academic rules and procedures.

Engineering students may earn more than one B.S.E. degree. They also may earn combined program undergraduate degrees in the College of Liberal Arts and Sciences or the Tippie College of Business, a combined B.S.E./master's degree in urban and regional planning, or a combined B.S.E./M.S. in engineering; see "Combined and Dual Degrees" under Requirements [p. 1311] in this section of the Catalog.

Minors

Engineering students may complete minors in a number of disciplines. For instance, students interested in heading an engineering firm might choose to earn a minor in business administration. For a list of minors and links to the departments and programs that offer them, see Find Your Program on the General Catalog website and select undergraduate minors.

B.S.E. programs generally allow students to satisfy their elective focus area requirement by completing a minor. Students who choose this option must work closely with program advisors to ensure that the minor is compatible with their engineering career aspirations.

In order to have the minor noted on their transcript, students must designate that they have fulfilled a minor's requirements when they submit their degree application on MyUI. See "Application for Degree" under Academic Rules and Procedures [p. 1305] in this section of the Catalog.

Certificates

Engineering students may earn certificates offered by colleges across the University. The College of Engineering partners with the Tippie College of Business to offer the Certificate in Technological Entrepreneurship [p. 1413], which is tailored specifically for engineering students who intend to start and operate their own business or who would like to understand and learn about managing innovation in business environments. The College of Engineering also teams with the College of Liberal Arts and Sciences to offer the undergraduate Certificate in Wind Energy [p. 1415], which introduces students to a developing field that has a growing need for professionals with knowledge of wind energy. The college also offers the Certificate in Naval Hydrodynamics [p. 1409]. Other certificates of particular interest to engineering students include the Certificate in International Business [p. 1093] and the Certificate in Sustainability [p. 1858].

See Find Your Program on the General Catalog website and select undergraduate certificates for a complete list of certificates and links to their individual Catalog sections.

Cooperative Education and Internship Program

The Cooperative Education and Internship Program offers students the opportunity to explore engineering careers and develop engineering skills through periods of professional practice while they are still students. Supervised professional engineering-related experiences in business, industry, education, or government expose students to the challenges and opportunities of an engineer. Students with co-op and/or internship experience are sought by employers and usually receive higher starting salaries upon graduation.

A portion of registered co-op and/or internship experience before graduation can be credited toward the experience requirements for professional licensure in Iowa and some other states. The program structure focuses on goal setting at the beginning, analysis and reflection at the midpoint, and evaluation and feedback near the end. Experiences range from ten-week summer internships to multi-term co-ops. Qualified students may choose to alternate periods of on-campus study with full-time work experience, or they may elect to work half-time while taking at least 6 s.h. of course work. Students may apply to the program following their first year. Academic record and class status are considered in acceptance decisions. For further details, see Engineering Professional Development on the College of Engineering website.

Engineering Grand Challenges Scholars Program

The Engineering Grand Challenges Scholars Program is a combined curricular and extracurricular program with five components that are designed to prepare students to be the generation that solves the grand challenges facing society in this century. The program at the University of Iowa is based on the National Academy of Engineering (NAE) 14 grand challenges. Students accepted into the program are required to complete five components prior to graduation. The five components of the program are:

- Research experience—project or independent research related to one of the 14 grand challenges;
- Interdisciplinary curriculum—preparing engineering students to work at the overlap with public policy, business, law, ethics, and human behavior, as well as medicine and the sciences;
- Entrepreneurship—preparing students to translate invention to innovation and to develop market ventures that scale to global solutions in the public interest;
- Global dimension—developing students' global perspective necessary to address challenges that are inherently global as well as to lead innovation in a global economy; and
- Service learning—developing and deepening students' social consciousness and their motivation to bring their technical expertise to bear on societal problems.

The University of Iowa's Engineering Grand Challenge Scholars Program was the seventh in the United States and the first in the Big Ten to be approved by the national committee. More details about the program and requirements can be found on the College of Engineering Grand Challenges Scholars Program web page.

Student Organizations

The College of Engineering student body is represented by the Engineering Student Council. The council plans and carries out activities involving the entire college. Several engineering professional societies have student chapters at the University, as do a number of engineering honor societies. In addition, students may join a wide variety of engineering student organizations. Visit Student Organizations on the College of Engineering website for more information.

Diversity and Inclusion in the College of Engineering

The College of Engineering strives to be a national leader in including women and men of all races and ethnic groups in

its student body and providing a model for other institutions that are interested in strengthening inclusion of all peoples in engineering. The Ethnic Inclusion Effort for Iowa Engineering develops integrative programs and activities which serve to build and nourish the engineering community. This includes support of diversity programming and diversity in student organizations. Women in Science and Engineering (WISE) offers a variety of services for undergraduate students including the WiSE Peer Mentoring Program and the Be-WISE Women in Science and Engineering Living Learning Community (LLC). The Be-WISE LLC is the University of Iowa's longest continuously running living-learning community that provides academic and social support programming, as well as a positive community of scholars, for women majoring in STEM fields. To learn more, see Diversity at the UI College of Engineering on the college's website.

Programs

Undergraduate Program of Study Major

- Bachelor of Science in Engineering [p. 1311]

Academic Rules and Procedures

Academic Advising

Undeclared engineering students and declared first-year students are advised by the staff of Engineering Student Services. After the first year, engineering students who have declared an academic program are advised by faculty advisors assigned to that program. Students may request a change of advisor when it is deemed appropriate. All students are required to have a conference with their advisors before registering for classes each semester. See Academic Advising on the College of Engineering website.

Application for Degree

Students who wish to be considered for graduation must submit a Degree Application through MyUI the session before they are eligible to graduate or before the deadline date during the session in which their degree is to be conferred.

Students who do not graduate in the session they submitted their Degree Application must submit another application through MyUI for the next applicable session. Students do not need to be registered to apply for a degree.

See Degree Application on the Office of the Registrar website.

Academic Recognition

Graduation with Honors

Graduation with honors recognizes high academic achievement based on both grades and exceptional accomplishment. To be eligible for graduation with honors, students must be approved by a selected honors committee and the director of the honors program, and they must complete honors requirements. See "Honors in Engineering" under Requirements [p. 1311] in this section of the Catalog.

Graduation with Distinction

Graduation with distinction recognizes high academic achievement based on grades. The college awards degrees "with highest distinction" to students in the highest two percent of their graduating class, "with high distinction"

to students in the next-highest three percent, and "with distinction" to students in the next-highest five percent. Ranking is based on students' grade-point average for all college-level study taken up to their final registration.

To be eligible to be considered for graduation with distinction, students must complete their final 60 s.h. of study in residence at the college and must have completed at least 45 s.h. in the college before their final registration. Students in the combined engineering/liberal arts and sciences program are eligible to graduate with distinction regardless of the college in which they complete their residency requirement.

Dean's List

Undergraduate students in the Colleges of Liberal Arts and Sciences and Engineering and the Tippie College of Business who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

President's List

University of Iowa undergraduate students who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

Academic Standards

Maximum Schedule

During early registration, students may register for a maximum of 19 s.h. for a fall or spring semester, 12 s.h. for a summer session, or 3 s.h. for a winter session. Course schedules that exceed the maximum semester hours allowed require approval of the advising staff in Engineering Student Services. The permission to register for additional hours form is available online.

Classification of Students

Students in the College of Engineering are classified by the number of semester hours of credit they have earned toward the Bachelor of Science in Engineering.

First-year: 0-29 s.h. earned toward the B.S.E.

Sophomore: 30-59 s.h. earned toward the B.S.E.

Junior: 60-89 s.h. earned toward the B.S.E.

Senior: 90 s.h. or more earned toward the B.S.E.

Grading System

The college uses a letter grading system. A denotes superior performance, B denotes above average, C denotes average, D denotes below average, and F denotes failure of the course. Plus and minus designate gradations of performance between letter grades. Letter grades and their numerical equivalents are as follows.

A-plus: 4.33

A (superior): 4.00

A-minus: 3.67

B-plus: 3.33

B (above average): 3.00

B-minus: 2.67

C-plus: 2.33

C (average): 2.00

C-minus: 1.67

D-plus: 1.33

D (below average): 1.00

D-minus: 0.67

F (failing): 0

This grading system is used for all students in both undergraduate and graduate engineering courses. Grades of D-minus are passing grades; that is, courses completed with grades of D-minus or higher count toward collegiate requirements.

Academic Probation and Dismissal

Students who do not achieve or surpass University of Iowa cumulative and semester minimum grade-point averages of 2.00 are placed on academic probation.

Students on academic probation are restored to good standing when they successfully complete an additional 9 s.h. toward an engineering degree, either in one semester or cumulatively, and their University of Iowa cumulative and semester grade-point averages equal or exceed 2.00.

The college reviews academic records for all students at the end of the fall and spring semesters. There is no review at the end of the summer session. Students are placed on probation, dismissed for unsatisfactory progress (with or without previous probationary status), or restored to good standing only at the end of the fall and spring semesters. Students on academic probation are not permitted to continue their enrollment without written expectations for their future performance.

When all of the grade-point averages equal or surpass 2.00, students are removed from probation. Students usually are allowed only one session to return to good academic standing. Students on academic probation who withdraw registration after the deadline to drop courses may be dismissed.

Students who do not make satisfactory progress may be dismissed from the college without an intervening probationary period. Students who are dismissed from the college for unsatisfactory academic progress due to circumstances beyond their control, such as a death in their immediate family or extended personal illness, may appeal for a revocation of the dismissal. A student dismissed in January must submit a written appeal by the second day of spring semester classes. A student dismissed in May must submit the written appeal by June 15.

Students dismissed from the college for low scholarship may appeal to re-enroll after an interval of at least one calendar year. A written appeal for reinstatement must be submitted to the Appeals Committee at the Student Development Center. Appeals must be submitted before June 15 for reinstatement in a fall semester or before December 15 for reinstatement in a spring semester.

Appeal Procedures

Students in the College of Engineering who wish to appeal certain academic actions or records must submit their requests in writing to the Appeals Committee at the Student Development Center. Consult the college for specific mailing information.

Students submit their requests in writing but do not appear before the committee. The committee considers and recommends an action to the associate dean for undergraduate programs regarding each request. Each student filing an appeal will receive in writing a letter conveying the decisions of the committee. The decisions of the committee are final.

Revocation of Dismissal Immediately after Dismissal is Imposed

If extenuating circumstances, such as a disabling illness or a personal crisis, interfered with academic progress resulting in dismissal, a student may appeal for a revocation of the dismissal, based on careful and complete documentation of the extenuating circumstances.

Reinstatement in the College

Students dismissed from the college due to low scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Students may file a written appeal for reinstatement to re-enroll after an interval of at least one full academic year.

Retroactive Withdrawal from an Academic Semester or Summer Session

Students requesting a retroactive withdrawal of a specific semester must provide documentation substantiating the particular extenuating circumstance that occurred which was beyond their control.

Letter Conditions

Students filing an appeal should consider their letters carefully. The letters must meet the following conditions:

- be typewritten on 8 1/2" X 11" paper;
- include full name, student ID number, current address, and current date;
- use the salutation "Dear Committee Members";
- be signed (unsigned letters will not be accepted and will cause a delay in the review of the appeal);
- be brief, clear, complete, and concise;
- state specifically the subject and nature of the appeal to be considered by the committee; and
- include supporting documentation of circumstances, including statements from health care professionals, if applicable.

Supporting letters documenting illness or special circumstances must be solicited by the student from appropriate sources. Students also may wish to contact their faculty advisor, department chair, instructor, and/or employer for letters of reference. The supporting person(s) should send these letters directly to the Appeals Committee at the Student

Development Center. Consult the college for specific mailing information.

The College of Engineering requests this information only for the purpose of ruling on the appeal. No persons outside the University are provided information without the student's permission, except for items of directory information such as name and local address. If a student fails to provide the required information, the college will not be able to act on the appeal request.

Dropping and Adding Courses

Students may add or drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for regular and off-cycle courses. See Academic Calendar on the Office of the Registrar website. See Course Deadlines on the Office of the Registrar website for course-specific deadlines.

Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

Withdrawing from Courses

Undergraduates receive the mark of W for any course dropped after the second week of the semester or the first one-and-one-half weeks of the summer session. Students may not drop the same course with a mark of W more than twice. Special courses that may be repeated are exempt from this rule.

Students who have a legitimate reason for dropping a course (e.g., disabling illness, death of an immediate family member) and can document that reason are permitted to exclude that drop from the maximum, but the W is not removed from the record. Requests for such exclusions are made at Engineering Student Services.

Withdraw of Registration

Students who withdraw their entire registration must consult the staff at the Student Development Center or the academic dean for academic programs. A student on scholastic probation who withdraws registration at any time without good cause may not be permitted to enroll for the following semester without specific approval from the Student Development Center staff.

Prerequisites

Undergraduate students must complete a course's prerequisites. The registration system reads a student's record, and if there is no evidence that the prerequisite has been completed or is in progress, the system automatically blocks enrollment. See Undergraduate Prerequisite Q&A on the College of Engineering website for more information about prerequisite policies and procedures.

Pass/Non-Pass Option

A maximum of two courses taken pass/nonpass (P/N) may be applied toward satisfaction of the general education requirement. P/N registration must be approved by the student's advisor and the instructor of the course and must be completed during the first 10 days of a semester or the first two weeks of a summer session. P/N registration may not be changed after the deadline for adding courses. The pass/nonpass option may not be used for courses taken to satisfy the rhetoric requirement.

Students enrolled in courses taught in the College of Engineering may choose to be graded pass/nonpass under the following conditions:

the signatures of the advisor and instructor must be obtained on the proper form, and the completed form must be submitted to the UI Service Center by the student within the time period established by University policy; and

the mark of P (pass) is awarded where the final course grade earned was C-minus or higher; the mark of N (nonpass) is given for grades of D-plus or below; marks of P and N are not used in computing the grade-point average, and the mark of N does not count as earned credit.

No course work taken in the College of Engineering on the pass/nonpass option may be used to satisfy requirements for an engineering degree.

Second-Grade-Only Option

Students may elect to repeat a course with only the new grade being counted in their grade-point average. The option may be applied to no more than three courses, and it may be applied only once to a particular course. Transfer students may apply the option on a prorated basis.

A course may not be repeated under the second-grade-only option once it has been used as a prerequisite for a more advanced course that the student has completed successfully.

To exercise the second-grade-only option, students register as usual for the course that is to be repeated, then they complete a second-grade-only option form at Engineering Student Services. The second-grade-only option form is available online. Students must complete the form during the session in which they repeat the course, within the first 12 weeks of the fall or spring semester or the first six weeks of the summer session. Students must follow this procedure or both grades will be counted in their University of Iowa grade-point average.

Under the second-grade-only option, the registrar marks the permanent record to show that a particular course has been repeated. Both grades remain on the permanent record, but only the second is used in calculating the grade-point average and semester hours earned. The course must be taken the second time under the same circumstances and with the same grade option as it was taken the first time.

The second-grade-only option cannot be used to remove a grade of incomplete, which must be removed in the usual manner. A student who holds a degree from the University of Iowa may not apply the second-grade-only option to a course taken before the degree was conferred.

Satisfactory/Fail, Satisfactory/Unsatisfactory

The noncredit professional seminar courses required in each of the professional programs are offered only satisfactory/fail (S/F). No other engineering courses are offered on this basis. An F (fail) grade earned for such a class does not satisfy any portion of the professional seminar requirement.

Incomplete and No Report Grades

A mark of I (incomplete) that is not replaced by a final grade will automatically be converted to an F (fail) at the end of the next fall or spring semester (summer and winter sessions

excluded), even if a student does not enroll after the session the incomplete was posted.

A mark of O (no grade reported) will remain on a student's permanent record until a valid grade is submitted.

Credit by Examination

Students who have acquired knowledge in subject areas from sources other than formal course registrations may be granted credit toward graduation by examination, under the following conditions and limitations.

No more than 32 s.h. of credit by examination may be applied toward B.S.E. degree requirements.

College-Level Examination Program (CLEP) credit may be counted toward the lower-level general education (humanities and social science) requirements. CLEP credit earned in natural science areas does not count toward the engineering degree. Credit also may be earned through Advanced Placement (AP) Exams. For details about CLEP and AP credit, see Credit by Exam Options on the Office of Admissions website.

Engineering students may earn credit for equivalent experience or former course work in any of the required common core courses through successful completion of examinations prepared and graded by the core course committees. Students who fail a core course are not permitted to earn credit by examination for the failed course. Students who wish to earn credit for core courses by examination must obtain approval from the associate dean for academic programs.

With the approval of departmental faculty, credit in three or fewer courses (totaling no more than 6 s.h.) may be awarded upon successful completion of final examinations in program elective courses.

Language Incentive Program

The University's Furthering Language Incentive Program (FLIP) gives entering engineering students two options for earning college credit for the study of a world language.

Option 1: Entering students who place into a fifth-semester language course and complete the course with a grade of B-minus or higher receive 4 s.h. of exam credit for the fourth-semester course. The credit is ungraded but may be counted toward the hours required for graduation. Incentive credit is not granted for college course work for which credit has been received.

Students are eligible for incentive credit only during their first and second registrations at the University of Iowa.

Option 2: Students may receive 2 s.h. of exam credit for earning a grade of B-minus or higher in the first-semester-level course in a language different from the language used to satisfy their world languages requirement. They may earn another 2 s.h. for completing the second-semester-level course in that language for a grade of B-minus or higher.

Visit the college's website for more information about FLIP credit. For more information on eligibility and restrictions, consult Engineering Student Services.

Credit from Other Colleges

Course requirements in engineering may be satisfied with credit earned in courses taken in other University of Iowa colleges or at other accredited colleges or universities. When students apply for admission to the College of Engineering,

they must submit official transcripts from each college attended along with their application for admission. After the credit has been certified by the Office of Admissions as college-level work from an accredited institution and after admission has been granted, the credit is evaluated by the Student Development Center either before or during the student's first semester of enrollment in the college.

Satisfaction of engineering course requirements by transfer course work may be approved by the Student Development Center if, course-by-course, there is a match in the content and level of the transfer courses, and if the grades earned for such courses are C-minus or higher. Students who want to satisfy the engineering general education component requirements or the University of Iowa rhetoric requirement by transfer work must follow the College of Engineering transfer credit guidelines.

Students planning to attend a two- or four-year institution before transferring to the College of Engineering should discuss the planned transfer with officials at both schools before embarking on a transfer program. The College of Engineering has recommended transfer course lists for most Iowa community colleges and some four-year colleges. Once students are enrolled in the College of Engineering, they must have prior approval for course work taken at other institutions.

By policy of the Board of Regents, State of Iowa, a student may apply a maximum of 64 s.h. of transfer credit earned at a two-year college toward the minimum 128 s.h. required for the B.S.E. However, transfer credit from a two-year school in excess of 64 s.h. is used in computing grade-point average and may be used to satisfy course requirements, even though the semester hours cannot be counted toward the total required for graduation. A grade of C-minus or higher is required in order for transfer credit to be applied toward a degree requirement.

Contact the Student Development Center for more information.

Course Substitutions

For students in the College of Engineering, the substitution of an alternate course for a required course requires the approval of a petition. The petition/substitution form is available on the college's website. The form must be completed by a student and must be approved by the collegiate core course chair.

If the petition involves a required engineering core course or a general education component course, then it also must be approved by the Student Development Center. Substitutions for required engineering core courses should be made infrequently and only under compelling circumstances. Substitutions of courses that are required by a student's program are governed by the faculty of that program; approval of these course substitutions is needed only from the faculty advisor; department undergraduate chair and the department chair. All petitions must be forwarded to the Student Development Center for inclusion in a student's permanent file.

Auditing Courses

Students in the College of Engineering may register for a course for zero credit (audit) with the permission of the course instructor and the advisor. The mark of AUS (audit successful) is assigned to students registered for zero credit if attendance and performance in the course are satisfactory; if unsatisfactory, the mark of AUU (audit unsuccessful) is

assigned. Courses completed with a mark of AUS do not meet any requirements nor do they carry any credit toward graduation. Auditing may not be used as a second-grade-only option.

To register for a course on an audit basis, students must obtain the instructor's authorizing signature and their advisor's signature and must register for 0 s.h. To change registration from audit to credit or from credit to audit, a drop-add form is used. These changes must be made during the first three weeks of a semester or the first one-and-one-half weeks of a summer session.

Misconduct, Complaints

Student Academic Misconduct

The College of Engineering endorses the policies and rights of students as stated in Regulation 1 of the Code of Student Life General Conduct Regulations in the University of Iowa Code of Student Life. The College of Engineering reserves the authority to handle acts of academic misconduct as adopted by engineering faculty and staff.

The following regulations provide a procedure for dealing with students who are alleged to have committed an act of academic misconduct.

Guidelines for Disciplinary Action by an Instructor

Exams: In cases of cheating on midterm or final exams, it is recommended that the instructor reduce the student's grade, including the assignment of the grade of F (fail) in the course. When a course grade has been reduced to an F (fail), the student may not drop the course, nor use the second-grade-only option procedure to eliminate the failing grade from the semester and cumulative grade-point average values that appear on a student's permanent record card. It is recommended that cheating on quizzes be considered as serious a violation as on exams and that the penalty be similar. The instructor shall send a written report of any disciplinary action to the office of the dean and the report shall be placed in the student's file.

Homework, lab reports, etc.: Each instructor shall announce at the beginning of each course the acceptable policies on student collaboration in each of the graded course requirements. When the policy is clearly violated, a O (no grade reported) shall be assigned for the total portion of the course grade allocated to the requirement in which the violation occurred; for example, a O (no grade reported) for all homework assignments if cheating occurred on a homework assignment. A written report of this action shall be sent by the instructor to the office of the dean and placed in the student's file.

Student Appeal

When a written report of disciplinary action by an instructor is received by the office of the dean, the student shall be notified in writing of the action. If the student feels that the finding of cheating is in error or the penalty is unjust, the student may request a hearing by notifying in writing the associate dean of the college. If the student is not satisfied with the results of the hearing, the student may request a review by the associate provost for undergraduate education.

Disciplinary Action by the Dean

In cases of flagrant or a second offense, the dean of the college may impose the following or other penalties as

the offense may warrant: cancellation of the student's registration, disciplinary probation, suspension from the college, or recommendation of expulsion from the University by the president. If the student feels that the penalty imposed by the dean is unjust, the student may request a review by the office of the provost.

Record of Disciplinary Action

Reports of academic misconduct received by the office of the dean shall be placed in the student's electronic file at the University of Iowa. The office of the dean shall notify the student of each report and the right of the student to request a hearing for review of the case.

Student Complaints Concerning Faculty Actions

Students with complaints against faculty should first attempt to resolve the issue with the faculty member against whom there is a complaint. Lacking a satisfactory outcome, the student should discuss the matter with the chair of the faculty member's program, division, or department.

Students who are uncomfortable dealing directly with a faculty member or a program/division chair may seek assistance from the College of Engineering ombudspersons in seeking a resolution of a complaint. However, it is anticipated that grievances generally can be satisfactorily resolved most expeditiously at the faculty or chair level.

If the student is not satisfied with the outcome of this procedure, the student should discuss the complaint with the associate dean for academic programs in the College of Engineering.

Admission

Applicants for admission to the College of Engineering as first-year students must have successfully completed at least four years of English/language arts; four years of mathematics, which must include at least two years of algebra, one year of geometry, and one year of higher mathematics (trigonometry, analysis, calculus); two years of a single world language; three years of natural science, which must include at least one year of chemistry and at least one year of physics; and at least two years of social studies. A high school computer programming course is recommended but not required.

Applicants are guaranteed admission to the College of Engineering if they have no high school unit deficiencies, an American College Testing (ACT) composite score of 25 or higher, an ACT math score of 25 or higher, and a Regent Admission Index score of at least 265. Students who do not meet these requirements, or who attend a high school that does not rank its students, are encouraged to send recommendations from math and science teachers and a personal statement, which will be considered in an individual review by the College of Engineering.

Students who are admitted through the individual review process may be required to make up deficiencies by taking a lower-level course in their area of deficiency before enrolling in the first required course in that area. For example, students who have high math grades and standardized test scores, but who are deficient by one unit in mathematics, may be required to complete a course such as MATH:1020 Elementary Functions before enrolling in the first engineering calculus course.

Incoming first-year and transfer students who do not meet the world language requirement may be admitted on conditional status for a maximum of four semesters in order to complete two semesters of an introductory college-level world language.

Students who are unsure whether to pursue a degree in engineering or a degree in liberal arts and sciences are strongly encouraged to begin in engineering if they meet the admission requirements.

Information about admission to the College of Engineering is available on the college's website.

Transfer Applicants

Transfer applicants must have completed the same high school unit requirements as entering first-year students and must submit an official high school transcript as well as a transcript of college work undertaken at other institutions. To transfer to the College of Engineering, students must have demonstrated success in math, science, and engineering courses, ideally earning all As and Bs with no grade lower than a C in these foundation subjects. Transfer students must have completed calculus I and the equivalent of either CHEM:1110 Principles of Chemistry I or PHYS:1611 Introductory Physics I (the first semester of chemistry designed for majors or the first semester of calculus-based physics). Overall grade-point average also is considered in transfer applications.

Information about admission requirements for transfer students is available on the college's website.

Bachelor of Science in Engineering, B.S.E.

Requirements

The Bachelor of Science in Engineering (B.S.E.) requires a minimum of 128 s.h. Students must be enrolled in the UI College of Engineering for the last 30 s.h. of work toward the degree, or 45 of the last 60 s.h., or a total of 90 s.h. They must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all work undertaken at the University of Iowa.

Engineering students earn the B.S.E. degree in one of eight undergraduate programs of study (majors): biomedical engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, environmental engineering, industrial engineering, or mechanical engineering.

All students complete a core of common B.S.E. requirements, usually during their first three semesters; see "Core Requirements" below. They also must complete a curriculum—a set of required and elective courses—designed specifically for their major program. The curriculum prepares students to practice engineering in that program's field of engineering. It is designed by the program's faculty members according to guidelines provided by the national accrediting body of ABET.

Each program's curriculum is divided into four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component ("Be Creative", historical perspectives, social sciences, and so on). All of the courses in the curriculum stems are integrated and sequenced to help students understand the interrelationships and importance of each stem. See "Curriculum Stems" below.

Courses below the level of the beginning courses in each program's curriculum count toward students' overall grade-point averages and are recorded on their transcripts, but they do not count toward requirements for the B.S.E. degree.

Core Requirements

All B.S.E. students must complete a core of courses that constitute approximately one-third of the courses required for the degree. They complete most of the core during their first three semesters, so most students may postpone making a decision about which engineering major to pursue or may change their engineering major during their first three semesters with little or no loss of time or credit.

The core includes RHET:1030 Rhetoric, a first-year course in writing, speaking, and critical reading; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing, which cover a breadth of topics from engineering as a profession to team design projects to engineering computations and computer programming; and courses in chemistry, engineering mathematics and fundamentals, and physics.

Students should complete the core requirements according to the following three-semester plan. Those who do not follow this plan may encounter a delay in graduation because of scheduling problems for courses that must be taken in a specific sequence or that are offered only once a year.

Code	Title	Hours
First Semester		
All of these:		
ENGR:1000	Engineering Success for First-Year Students	1
ENGR:1100	Introduction to Engineering Problem Solving (biomedical, chemical, civil, environmental, electrical, industrial, and mechanical majors)	3
CHEM:1110	Principles of Chemistry I (all majors)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus (all majors)	4
RHET:1030	Rhetoric (all majors)	4
Second Semester		
All of these:		
ENGR:1300	Introduction to Engineering Computing (all majors)	3
CHEM:1120	Principles of Chemistry II (biomedical, chemical, and environmental majors)	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus (all majors)	4
MATH:2550	Engineering Mathematics III: Matrix Algebra (all majors)	2
PHYS:1611	Introductory Physics I (all majors)	4
Third Semester		
All of these:		
ENGR:2110	Engineering Fundamentals I: Statics (all majors)	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits (all majors)	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics (all majors)	3
MATH:2560	Engineering Mathematics IV: Differential Equations (all majors)	3
PHYS:1612	Introductory Physics II (biomedical, civil, computer science and engineering, electrical, industrial, and mechanical majors)	3-4

Requirements for Each Engineering Major Program of Study

The curriculum for each B.S.E. major is described in that program's departmental Catalog section; see Biomedical Engineering [p. 1316], Chemical and Biochemical Engineering [p. 1328], Civil and Environmental Engineering [p. 1343], Electrical and Computer Engineering [p. 1362], Industrial and Systems Engineering [p. 1381], or Mechanical Engineering [p. 1395].

Each program's curriculum is divided into four major stems, which are described below.

Curriculum Stems

The curriculum for each B.S.E. program of study is divided into four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component (humanities and social sciences). All of the courses in the curriculum stems are integrated and sequenced to help students understand the interrelationships and importance of each stem.

Mathematics and Basic Sciences

The mathematics and basic sciences stem provides the foundation upon which the engineering courses for each engineering major are based. It includes a minimum of five courses in mathematics and statistics and one each in chemistry and physics. The faculty of each engineering program has specified at least one additional chemistry or physics course and other additional mathematics or science courses beyond these minimum requirements to provide a base appropriate for the program's major.

Engineering Topics (Science and Design)

The engineering topics stem builds upon the math and science stem, providing a bridge from fundamental principles to applications and creative practice.

The stem's engineering science courses use the underlying principles learned in the mathematics and basic sciences stem to understand and predict the behavior of idealized models of real components or systems encountered in engineering. These courses include fundamentals of statics, thermodynamics, and electrical circuits, as well as other engineering courses relevant to each major.

The stem's engineering design courses focus on the process of devising a system, component, or process to meet a stated objective. Engineering design integrates decision making and the optimal application of basic sciences, mathematics, and engineering sciences to reach a desired outcome. Elements of the design process include the establishment of objectives and criteria, synthesis, analysis, construction, testing, evaluation, and consideration of realistic constraints such as economic factors, safety, reliability, aesthetics, ethics, and social and environmental impact.

Elective Focus Area

The elective focus area stem provides a set amount of credit that students use to build strength in a technical focus area by completing a minor, earning a certificate, or pursuing a tailored program of study.

Students choose elective focus area courses consistent with traditional career goals or nontraditional career goals. Their choice of degree plan and courses may affect the number and type of employment opportunities available to them after graduation. Program advisors help students develop coherent, well-focused plans that fit their goals.

Students who pursue a traditional focus area may replace up to 21 s.h. of traditional technical electives with course work toward a minor or certificate. Students who choose nontraditional focus areas work closely with an advisor to build a rigorous, well-focused program. They must define and justify their career goals; provide a detailed plan of study and obtain their B.S.E. program's approval for the plan before beginning the plan's course work; and complete the plan as approved.

Each B.S.E. program is responsible for approving proposed plans of study, ensuring that the program's ABET accreditation criteria are met, and that students' choices are consistent with their career aspirations and with the college's educational mission.

Guidelines for elective focus areas vary by program. For details, see Programs of Study on the college's website.

General Education Component

The general education component stem promotes understanding of and appreciation for community, culture, and learning through course work. All students are held to the following requirements.

Students earn 15 s.h. in courses chosen from approved departments and programs as outlined below.

Completion of at least 3 s.h. from the "Be Creative" course list as follows.

Code	Title	Hours
Be Creative		
ANIM:2125	Introduction to Animation	3
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
CERM:2010	Exploring Forms in Clay I	3
CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2730	The Art and Craft of Science Writing	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2830	The Art and Craft of Immersion Journalism	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:2850	The Art and Craft of Writing About Politics	3
CNW:2910	Writing for Applications and Awards	3
CNW:3632/ WRIT:3632	Prose Style	3
CNW:3640	Writing for Business and Industry	3
CNW:4355/ EDTL:4355	Approaches to Teaching Writing	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3

CW:2875	Poetry Writing	3	THTR:3240	Costume Design I	3
CW:3003	Writing and Reading Science Fiction	3	THTR:3250	Lighting Design I	3
CW:3005/ INTD:3005	Professional and Creative Business Communication	3	THTR:3260	Sound Design for the Theatre	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3	THTR:3270	Entertainment Design	3
CW:3210/ INTD:3210	Creative Writing and the Natural World	3	THTR:3876/ CINE:3876/ DANC:3876	Video for Performance	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3	THTR:3880/ DANC:3880	Installations and Interactive Performance	3
CW:3218/ INTD:3200	Creative Writing for New Media	3	THTR:3890/ DANC:3890	Producing and Directing Digital Video	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3	THTR:4270	Scenic Art	3
CW:4751	Creative Writing for the Musician	3	UICB:2110/ BKAT:2110	Introduction to Book Arts	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3	UICB:3280/ BKAT:3280	Elements of Book Art	3
DANC:1055	Creativity in Motion	3	UICB:3380/ BKAT:3380	Elements of Letterpress	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3	UICB:4100/ BKAT:4100	Paperworks	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3	UICB:4340/ ARTS:4340	Digital Design for Artists' Books	3
DANC:2090	Lighting Design for Engineers and Dancers	3	UICB:4415	Calligraphy I: Foundational Hands	3
DSGN:2500	Graphic Design I	3	<p>Completion of at least 3 s.h. from one of the following College of Liberal Arts and Sciences GE CLAS Core [p. 459] areas below. Industrial engineering students must complete this requirement with PSY:1001 Elementary Psychology.</p> <p>Interpretation of Literature World Languages Historical Perspectives International and Global Issues Literary, Visual, and Performing Arts Diversity and Inclusion Values and Culture Social Sciences</p>		
MTLS:2910	Introduction to Jewelry and Metal Arts	3			
MUS:1007	Garage Band: The Basics	2			
MUS:1012	Creativity in Music	3			
MUS:3285	New Musical Instruments: From Design to Performance	3			
PNTG:2410	Painting I	3			
PRNT:2610	Introduction to Printmaking	3	<p>Completion of at least 9 s.h. as follows.</p> <p>The remaining general education component courses can be selected from the "Be Creative" list, from courses in the seven College of Liberal Arts and Sciences GE CLAS Core areas above, or from the College of Engineering approved course subject list. See General Education Component for departments and programs that offer approved courses. Most general education component courses are offered by the College of Liberal Arts and Sciences.</p> <p>Credit may be earned by examination; see Academic Rules and Procedures [p. 1305] in this section of the Catalog.</p> <p>Students who enter the College of Engineering with a B.A. or B.S. are considered to have satisfied the general education component requirement.</p> <p>Students who enroll in a combined degree program in the College of Engineering and the College of Liberal Arts and Sciences or the Tippie College of Business are considered to have satisfied the College of Engineering's general education requirement once they have completed all requirements for the liberal arts and sciences degree or the business degree.</p>		
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3			
RHET:3260	Persuasive Speaking for Science and Health Care Professionals	3	<h2>Second B.S.E. Degree</h2> <p>Current College of Engineering students and recent graduates may earn a second Bachelor of Science in Engineering</p>		
SCLP:2810	Undergraduate Sculpture I	3			
SCLP:3840	Robotic Art Studio	4			
SCLP:4835	Electronic Objects and Spaces	4			
SCLP:4840	Air, Actuators, and Motors	4			
THTR:1140	Basic Acting	3			
THTR:2215	Theatre Technology	3			
THTR:2220	Production Lab	1-3			
THTR:2301	Playwriting I	3			
THTR:2610/ RHET:2610	Acting for Success	3			
THTR:2620	Improvisation for Engineers, Scientists, and the Curious	3			
THTR:3202	Graphic Design and Identity	3			
THTR:3208	Mask and Puppet Crafts	3			
THTR:3210/ DPA:3210	Makeup Design for the Stage	3			
THTR:3230/ ARTS:3230	Scene Design I	3			

(B.S.E.). The second degree must include all courses required by the second engineering degree program, including the senior-level design course sequence and any specific social science elective requirements. Elective focus area courses selected for the second B.S.E. must be of a variety and level that permit students to meet at least the minimal level of competence usually expected of graduates of that program.

Students must file an academic study plan, which must be approved by the faculty of the second degree program, submitted to the Student Development Center, and placed in a student's permanent file before a student may begin course work in the second B.S.E. The study plan should include a list of the courses to be taken in the second program along with a list of the courses already completed and yet to be completed for the first engineering degree program. Any changes in the plan must be approved by a student's faculty advisor in the second program and by the department chair of that program (the college petition form may be used for this purpose), submitted to the Student Development Center, and placed in a student's permanent file.

Combined and Dual Degrees

B.B.A./B.S.E.

The College of Engineering and the Tippie College of Business offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering.

Students in the combined program must complete all requirements for both degrees, including all general education requirements. They must enroll in appropriate mathematics and engineering courses early in their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social sciences count toward the B.B.A. and the B.S.E., students may count a single course toward both degrees.

B.B.A./B.S.E. students usually meet the degree requirements of both colleges in about five years; time required depends on a student's choice of major study areas.

Students in the combined B.B.A./B.S.E. program should consult with their advisors about whether the second-grade-only option is available to them.

Students are assigned two advisors, one in the Tippie College of Business Undergraduate Program Office and the other in their College of Engineering major department.

To enter the combined degree program, students must have approval from both colleges and must be admitted to both colleges. Interested students should contact the Student Development Center.

For information about the B.B.A., including requirements for the degree, see Bachelor of Business Administration [p. 1049] (Tippie College of Business) in the Catalog.

B.S.E./Liberal Arts and Sciences Degree

Students may earn two University of Iowa bachelor's degrees in a combined program in the College of Engineering and the College of Liberal Arts and Sciences. Successful candidates are awarded a B.S.E. (Bachelor of Science in Engineering) by the College of Engineering and a B.A. (Bachelor of Arts),

B.S. (Bachelor of Science), B.F.A. (Bachelor of Fine Arts), or B.M. (Bachelor of Music) by the College of Liberal Arts and Sciences.

Students in combined degree programs must complete all requirements for both degrees, including the College of Liberal Arts and Sciences GE CLAS Core [p. 459] and the College of Engineering general education component.

Students in the combined program usually are able to meet the degree requirements of both colleges in about five academic years. The exact length of time necessary to complete the program is determined by the major areas of study selected in each college. Students who enter the combined degree program are assigned two faculty advisors, one in their major department in the College of Engineering and the other in their major department in the College of Liberal Arts and Sciences.

To enter the combined degree program, students must be admitted to both the College of Engineering and the College of Liberal Arts and Sciences and must have College of Engineering approval to enter the combined degree program. Combined degree program applicants must meet the high school course or unit requirements for admission to each of the two colleges.

It is crucial that students enroll in the proper mathematics and engineering courses early in their course of study to expedite the completion of the program. The specific engineering courses taken by each student vary according to one's engineering major. Since courses in natural sciences, mathematics, humanities, and social sciences are accepted for credit by both colleges, students may be able to count a particular course toward both degrees.

Contact the Student Development Center for information about specific requirements. To learn about liberal arts and sciences majors, visit College of Liberal Arts and Sciences [p. 17] in the Catalog and select majors in departments from the college index.

B.S./B.S.E. Dual Degree with Northern Iowa

The 3+2 dual degree program leads to a B.S. in applied physics from the University of Northern Iowa (UNI) and a B.S.E. from the University of Iowa. It requires approximately three years of study at UNI followed by approximately two years of study at Iowa. There is no guarantee that students can complete the 3+2 degree in five years.

Students interested in the program are guaranteed admission to the University of Iowa portion of the program if they have a g.p.a. of at least 3.00 (B average) in all course work and in the chemistry, mathematics, and physics courses required by the University of Northern Iowa physics department.

During the first three years of the program, students complete at least 90 s.h. of course work at the University of Northern Iowa. They must successfully complete courses in each of the following areas: chemistry, mathematics through differential equations, physics to satisfy the applied physics major requirements, and courses to satisfy the general education requirements. Credit for courses passed with a grade of C or higher is transferred to the University of Iowa as credit for equivalent course work.

At the University of Iowa, students complete the B.S.E. requirements that were current at the time of their admission to the UI College of Engineering. Course work completed at the University of Iowa is transferred to the University of

Northern Iowa and applied toward the requirements for that institution's B.S. in applied physics.

When transferring to Iowa from UNI, students must submit applications for admission, housing, and financial aid to the University of Iowa by the University's established deadlines.

B.S.E./M.S. Programs in Engineering

Engineering students may be eligible to enroll in one of the College of Engineering's combined B.S.E./M.S. programs, which allow students to begin working toward a master's degree in engineering while they are completing the bachelor's degree. The combined programs, which are offered by each of the college's departments, permit students to count certain courses toward both degrees, completing both programs in less time than they would need to complete them separately. See "Combined Programs" in College of Engineering B.S.E. sections of the Catalog.

B.S.E./M.A. or M.S. in Urban and Regional Planning

The College of Engineering and the School of Urban and Regional Planning offer the combined Bachelor of Science in Engineering in civil engineering/Master of Arts or Master of Science program in urban and regional planning. The program, which is completed in five years, is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

For additional information on the B.S.E. in civil engineering [p. 1353], see that section of the Catalog. For more information about the graduate degrees, see the M.A. in urban and regional planning [p. 1496] or the M.S. in urban and regional planning [p. 1499] (Graduate College) in the Catalog. Contact Engineering Student Services for information about applying to the combined program.

Honors

Honors in Engineering

Outstanding undergraduate students who demonstrate exceptional accomplishment through research, directed independent study, teaching internships, or other approved nondegree enrichment activities may graduate with honors in engineering. They must maintain a University of Iowa g.p.a. of at least 3.33, complete an honors project with a faculty member, and participate in a college-wide honors seminar with faculty members and other honors students. Successful completion of the honors requirements leads to a B.S.E. with honors, which is noted on the student's transcript. See the College of Engineering Honors Program website for details.

University of Iowa Honors Program

In addition to honors in engineering, undergraduate students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Career Advancement

Engineering is a well-respected profession that is used as a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Biomedical Engineering

Chair

- Joseph M. Reinhardt

Undergraduate major: biomedical engineering (B.S.E.)

Graduate degrees: M.S. in biomedical engineering; Ph.D. in biomedical engineering

Faculty: <https://bme.engineering.uiowa.edu/people>

Website: <https://bme.engineering.uiowa.edu/>

The past half century has seen tremendous growth of technological activity in biology and medicine. As engineers increasingly have become involved with projects in the life and health sciences, biomedical engineering has emerged to bridge the gap between these sciences and engineering.

The Department of Biomedical Engineering fosters interdisciplinary activities across departments and colleges and maintains strong ties with the Carver College of Medicine and the Colleges of Dentistry, Nursing, and Public Health. The department strives to provide a well-rounded and superior engineering education that attracts outstanding students at both the undergraduate and graduate levels; to conduct high-quality research that enables faculty members and students to keep pace with and initiate new developments; and to serve government, industry, and institutions worldwide by making the department's facilities and faculty expertise accessible.

Department faculty members have teaching and research expertise in areas related to cardiovascular and fluid biomechanics, musculoskeletal biomechanics, biomaterials and tissue engineering, bioinstrumentation, biosystems, biomedical imaging, biological signal analysis, bioinformatics and computational biology, and other allied fields. Several faculty members have joint appointments in biomedical engineering and in the Carver College of Medicine, the College of Dentistry, or the College of Public Health. Biomedical engineering undergraduates and graduate students collaborate with faculty members and their colleagues on research problems in the life and health sciences.

Programs

Undergraduate Program of Study

Major

- Major in Biomedical Engineering (Bachelor of Science in Engineering) [p. 1323]

Graduate Programs of Study

Majors

- Master of Science in Biomedical Engineering [p. 1326]
- Doctor of Philosophy in Biomedical Engineering [p. 1327]

Facilities

Undergraduate Teaching Laboratories

Six dedicated undergraduate teaching laboratories are associated with the required and elective courses in biomedical engineering: Biomaterials Laboratory, Biomeasurements and Biosystems Laboratory, Biomechanics

Laboratory, the Carver Biomechanics and Mechanobiology Laboratory, Cell Biology for Engineers Laboratory, and Senior Design Laboratory.

Biomaterials Laboratory

The Biomaterials Laboratory is equipped to test varied properties of biomaterials, including hard and soft tissues and prostheses. The laboratory is used for BME:2500 Biomaterials and Biomechanics and other biomaterials courses, BME:5421 Cell Material Interactions, and senior design projects.

Biomeasurements and Biosystems Laboratory

The Biomeasurements and Biosystems Laboratory is equipped to measure biomedical variables of clinical and physiological interest, design and build electronic instrumentation, and conduct modeling experiments in physiology. It is used for BME:2200 Systems, Instrumentation, and Data Acquisition, BME:2210 Bioimaging and Bioinformatics, elective courses in biomeasurements and biological systems analysis, senior design projects, and demonstrations in BME:2110 Cell Biology for Engineers.

Biomechanics Laboratory

The Biomechanics Laboratory is equipped to perform experiments relating to the cardiovascular and human musculoskeletal systems. The laboratory houses two cone-and-plate viscometers; compact stress-strain devices for characterizing cardiovascular tissues; digital still, video, and motion-capture cameras for kinematic analysis; goniometers; a ski binding tester; a drop tower for impact testing; a dual-mode amplifier system; two 3-D printers; a table-top material testing machine; and dissecting tools. The lab is used for BME:2500 Biomaterials and Biomechanics, elective courses in cardiovascular and musculoskeletal biomechanics, other elective courses, and senior design projects.

Carver Biomechanics and Mechanobiology Laboratory

The Carver Biomechanics and Mechanobiology Laboratory (CBML) is a shared resource in the Department of Biomedical Engineering with a mission to enhance teaching, training, and research in the field of biomechanics and mechanobiology. Biomechanics and mechanobiology involve the study of how cells, fluids, tissues, and organs respond to physical forces. The lab contributes to the understanding of cardiovascular disease, cancer metastasis, wound healing, medical device function, and stem cell therapies.

The lab houses a planar biaxial stress-strain test apparatus, a pulse duplicator apparatus for characterizing blood flow through mechanical and tissue heart valves, a micro-PIV system for quantifying flow and particle dynamics at the micro-scale, a stent crimper for characterizing vascular stent designs, a multimode plate reader for quantifying cell activity and ECM remodeling, a lyophilizer for quantifying elastin and collagen content in soft tissue samples, a micromanipulator for performing micropipette aspiration studies, and a controlled microscope room for imaging live cells over long durations. The lab is used for courses in cardiovascular biomechanics and cellular engineering, other elective courses, and senior design projects.

Carver Medical Device Design Laboratory

The Carver Medical Device Design Laboratory provides a space for students to gather to collaborate on the design of medical implants, fixtures for testing such implants, and software for modeling, analyzing, and optimizing the function of these devices. Space and equipment are provided for progressing from a back-of-the napkin sketch to a finalized computer-aided design (CAD) model and through multiple iterations of physical prototypes.

A variety of tools and equipment are available such as a micro 24 laser system, a benchtop milling machine, a bandsaw and lathe, a soldering station, an expanded plasma cleaner, a micro pulse arc welder, and five computer workstations. The lab was established to serve students with an interest in medical device design and in required and elective courses in the areas of biomaterials, biomechanics (cardiovascular and musculoskeletal), and the senior design sequence.

Cell Biology for Engineers Laboratory

The Cell Biology for Engineers Laboratory trains students in cell culture and biochemical analysis techniques as a foundation for future studies in quantitative cell-based studies. Students learn basic cell culture techniques, protein and nucleic acid analysis, adenovirus-mediated gene transfer techniques, microarray and analysis, and polymerase chain reaction (PCR) analysis of nucleic acids. They also are introduced to bioinformatics techniques used in cell biology.

Major equipment in the lab includes laminar flow hoods, cell culture incubators, centrifuges, an ultracold freezer, protein and nucleic acid electrophoresis equipment, thermal cyclers, microscopes, an automated microplate reader, and varied support apparatuses used in cell-based studies. The lab is used for BME:2110 Cell Biology for Engineers and BME:5421 Cell Material Interactions.

Senior Design Laboratory

The Senior Design Laboratory provides a collaborative atmosphere for student groups as they create working prototypes. It has computer workstations, project workspace, and storage space for the development of senior design projects. In addition, a variety of tools and equipment are available in the lab, including electronics measurement devices, soldering tools, Dremel tools, miscellaneous sample medical equipment, and other resources for students. It is used by students taking BME:4910 Biomedical Engineering Senior Design I and BME:4920 Biomedical Engineering Senior Design II.

Research Facilities and Laboratories

Bioinformatics and Computational Biology Laboratory

The Bioinformatics and Computational Biology Laboratory is wired for high-speed networking (10- and 100-megabit and gigabit ethernet, hardwired and wireless, and ATM). It includes five dedicated Linux clusters, 126 computing systems, 178 CPUs, more than 100 gigabytes of RAM, and 2.5 terabytes of disk space.

Computer resources include a dedicated computer server cluster of 18 Linux systems (36 CPUs) connected with a dedicated, switched, copper Gigabit Ethernet intranet—18

Dual AMD MP-2400 (2.2 GHz, 2 GB memory, 40 GB disk each); second dedicated computer server cluster of 16 Linux systems (32 CPUs) connected with a dedicated, switched, fiber-optic Gigabit Ethernet intranet—12 Dual Pentium III (500 MHz, 1 GB memory, 9 GB disk each), and four dual Pentium III (500 MHz, 2 GB memory, 9 GB disk each); and third dedicated computer cluster of nine Linux systems (18 CPUs) connected with a dedicated 2.4 GB multistage intranet—eight dual Pentium III (866 MHz, .5 GB memory, 45 GB disk each), and one dual Pentium III (866 MHz, 1 GB memory, 45 GB disk each).

There are two additional clusters: an 8-node cluster of Pentium II class machines and a 12-system heterogeneous cluster of various SUNs, HPs, and SGIs; four dedicated, dual fiber channel, redundant disk storage systems (RAID) with 412 GB usable each. An additional 78 computers are used as compute servers, web servers, database servers, file servers, workstations, laptops, and for other developmental and experimental needs.

Cardiovascular Biomechanics Laboratory

The Cardiovascular Biomechanics Laboratory houses an EMS Whitest uniaxial tension/compression testing system, a pulse-duplicating apparatus with flow loop, a spectrophotometer, silicone prototype fabrication utilities, high-speed/high-resolution cameras, a Sun Solaris workstation, and personal computers. The lab is equipped for soft tissue tensile/compression testing and viscoelastic creep/relaxation testing; simulation of flow through fabricated, anatomically realistic, patient-specific models of vasculature and heart valves; quantification of protein content in soft tissues; fabrication of realistic, compliant prototypes of human organs; and computational modeling of hemodynamics and tissue mechanics of normal and pathological cardiovascular organs.

Jolt/Vibration/Seating Laboratory

The Jolt/Vibration/Seating Laboratory is equipped for investigation of the biomechanics of the spine, particularly problems related to low back pain due to the interaction between people and equipment in jolt (impact) and vibration environments. Shakers are available to simulate impact and vibration environments.

Human responses are measured using equipment including load cells, electromyography, accelerometry, position sensors, and pressure pads. Portable sensors and data recorders are used to evaluate impact and vibration environments in the field and compare them to domestic and international guidelines and standards.

Large Scale Digital Cell Analysis Laboratory

The Large Scale Digital Cell Analysis System (LSDCAS) is an automated microscopy system designed to perform non-perturbing live cell imaging. LSDCAS has been used in studies designed to determine mechanisms of cell death following treatment with anti-cancer therapies. Current studies involve the adaptation of the LSDCAS technology towards the development of automatic single-cell analysis techniques to be used in drug discovery. LSDCAS consists of two computer-controlled inverted Hoffman modulation contrast microscopes outfitted with environmental control chambers, motorized stages, shutters, focusing systems, and high-resolution digital camera systems.

LSDCAS is housed in a dedicated microscopy room that provides the dark environment necessary for systems that

operate around the clock automatically recording cell growth and other phenomena. LSDCAS data is stored and analyzed using a data center consisting of an 8 processor Linux server with 16 gigabytes of RAM, a 30 terabyte hardware RAID storage system, and a 30 terabyte robotic tape backup system. Web application software and many other programs provide robust analysis capabilities for the large variety of data produced by the system. The LSDCAS codebase contains over one hundred thousand lines of program code developed over the past two decades to provide automatic single cell analysis capabilities of general interest in cell biology. In addition, the lab has equipment and technologies generally used in cell and molecular biology, including protein and nucleic acid gel electrophoresis analysis systems, real-time RT-PCR systems, cell culture incubators, a laminar flow cell culture biosafety cabinet, a chemical fume hood, -80°C freezer, other refrigerators and freezers, an ice machine, water purification system, autoclave, and many other tools, reagents, and devices.

Multiscale Modeling, Mechanobiology, and Tissue Engineering Laboratory

The Multiscale Modeling, Mechanobiology, and Tissue Engineering Laboratory is equipped for computational and experimental investigations centered on the role of physical forces in directing cell-material interactions that govern biological phenomena across multiple scales. A 650-square-foot core wet lab has equipment for isolating, culturing, maintaining, and analyzing cells, including a Nu-Aire two-chamber incubator, lab refrigerator and freezer, and a Thermo Scientific 1300 Series class II, type A2 biological safety cabinet. A 120-square-foot microscopy room houses an ADMET BioTense top-mounted perfusion bioreactor that integrates with a Nikon Ti-E inverted microscope, a system equipped to simultaneously record force values and acquire images of cell-to-extracellular matrix interactions in 3-D environments (e.g., a collagen gel) at high magnification over long periods of time and under a suite of mechanical testing protocols. The MTESTQuattro material testing system and accompanying software controls the bioreactor temperature, drives the actuator, and records force. The system can be operated in load or displacement control, supplying monotonic, cyclic, or segmented control profiles. Both the microscope and bioreactor are interfaced with an HP Z210 convertible minitower base model workstation.

Orthopedic Biomechanics Laboratory

The Orthopedic Biomechanics Laboratory occupies 20 rooms on the ground floor of Westlawn. It is configured primarily for macroscopic-level physical testing of musculoskeletal constructs (e.g., bones, articular joints, orthopedic implants) and for corresponding computational modeling. The physical testing area includes a multipurpose wet lab, a multipurpose dry lab, a surgical preparation room, a mechanical testing room, a machine shop, and a specimen storage area. The computational modeling area is arranged around eight separate workstation seats in two adjoining partially partitioned areas. Adjacent to these core operational areas are offices for faculty, research staff, students, and fellows; a secretarial/reception area; a conference room; and a library.

Regenerative Engineering Laboratory

The Regenerative Engineering Laboratory inhabits over 1000 square feet of the Pappajohn Biomedical Discovery Building. The lab is fully equipped to support research at the interface of materials, engineering, and cell biology. The BSL2 cell culture room in the lab has two Panasonic cell

culture incubators, two thermo biological safety cabinets, a fluorescent microscope, 37°C bead bath, and centrifuges. A separate 4-color fluorescence microscope also is available. The fully automated Leica DMI6000 captures 4-color fluorescence images at up to 63X magnification. A built-in z-motor and post-acquisition analysis software allows for the capture and analysis of three dimensional z-stacks.

The chemistry part of the lab is equipped for biodegradable particle synthesis and analysis. In addition to a fume hood, sink, and laboratory counters, the lab has an analytical grade Mettler Toledo XS64 balance, water bath sonicator, homogenizer, syringe pumps, and a LabConco -86°C Cascade Lyophilizer. To support long term storage of the reagents required for the molecular biology and chemistry portions of the lab, a variety of cold storage options are available including 4°C, -20°C, -80°C, and -130°C.

Spine Research Laboratory

The Spine Research Laboratory is equipped for interdisciplinary research. The lab's MTS Bionix servohydraulic testing equipment (with extended columns) permits application of uniaxial tension or compression together with axial torsion under displacement or load control. The lab also has a fully automated 3-D motion measuring system. These devices are used to test mechanical properties of biomechanical joints and tissues, and for biomechanical evaluation of the performance of surgical treatment modalities. Other equipment includes digital cameras, surgical tools, and sensors (i.e., LVDTs, six-degrees-of-freedom load cell, pressure transducers, digital inclinometers).

A biaxial biomechanical culture system is available for application of controlled compression and/or shear forces onto the intervertebral disc during culture in order to investigate the disc's biological responses to mechanical loads. This culture system is used in conjunction with an incubator in which cells and tissues can be cultured. Basic equipment for histology and immunohistochemical analyses includes a microtome, ovens, a microscope, and glassware for chemical processes.

Courses

Biomedical Engineering Courses

BME:0000 Biomedical Engineering Internship/Co-op

0 s.h.

Biomedical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

BME:1010 First-Year Forum

1 s.h.

Presentations by faculty, graduate students, collaborators from the Carver College of Medicine, and Colleges of Dentistry and Law; may include visits to laboratories and industries.

BME:2010 Professional Seminar: Biomedical Engineering

1 s.h.

Professional aspects of biomedical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: sophomore or higher standing.

BME:2110 Cell Biology for Engineers 3 s.h.

Introduction to fundamental concepts in quantitative cell biology from an engineering perspective. Prerequisites: BIOL:1411. Corequisites: BIOS:4120 or STAT:3510.

BME:2200 Systems, Instrumentation, and Data Acquisition 4 s.h.

Introduction to engineering art and science of modeling, acquisition, and analysis of data collected from living systems; modeling of physiological and biological systems; concepts of analog circuit design, with emphasis on circuits for collecting data for biomedical applications using operational amplifiers, active filters, conversion, and interface to microcomputers; patient safety; clinical circuits; analysis of data using time domain and Fourier domain techniques and models; time domain sampling, and Nyquist sampling theorem. Prerequisites: ENGR:2120. Corequisites: HHP:3500, and BIOS:4120 or STAT:3510.

BME:2210 Bioimaging and Bioinformatics 4 s.h.

Introduction to bioinformatics and biomedical imaging; computer algorithms, machine learning, databases and SQL, the web and web servers, ethics, computer security, genome technology, public warehouses of biological data; medical imaging hardware and software for acquisition and analysis of medical images, especially those collected from X-ray, CT, MR, and ultrasound systems; medical imaging system physics, including interaction of energy with tissue, concepts of image spatial and temporal resolution; applications of filtering, enhancement, and image processing for analysis of medical images. Prerequisites: ENGR:1300 and BIOL:1411. Corequisites: BIOS:4120 or STAT:3510.

BME:2400 Cell Biology for Engineers 3 s.h.

Introduction to fundamental concepts in quantitative cell biology from an engineering perspective. Prerequisites: BIOL:1411. Corequisites: BIOS:4120 or STAT:3510.

BME:2500 Biomaterials and Biomechanics 4 s.h.

Introduction to mechanics and materials in biological systems; principles of mechanics (stress, strain, motion, fluid flow) presented and used to characterize behavior of biological entities (tendon/ligament, bone and cartilage, blood, blood vessels, heart); principles of material science; role of biomaterials (metals, polymers, ceramics) in medical devices. Prerequisites: ENGR:2110. Corequisites: HHP:3500, and BIOS:4120 or STAT:3510.

BME:2710 Engineering Drawing, Design, and Solid Modeling 3 s.h.

Introduction to methods and principles used by engineers to define and describe geometry and topology of engineered components; use of Parametric Technology's Creo Pro (formerly ProEngineer) 3-D CAD software; emphasis on elements of design; basic commands used in parametric design to develop spatial visualization skills and the ability to create and understand 3-D solid parametric design for assembly and 3-D drawing documentation; creation of 3-D assemblies and detailed drawings from art of design to part, utilization of solid modeling techniques.

BME:3010 Leadership and Resourcefulness 1 s.h.

Development of leadership skills and resourcefulness for real-world professional work and life. Requirements: completion of BME:1010 and two semesters of BME:2010.

BME:3200 Systems Biology for Biomedical Engineers 3 s.h.

Introduction to computational approaches relevant to systems biology; although systems biology is comprised of both experimental and computational aspects, the focus is on the latter, providing an introduction to the use of deterministic models to study biochemical reaction networks; computational models will be constructed using Wolfram Mathematica to provide insights into the complexities of biochemical systems and also serve to acquaint students with the types of modeling approaches used to study these systems. Prerequisites: BME:2110 and BME:2200.

BME:3710 Medical Device Design: The Fundamentals 3 s.h.

Introduction to medical device design process; project-based; development of prototyping and fabrication skills needed for engineering design projects, safety, communication, and teamwork; focus on physical rehabilitation science and assistive technologies; preparation for senior design course sequence. Prerequisites: BME:2500 and BME:2710. Corequisites: BME:4010. Requirements: junior standing.

BME:3998 Individual Investigations: Biomedical Engineering arr.

Individual projects for biomedical engineering undergraduate students, such as laboratory study, engineering design projects, analysis and simulation of an engineering system, computer software development, research.

BME:4010 Biomedical Engineering Design Seminar 1 s.h.

Information and presentations about possible projects; mentors available for senior design projects. Requirements: junior standing.

BME:4110 Principles of Regenerative Bioengineering arr.

Embryonic, fetal, and adult sources, human and nonhuman "stemness" of cells; references to biomaterials (i.e., those designed to direct organization, growth, and differentiation of cells in process of forming functional tissue by providing physical and chemical cues); biomarkers and nano-medicine; promises of bioinformatics in support tissue engineering, gene and protein sequencing, gene expression analysis, protein expression, and interaction analysis. Prerequisites: BIOL:1411. Corequisites: HHP:3500. Recommendations: BME:2110.

BME:4310 Computational Biochemistry 3 s.h.

Introduction to biomolecular modeling and computer simulation techniques; biomolecular structure and molecular driving forces; principles of structural optimization and conformational sampling; applications to biomolecular phenotypes; scripting and molecular visualization in PyMol, setting up and running molecular dynamics simulations using VMD and NAMD, performing refinement of X-ray diffraction data sets using Phenix, and executing Poisson-Boltzmann electrostatic calculations using APBS. Prerequisites: (MATH:1560 or MATH:1860) and CHEM:1120. Recommendations: BIOC:3110 or BIOC:3120. Same as BIOC:4310.

BME:4314 Introduction to Synthetic Biology in the Lab 4 s.h.

Introduction to theory and practice of large-scale design goals of synthetic biology in which various types of DNA instructions, known from decades of research and discovery on specific biological systems, are taken out of context and used to execute various novel tasks designed to solve real-world problems; basic laboratory instruction in standardized construction techniques for stringing together off-the-shelf DNA components that are then introduced into organisms capable of executing the instructional set; controlled experiments to investigate the degree of variability exhibited by engineered genetic constructs. Prerequisites: BIOL:1411. Same as BIOL:4314.

BME:4910 Biomedical Engineering Senior Design I 4 s.h.

Individual or group work on a creative design project involving current problems in biomedical engineering; interdisciplinary projects involving biomedical engineering and health sciences faculty members; first semester of a year-long senior capstone design project. Prerequisites: BIOS:4120 or STAT:3510. Requirements: senior standing.

BME:4920 Biomedical Engineering Senior Design II 4 s.h.

Second semester of a year-long senior capstone design project begun in BME:4910. Prerequisites: BME:4910.

BME:5010 Seminar in Biomedical Engineering 0 s.h.

Presentation of recent advances in biomedical engineering. Requirements: graduate standing.

BME:5101 Biomaterials and Implant Design 3 s.h.

Introduction to material and mechanical considerations underlying a broad range of medical implants; emphasis on understanding factors involved in orthopedic device design; major classes of biomaterials; considerations that underlie implant design, use, failure; contemporary areas of biomaterials and implant development. Prerequisites: ENGR:2750 and BME:2500.

BME:5200 Biomedical Signal Processing 3 s.h.

Application of signal processing methods (e.g., Fourier, Laplace, z-transforms) to biomedical problems, such as analysis of cardiac signals, circadian rhythm, the breathing cycle; computer simulation lab. Same as IGPI:5212.

BME:5210 Medical Imaging Physics 3 s.h.

Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Prerequisites: BME:2200 and BME:2210. Same as IGPI:5206.

BME:5220 Digital Image Processing 3 s.h.

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: ECE:2400 or BME:2200. Same as ECE:5480, IGPI:5480.

BME:5230 Multidimensional Medical Imaging Process 3 s.h.

Algorithms developed to process and analyze large volumetric data sets; physics of CT, MRI, ultrasound, 3-D convolution and filtering, geometric transformations, shape features, surface segmentation, regional segmentation, surface tiling, surface reconstruction, volumetric registration. Third in a medical imaging sequence. Prerequisites: ENGR:1300.

BME:5251 Advanced Biosystems 3 s.h.

Biological systems unique to systems analysis; operation under nonequilibrium conditions; tools for systems analysis developed from models of systems at equilibrium (i.e., mechanical systems); fundamental difference between biological and mechanical systems that impact systems analysis; expand knowledge of linear systems and begin work with nonlinear systems; various modeling and analysis approaches useful in biomedical and biomedical engineering research. Prerequisites: BME:2200. Same as IGPI:5251.

BME:5320 Bioinformatics Techniques 3 s.h.

Informatics tools and techniques applied to modern problems in biomedicine and basic life sciences; common tools, experience applying tools in contemporary problem settings; genomics and genetics, how to sequence a genome, transcription and expression, SNPs, Perl, BioPerl, Perl modules, Ensembl API, BLAST/BLAT, NCBI, UCSC, Ensembl Genome browsers, linkage, association, disease gene identification. Prerequisites: BIOL:1411 and (ENGR:2730 or CS:2110 or CS:5110). Same as ECE:5210, IGPI:5321.

BME:5330 Computational Genomics 3 s.h.

Introduction to computational methods used in genome analysis and functional genomics; biological sequence analysis, sequence database search, microarray data analysis, biological network analysis; in-depth coverage of principal genome science challenges and recent solutions. Prerequisites: (BIOS:4120 or STAT:3510) and BME:5320 and (CS:5110 or ENGR:1300). Same as BIOL:5320, ECE:5220, GENE:5173, IGPI:5330.

BME:5340 Contemporary Topics in Biomedical Engineering 3 s.h.

New and emerging areas of biomedical engineering and related fields; specific content varies.

BME:5401 Biomaterials and Implant Design 3 s.h.

Introduction to material and mechanical considerations underlying a broad range of medical implants; emphasis on understanding factors involved in orthopedic device design; major classes of biomaterials; considerations that underlie implant design, use, failure; contemporary areas of biomaterials and implant development. Prerequisites: ENGR:2750 and BME:2500.

BME:5415 Polymer Fundamentals 1 s.h.

Basic knowledge of polymers required as a foundation for other UI courses on polymers: basic polymer terminology, polymer groups, polymerization mechanisms, molecular weight determination. Five weeks. Same as CBE:5309.

BME:5421 Cell Material Interactions 3 s.h.

Current thought and techniques in the engineering and assessment of biomaterials. Prerequisites: BME:2110.

BME:5430 Biotransport**3 s.h.**

Energy, mass, and momentum transport in living systems; processes essential for understanding how physiological systems function from molecular level through scale of tissues and organs; fluid mechanics and physiological flows, mass transport, biochemical kinetics and reactions, bioheat transfer; conservation laws; various biological applications. Prerequisites: BME:2500.

BME:5435 Systems Biology for Biomedical Engineering**3 s.h.**

Although systems biology is comprised of both experimental and computational aspects, focus is on computational aspects; introduction to deterministic models of biochemical reaction networks; development and application of mathematical models of reaction networks using systems of nonlinear ordinary differential equations; numerical techniques employed to study system stability and perform simulations in realistic biological contexts. Prerequisites: BME:2110 and BME:2200 and BME:5430.

BME:5441 Numerical and Statistical Methods for Bioengineering**3 s.h.**

Mathematics and computation as indispensable tools needed to model and explain complex phenomena relevant to biomedical engineering problems; introduction to concepts from linear algebra, differential equations, probability and statistics, nonlinear model regression, optimization, numerical integration, and other numerical methods, all using Matlab. Prerequisites: MATH:2560 and MATH:2550.

BME:5445 Stem Cells in Regenerative Engineering**3 s.h.**

Discovery and history of stem cells, how they are defined and grouped, and various techniques for their isolation, creation, culture, and characterization; focus on current state of stem cells in medical research and treatment of human disease, as well as future outlook of their use; particular emphasis placed on practical knowledge that students may find useful as they pursue careers in cellular and tissue engineering. Prerequisites: BME:2110 or BIOL:2723.

BME:5451 Research Methods in Cellular Engineering**3 s.h.**

Statistical approaches and principles of assays routinely used in cell engineering; design of experiments and statistical approaches commonly used to analyze biological data including t-tests and one- and two-way ANOVAs, taking into consideration the constraints of cellular engineering research; students design, execute, and analyze data collected from actual experiments; review of recently published literature and analysis of public data sets to understand how each assay and test contributes to understanding of cellular phenotype. Prerequisites: BIOL:1411 and BIOS:4120.

BME:5510 Cardiovascular Biomechanics**3 s.h.**

Mechanics—forces and motion—at the heart of the cardiovascular system; fluid and solid mechanics inherent to the motion of the heart, valves, arteries, and veins, and how they facilitate the flow of blood; how to use mechanics to understand and diagnose the severity of cardiovascular disease states and to design implants and devices. Prerequisites: BME:2500.

BME:5520 Cardiovascular Fluid Mechanics**3 s.h.**

Anatomy and physiology of the human circulatory system, pressure-flow relationship in arteries, elastic properties of the arterial wall, steady and pulsatile flow dynamics, flow dynamics of human heart valves, flow dynamics past valve prostheses, fluid mechanical measurements in circulation, relationship between fluid mechanics and diseases in human circulation. Prerequisites: BME:2500.

BME:5530 Design of Circulatory Implants and Artificial Organs**3 s.h.**

Exploration of current innovations and new technologies; examination of various devices currently on the market from a standpoint of design variables and objectives (i.e., stents, heart valves, dialyzers, VADs, artificial organs); biomedical engineers' vital role in design and improvement of these implants. Prerequisites: BME:2500.

BME:5540 Quantitative Studies of Respiratory and Cardiovascular Systems**3 s.h.**

Quantitative physiological aspects of respiratory and cardiovascular systems; classical models of these systems are considered including lumped element models, branching tree structures, and distributed parameter models to predict wave propagation in compliant walled tubes filled with compressible or incompressible fluids; development of extensive computer models to simulate the behavior of these systems in frequency- and time-domains, under various conditions of health and disease. Prerequisites: BME:2200 and HHP:3500.

BME:5550 Cardiovascular Tissue Mechanics**3 s.h.**

Solid mechanics principles applied to understand behavior of tissues in the cardiovascular system; mechanical properties of ventricles, valves, and blood vessels, their normal function, how they are affected by disease states; solid mechanics of tissue-prosthesis interactions. Prerequisites: ENGR:2750 and BME:2500. Corequisites: BME:5510.

BME:5610 Musculoskeletal Biomechanics**3 s.h.**

Principles of solid mechanics applied to analytical, experimental investigation of biological systems; emphasis on applications in kinesiology of human musculoskeletal system. Prerequisites: BME:2500 and ENGR:2750.

BME:5620 Introduction to Applied Biomedical Finite Element Modeling**3 s.h.**

Introduction to finite element modeling as applied to biomechanics-related applications. Prerequisites: ENGR:2750 and BME:2500.

BME:5630 Kinetics of Musculoskeletal Systems**3 s.h.**

Principles of kinematics; kinetics applied to analytical and experimental investigation of musculoskeletal systems; mathematical foundations for kinematic and kinetic analyses; examples of mathematical modeling of human movements. Prerequisites: ENGR:2710.

BME:5640 Ergonomics of Occupational Injuries**3 s.h.**

Epidemiology, surveillance systems, ergonomics, biomechanics, physiology, psychology, legal aspects, and cost control. Prerequisites: BME:2500. Corequisites: ENGR:2750.

BME:5660 Intermediate Mechanics of Deformable Bodies**3 s.h.**

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: ENGR:2750. Same as CEE:5540, ME:5150.

BME:5720 Optimization of Structural Systems**3 s.h.**

Advanced topics; optimization of structural topology, shape, and material; finite dimensional dynamic response optimization, sensitivity analysis, distributed parameter systems; projects. Same as CEE:5236, ME:5236.

BME:5910 Fast-Track Biomedical Engineering Design 1-A**3 s.h.**

Part A of first semester of year-long senior capstone design project; individual or group design project involving biomedical engineering problems. Corequisites: BME:5911. Requirements: senior standing.

BME:5911 Fast-Track Biomedical Engineering Design 1-B 1 s.h.

Part B of first semester of year-long senior capstone design project; individual or group project involving biomedical engineering problems. Corequisites: BME:5910. Requirements: senior standing.

BME:5920 Fast-Track Biomedical Engineering Design 2-A 3 s.h.

Part A of second semester of year-long senior capstone design project started in BME:5910 and BME:5911. Prerequisites: BME:5910. Corequisites: BME:5921.

BME:5921 Fast-Track Biomedical Engineering Design 2-B 1 s.h.

Part B of second semester of year-long senior capstone design project started in BME:5910 and BME:5911. Prerequisites: BME:5910. Corequisites: BME:5920.

BME:5998 Individual Investigations: Biomedical Engineering arr.

Individual projects for biomedical engineering graduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

BME:5999 Research: Biomedical Engineering M.S. Thesis arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of the requirements for the M.S. with thesis in biomedical engineering. Requirements: graduate standing.

BME:6110 Mechanics of Cells and Cellular Systems 3 s.h.

Mechanics of cells; focus on cellular mechanical properties, responses to mechanical stimuli, cellular forces and measurement, and computational tools; cellular environment considered with implication to disease pathologies and medical device design considerations.

BME:6225 Communicating Science 3 s.h.

Writing and speaking about biomedical engineering and science research; key principles of writing with clarity and cohesion; practice applying these principles on a piece of research writing students are currently working on; review of best practices for presenting research to peers and at conferences; students share their work with peers through writing and presentations.

BME:6415 Advanced Biomechanics and Modeling of Soft Tissues 3 s.h.

Application of continuum mechanics and modeling to study of biological tissues and biomaterials.

BME:6515 Advanced Biological Soft Tissue Mechanics 3 s.h.

Topics in vascular solid mechanics; study of vascular tissue from theoretical (constitutive modeling), experimental, and computational perspectives.

BME:6520 Advanced Biofluid Mechanics 3 s.h.

Hemodynamic theories of atherogenesis, Womersley models, steady and unsteady flows in curvature, bifurcation and branching arterial segments, flow dynamics past prosthetic implants, experimental and computational models, particulate and mass transport simulations in human circulation. Prerequisites: BME:5520.

BME:6610 Spine Mechanics 3 s.h.

Biomechanics applied to mechanics of the human spine; clinical aspects; state-of-the-art in spine research; basic engineering principles for biomechanical analysis. Prerequisites: BME:5610.

BME:6630 Human Response to Vibration 3 s.h.

Exploration of the human body, a complex mechanism exposed to mechanical shock and vibration from many sources, under many conditions; interactions and applicable exposure standards, effects of whole-body and hand-arm vibration. Requirements: graduate standing in College of Engineering or College of Public Health.

BME:7999 Research: Biomedical Engineering Ph.D. Dissertation arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. with thesis in biomedical engineering.

Biomedical Engineering, B.S.E.

The department provides undergraduate students with a contemporary education in a multidisciplinary field of engineering. Its objective is to produce graduates who:

- contribute to the biomedical field through the responsible design of devices, systems, processes, and policies that improve human health;
- pursue a wide range of career options, including those in industry, academia, and medicine; and
- advance to leadership positions in their chosen field.

Requirements

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The major in biomedical engineering builds on the foundation provided by the B.S.E. core requirements, preparing students for the challenges and opportunities associated with careers in the profession.

The program has been designed carefully to enable students to satisfy the entrance requirements of the Graduate [p. 1416] College. Students whose choice of electives includes a three-course sequence in organic chemistry, an additional biology course, and a biochemistry course may satisfy entrance requirements of the Carver College of Medicine [p. 1525], the College of Dentistry [p. 1147], or the allied health sciences.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing; and courses in chemistry, engineering mathematics and fundamentals, and physics. They must earn a grade of C-minus or higher in the core requirements MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus.

Students also complete the curriculum designed for their major program, which covers four stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component (15 s.h. of humanities and social science courses). For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1304] in the Catalog.

Biomedical engineering students must choose a track, which constitutes the elective focus area for the biomedical engineering major. They may choose one of four preapproved tracks—bioinformatics and computational biology, bioimaging, biomechanics and biomaterials, and cellular engineering. Each track may be designated pre-medicine by taking the necessary track electives. Each approved track has a group of four required courses and a list of suggested electives. For details about tracks and their requirements, visit Biomedical Engineering Tracks on the department's website.

Combined Programs

B.S.E./M.S.

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science for biomedical engineering undergraduate students who intend to earn a

M.S. in biomedical engineering. Students admitted to this program are allowed to apply three engineering courses (9 s.h.) towards both the B.S.E. and M.S. degree requirements, take an additional 3 s.h. of graduate course work before completing their B.S.E., and attend and participate in the departmental graduate seminar. Students may begin to work on their course work or master's thesis starting as early as the summer following the junior year of undergraduate studies.

Students applying to the B.S.E./M.S. program in biomedical engineering must meet the following criteria at the time of application:

a minimum of 80 s.h. completed towards their B.S.E. degree,

a cumulative g.p.a. of 3.50 or higher, and

identification of a thesis or project mentor.

B.S.E./M.S. in Electrical and Computer Engineering

B.S.E. students majoring in biomedical engineering who are interested in earning a Master of Science in electrical and computer engineering may apply to the combined B.S.E./M.S. program offered by the College of Engineering. The combined program permits students to count a limited amount of credit toward the requirements of both degrees. See the M.S. in Electrical and Computer Engineering [p. 1378] in the Catalog.

B.S.E.(Biomechanics and Biomaterials Track)/M.S. in Occupational and Environmental Health (Industrial Hygiene Subprogram)

B.S.E. students majoring in biomedical engineering in the biomechanics and biomaterials track who are interested in earning a Master of Science in occupational and environmental health with an industrial hygiene subprogram may apply to the combined B.S.E./M.S. program offered by the College of Engineering and the College of Public Health. The combined program permits students to count a limited amount of credit toward the requirements of both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. See the M.S. in Occupational and Environmental Health [p. 1781] (College of Public Health) in the Catalog.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biomedical Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4

ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students ^c	1
CSI:1600	Success at Iowa	0
	Hours	16

Spring

MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
CHEM:1120	Principles of Chemistry II	4
BME:1010	First-Year Forum ^c	1
	Hours	18

Second Year**Fall**

MATH:2560	Engineering Mathematics IV: Differential Equations	3
BIOL:1411	Foundations of Biology	4
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
BME:2010	Professional Seminar: Biomedical Engineering ^c	1
	Hours	16

Spring

HHP:3500	Human Physiology	3
BME:2200	Systems, Instrumentation, and Data Acquisition	4
BME:2210	Bioimaging and Bioinformatics	4
BME:2500	Biomaterials and Biomechanics	4
STAT:3510	Biostatistics	3
or BIOS:4120	or Introduction to Biostatistics	
BME:2010	Professional Seminar: Biomedical Engineering ^c	1
	Hours	19

Third Year**Fall**

BME:2400	Cell Biology for Engineers	3
Track Requisite #1		3
PHYS:1612	Introductory Physics II	4
GE: Engineering Be Creative ^d		3
GE: CLAS General Education Component ^e		3
BME:3010	Leadership and Resourcefulness ^c	1
	Hours	17

Spring

Track Requisite #2		3
Track Elective #1 ^f		3
Track Elective #2 ^f		3
GE: Approved Course Subjects ^g		3

GE: Approved Course Subjects ^g		3
BME:4010	Biomedical Engineering Design Seminar ^c	1
	Hours	16

Fourth Year**Fall**

BME:4910	Biomedical Engineering Senior Design I	4
Track Requisite #3		3
Track Elective #3 ^h		3
Track Elective #4 ^h		3
	Hours	13

Spring

Track Requisite #4		3
BME:4920	Biomedical Engineering Senior Design II	4
Track Elective #5 ^h		3
Track Elective #6 ^h		3
Track Elective #7 ^h		3
GE: Approved Course Subjects ^g		3
	Hours	19
	Total Hours	134

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c 1 s.h. does not count toward 128 s.h. total required for graduation.
- d Courses with prerequisites; students should complete a prerequisite waiver form.
- e Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- f Two Track Electives must be Engineering topics courses.
- g A full list of approved course subjects can be found on the College of Engineering General Education Component website.
- h Choose from Engineering Electives (Other Suggestions) or courses not chosen from Engineering Topics

Career Advancement

B.S.E. graduates with a major in biomedical engineering may pursue career opportunities in biomedical industries, such as design and development of biomedical instrumentation, diagnostic aids, life-support systems, prosthetic and orthotic devices, and man-machine systems; or they may pursue traditional career opportunities in industry, such as those rooted in mechanical or electrical engineering disciplines. Other career options are available in government (Food and Drug Administration, Environmental Protection Agency, National Institutes of Health, Veterans Affairs). Some biomedical engineering graduates elect to continue formal education in engineering, medicine, or law. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Biomedical Engineering, M.S.

Graduate study in biomedical engineering prepares students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student's course of study is based on individual background and career objectives, and sound academic practice.

An individual program for each student may be developed from courses offered by the Department of Biomedical Engineering and other departments, especially mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. Students who want a more general program may combine emphases, while those who want some specialization in a particular field can achieve their goals through the combination of departmental courses and appropriate electives from other departments in the College of Engineering and the University.

Requirements

The Master of Science program in biomedical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. Students who choose the nonthesis program must earn at least 6 s.h. of credit in courses numbered 5000 or above. Those who choose the thesis program may count no more than 6 s.h. of thesis research and writing credit toward the degree. The M.S. may be a terminal degree or a step toward the Ph.D.

A tentative plan of study for each student is determined through consultation with an advisor. An M.S. committee of at least three graduate faculty members, including at least two on the biomedical engineering faculty, is appointed by the dean of the Graduate College. A student's plan of study is reviewed by the committee before the student has completed 18 s.h. of course work. The plan of study then is submitted for review to the department chair.

Students must fulfill the grade-point-average requirements of the Graduate College on a minimum of 30 s.h. of graduate work and must successfully complete the final examination administered by their committee.

M.S. students in biomedical engineering (thesis or nonthesis) must complete the following courses or their equivalents.

Code	Title	Hours
BIOS:4120 or STAT:3510	Introduction to Biostatistics Biostatistics	3
ENGR:7270	Engineering Ethics	1
HHP:3500	Human Physiology	3
ME:5113	Mathematical Methods in Engineering (or equivalent math course numbered 3000 or above)	3

Individual study plans should include as much advanced work as individual aptitude and previous preparation permit.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants who have earned a baccalaureate or postbaccalaureate degree in engineering or in the mathematical or physical sciences, with a g.p.a. of at least 3.00, and who have a combined verbal and quantitative score of 310 on the Graduate Record Examination (GRE) General Test are eligible to be considered for admission to the Master of Science program.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in admission decisions.

Financial Support

Biomedical engineering graduate students receive financial support through a combination of research and teaching assistantships and fellowships. Decisions about research and teaching assistantships are made by individual faculty members. Questions about the availability of financial support should be addressed directly to faculty members in a student's primary area of study.

Career Advancement

The Graduate College at the University of Iowa offers numerous career advancement opportunities and professional development programs for graduate students. Ongoing program offerings, news, and announcements can be found under Professional Development on the Graduate College website.

Biomedical Engineering, Ph.D.

Graduate study in biomedical engineering prepares students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student's course of study is based on individual background and career objectives, and sound academic practice.

An individual program for each student may be developed from courses offered by the Department of Biomedical Engineering and other departments, especially mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. Faculty members in the department have teaching and research expertise in cardiovascular and fluid biomechanics, musculoskeletal biomechanics, biomaterials and tissue engineering, bioinstrumentation, biosystems, biomedical imaging, biological signal analysis, bioinformatics and computational biology, and other allied fields.

Ph.D. programs may center on any one of the previously described areas through the choice of appropriate course work and research topic.

Requirements

The Doctor of Philosophy program in biomedical engineering requires a minimum of 72 s.h. of graduate work, including acceptable transfer credit. At least 42 s.h. must be earned in formal course work taken after the B.S. is awarded, and at least 12 s.h. must be earned for research and the thesis. Students who enter with an M.S. may count a maximum of 33 s.h. of approved transfer credit toward the Ph.D., but they must earn 39 s.h. of graduate credit at the University of Iowa, including at least 12 s.h. for research and the thesis. Based on a student's research progress, examination results, or other measures, the graduate committee may require additional formal course work to strengthen perceived areas of weakness.

Ph.D. students with a major in biomedical engineering must complete the following courses or their equivalents.

Code	Title	Hours
BIOS:4120 or STAT:3510	Introduction to Biostatistics Biostatistics	3
ENGR:7270	Engineering Ethics	1
HHP:3500	Human Physiology	3
ME:5113	Mathematical Methods in Engineering (or equivalent math course numbered 3000 or above)	3

Admission to the Ph.D. program is conditional until students successfully complete a qualifying examination. The biomedical engineering faculty administers the exam and decides whether a student's performance on it is adequate for admission to the Ph.D. program.

Admission to Ph.D. candidacy requires a g.p.a. of at least 3.00 on all graduate work at the University of Iowa. Upon completion of the course work specified in the plan of study and with the required grade-point average and the

advisor's recommendation, students are admitted to the comprehensive examination by their committee.

Having satisfactorily completed these examinations, students usually have only to complete and defend their dissertation at the final examination. Requirements for the Ph.D. generally can be completed in about three years beyond the master's degree.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in admission decisions.

Admission to the Doctor of Philosophy in biomedical engineering is conditional until students successfully complete a qualifying examination.

Financial Support

Biomedical engineering graduate students receive financial support through a combination of research and teaching assistantships and fellowships. Decisions about research and teaching assistantships are made by individual faculty members. Questions about the availability of financial support should be addressed directly to faculty members in a student's primary area of study.

Career Advancement

The Graduate College at the University of Iowa offers numerous career advancement opportunities and professional development programs for graduate students. Ongoing program offerings, news, and announcements can be found under Professional Development on the Graduate College website.

Chemical and Biochemical Engineering

Chair

- C. Allan Guymon

Undergraduate major: chemical engineering (B.S.E.)

Graduate degrees: M.S. in chemical and biochemical engineering; Ph.D. in chemical and biochemical engineering

Faculty: <https://cbe.engineering.uiowa.edu/people>

Website: <https://cbe.engineering.uiowa.edu/>

Chemical and biochemical engineers combine engineering principles with knowledge of mathematics and specific sciences—chemistry, the biological sciences, and physics—to develop and operate processes that convert raw materials into products that benefit society. For example, biochemical engineers might develop and operate processes to convert switchgrass into biofuels or to mass produce an antibiotic.

Chemical and biochemical engineers engage in a wide variety of activities that benefit the global community. Fuel cells, solar energy, and biorenewable fuels (e.g., biodiesel or ethanol) fall within the realm of chemical engineering. Chemical engineering distinguishes itself from other engineering professions with its reliance on chemical reactions and physicochemical transformations to produce a wide variety of important materials and products. Biochemical engineers are involved in a wide variety of industrial biocatalytic, fermentation, and cell culture processes that generate products ranging from the high fructose corn syrup in soft drinks to recombinant human insulin.

As part of their training, chemical and biochemical engineers learn ethical design and a respect for the larger issues in any design, such as community health, employee safety, and the global implications of the design. The University of Iowa's curriculum emphasizes chemical process safety and environmentally conscious chemical engineering design.

Programs

Undergraduate Program of Study

Major

- Major in Chemical Engineering (Bachelor of Science in Engineering) [p. 1334]

Graduate Programs of Study

Majors

- Master of Science in Chemical and Biochemical Engineering [p. 1337]
- Doctor of Philosophy in Chemical and Biochemical Engineering [p. 1340]

Facilities

Undergraduate Core

Materials Science Laboratory

The Materials Science Laboratory is equipped with optical microscopes and facilities for metallographic preparation. Mechanical tensile testing instruments, heat treatment and

sintering furnaces, and hardness testing machines also are available. Teaching aids include metallography specimen kits and crystallography packages.

Required Undergraduate Laboratories

Chemical Engineering Laboratory

The Chemical Engineering Laboratory provides instruction for undergraduate students in CBE:3150 Thermodynamics/Transport Laboratory and CBE:3155 Chemical Reaction Engineering/Separations Laboratory. It is equipped for experimentation in thermodynamics, fluid flow, heat transfer, mass transfer, chemical reaction engineering, and separations. The lab includes pilot plant equipment, such as a distillation column, wiped film evaporator, shell-and-tube heat exchanger, jacketed kettle, and agitated extractor. Other equipment includes a concentric tube heat exchanger, reciprocating plate extractor, membrane gas separator, fluid friction apparatus, and heat conduction apparatus. Analytical equipment includes gas chromatographs, UV/visible spectrophotometers, polarimeters, and refractometers.

The lab is continuously updated to reflect advances at the forefront of chemical engineering technology. Additionally, a wide array of small equipment is available to support laboratory projects and demonstrations in chemical engineering courses and for use by students performing independent investigations.

Chemical Process Safety Laboratory

The Chemical Process Safety Laboratory is an integral part of CBE:3125 Chemical Process Safety. It is equipped with two Miniflash automatic flash point tester (closed cap), an advanced reactive system screening tool (ARSST), a minimum ignition energy (MIE) apparatus, a flammability chamber, a modified Hartmann tube, a Hartmann bomb, a liquid conductivity apparatus, a powder changeability apparatus, a powder volume resistivity apparatus, a Van de Graaff generator, two high impedance electrometers, a field meter, a Faraday cage, and relief sizing software. This equipment is used in a series of experiments to demonstrate the principles of flammability, reactivity, explosions, relief valve sizing, and electrostatics relevant to industry.

Biochemical Engineering Laboratory

The Biochemical Engineering Laboratory is an integral part of CBE:5205 Introduction to Biochemical Engineering. It is equipped with two controlled New Brunswick BioFlo/CelliGen 115 bioreactors, three New Brunswick C76 Water Bath Shakers, a UV/visible spectrometer, a Thermo Scientific Nanodrop 3300 fluorospectrometer, and a YSI 2700 Select Biochemistry Analyzer. This equipment is used to study the growth and metabolism of microorganisms and recombinant protein production.

Process Control Laboratory

The Process Control Laboratory is a modern, computer-based instructional laboratory that is integral to CBE:4105 Process Dynamics and Control in Design. The lab consists of computer control of a shell-and-tube heat exchanger and a level-and-flow control process rig with state-of-the-art industrial control interfaces.

The Computer Control Laboratory offers an ensemble of learning experiences with the same equipment. Additional laboratories provide instruction in the use of process

simulators that provide analogies and better insight into the control process. Topics include determination of the gain and time constants for single-capacitance systems; determination of gain, time constant, and damping factor of second-order processes; determination of open-loop and closed-loop response to step-and-ramp changes in input for single-capacitance and multicapacitance processes; approximations of multicapacitance systems as first-order and second-order processes with dead time; analysis of instrumentation characteristics and transfer functions; tuning and optimization of feedback control parameters (P, PI, PID); system identification through frequency response methods; and determination of system stability.

Experimental arrangements in the lab are simple enough in design to be easily understood, yet complicated enough to help students appreciate system characteristics inherent in industrial processes (e.g., large time lags, error in parameter estimation).

Graduate Facilities and Laboratories

The department offers a wide variety of facilities to support and develop research activities.

Air Pollution Computational, Field, and Laboratory Studies

The department maintains extensive facilities for computational, field, and laboratory studies of air pollution, carbon cycle gases, aerosols, and nanoparticles at the Center for Global and Regional Environmental Research (CGRER). The center occupies 5,000 square feet of lab and office space on the fourth floor of the Iowa Advanced Technology Laboratories.

CGRER houses one R2 ImmersaDesk Portable Large Scale Visualization System and is linked on campus to two more R2 ImmersaDesk units.

The center's computer laboratory for environmental and spatial data analysis provides numerous Windows and UNIX workstations, sophisticated software packages, and workstations and a file server necessary to run intensive visualization programs. The network backbone is University supported with high-speed wireless throughout. A variety of digital environmental databases and an extensive library of documentation and related references are available. There are 4 Beowulf Linux clusters on site and Linux clusters of 4, 16, 18, and 20 nodes for large computations and data assimilation. CGRER retains 15 TB of redundant storage and 50 TB of total storage; local storage space is scalable and expandable. A variety of software packages and programming languages are available for data analysis and display, including Arc/Info, Arcview, NCAR Graphics, Matlab, S-Plus, and Vis5d, as well as geographical information software. The ESRI software suite is part of a University-wide site license.

Laboratory and field equipment includes aerosol samplers, including scanning mobility particle sizers for aerosols from 3 nm to 1 micron with time resolution to 30 seconds; aerosol particle sizers for aerodynamic measurements of in situ particles with time resolution to 1 second; and varied condensation particle counters for measuring total particle counts. Several hygroscopic tandem differential mobility analyzers are used, as well as varied aerosol generation devices and unique aerosol inlets for RH and temperature modification and control. Cloud droplet number can be measured in the lab or in the field using a Droplet

Measurement Technologies cloud condensation nuclei detector. Advanced computer control of instruments is available through Labview.

Selected instruments are field deployable in a custom air-conditioned trailer. Through collaboration with the IIHR—Hydrosience & Engineering, access to micrometeorology sensors, 1-D and 2-D elastic and Raman LIDAR, and gas sensors is available, including multichannel ammonia monitors.

Biochemical Engineering

Biochemical engineering laboratories provide facilities for preparation of biological media and cultivation of organisms as well as for separation and analysis of biomolecules. This equipment includes biological incubators and floor incubator shakers, agitated and airlift bioreactors, light microscopes, autoclaves, Vi-Cell cell counter, thermocycler for PCR amplification of DNA, high- and low-speed centrifuges, UV-Vis spectrophotometers, a lyophilizer, biological safety cabinets, and an anaerobic glove box. Phase-contrast and epifluorescence microscopes, gel electrophoresis systems, gas chromatography units with flame ionization and electron capture detectors, and several high-performance liquid chromatography systems with refractive index and photodiode array detectors are available for characterization of microorganisms and constituent biomolecules. In addition, the lab has multiple extremophile cultivation systems including a high-pressure (0.1-100 MPa) cell cultivation system, several continuous cultivation systems, and high-temperature oil bath shakers for physiological studies of extremophilic microbes.

Through collaborative research agreements, graduate students also have access to specialized facilities for electron microscopy, large-scale fermentation, protein structure, recombinant DNA research, and tissue culture/hybridoma; the Flow Cytometry Facility; and the High Resolution Mass Spectrometry Facility.

Biomedical Engineering

The biomedical engineering laboratories house particle technology equipment including microemulsion equipment for drug encapsulation, sonicators, benchtop scale spray dryers, laser diffraction particle sizer, zetapotentiometer; DNA preparation equipment, gel electrophoresis apparatus; interfacial stress rheometer, surface tensiometer, UV-Vis/fluorescent plate reader, high-performance liquid chromatograph, luminometer, lyophilizer, custom-built simulated cough machine, microscopes, incubators, wet chemistry equipment, rotary shakers, incubated plate shakers, autoclave, centrifuges, and laboratory computers. Cell culture and bacterial culture facilities are housed adjacent to the laboratories.

Graduate students also have access to core research facilities including the Central Microscopy Research Facility, Flow Cytometry Facility, Iowa Institute of Human Genetics, Electron Spin Resonance Facility, Nuclear Magnetic Resonance Facility, High Resolution Mass Spectrometry Facility, and the Center for Gene Therapy.

Computer Facilities

The departmental computer facilities contain a variety of graphics workstations, printers, and microcomputers. The department is supported by the college's Engineering Technology Center, which maintains a large network of high performance UNIX and Windows XP workstations along with extensive commercial and public domain software.

The department also has access to the University's central research facility in high-speed vector computation. This facility has SGI Power Challenger minisupercomputers and provides nodes for external links for access to supercomputers.

Fundamentals and Applications of Photopolymerization

The Photopolymerization Center was established to advance fundamental understanding of the kinetics and mechanisms of photopolymerizations. To this end, the center provides unique opportunities for collaborations by industrial and academic investigators to explore photopolymerization processes and develop novel applications based on photopolymerizations.

The center provides equipment and instrumentation for the characterization of photopolymerization systems on the molecular, microscopic, and macroscopic levels. Center researchers pursue understanding of fundamental photophysical and photochemical processes involved in the photoinitiation reaction; characterization of high-speed propagation and termination kinetics that lead to the polymer structure; and evaluation of material properties through the course of the photopolymerization reaction. Both radical and cationic photopolymerizations are studied with state-of-the-art experimental techniques to elucidate the complex chemical and physical mechanisms that control the initiation, propagation, and termination of the active centers.

Courses

Chemical and Biochemical Engineering Courses

CBE:0000 Chemical Engineering Internship/Co-op 0 s.h.

Chemical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

CBE:1000 CBE Departmental Seminar 1 s.h.

Introduction to the profession and the department; presentations by guest speakers, visits to laboratories and industries.

CBE:1180 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

CBE:2030 Energy and Society 3 s.h.

History of energy development and use throughout the world; how energy has affected the development of human societies; societal impact of engineering advances; current state of energy consumption worldwide, including distribution of energy sources, global variations in consumption, advantages and disadvantages of current energy sources; role of fossil fuel consumption in global climate change, potential scenarios for the future of energy.

CBE:2040 Environment, Energy, and Climate Change 3 s.h.

Covers traditional concerns (e.g., pollution and conservation of energy resources) with clear, scientific explanations; Earth's dynamic processes and response to natural and human-induced stresses; the link between energy and climate; reasons why we need to support reducing emissions and build a clean and sustainable environment.

CBE:2050 Severe and Unusual Weather 3 s.h.

Basic weather concepts behind severe weather phenomena and essential safety information; how weather events cause billions of dollars in damage and thousands of casualties; winter storms can impact half of the nation, paralyzing the transportation network with icy roads and wind driven snow; tornadoes can strike within minutes tearing apart homes; hurricanes can destroy entire communities with strong winds, heavy rain, and deadly storm surge; understanding severe weather and knowing what to do before, during, and after an event can significantly reduce injury, deaths, and property damage. Same as CEE:2050.

CBE:2105 Process Calculations 3 s.h.

Fundamental principles of chemical process analysis, including material and energy balances for single-unit and multiple-unit processes, analysis of reactive and nonreactive systems, introduction to equations of state, thermodynamics of multiphase systems. Prerequisites: MATH:1550.

CBE:3000 Professional Seminar: Chemical Engineering 1 s.h.

Professional aspects of chemical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Prerequisites: CBE:2105. Requirements: sophomore standing.

CBE:3105 Chemical Engineering Thermodynamics 3 s.h.

Applications of thermodynamic principles to chemical and physical processes; prediction of material properties; phase and chemical equilibria applied to mixtures and reacting systems. Prerequisites: ENGR:2130. Corequisites: CBE:2105.

CBE:3109 Fluid Flow 2 s.h.

Fundamentals of fluid flow, including fluid statics, fluid rheology, laminar and turbulent flow in pipes, external flow, flow through packed beds, fluidized beds, pumps and compressors, boundary layer theory, potential flow, dimensional analysis, and Navier Stokes Equations. Corequisites: CBE:2105.

CBE:3110 Engineering Flow and Heat Exchange 3 s.h.

Fundamentals of fluid flow and heat transfer; fluid rheology, boundary layer theory, potential flow, dimensional analysis, laminar and turbulent flow in pipes, flow through packed beds, fluidized beds, pumps, flow measurement, filtration, heat exchanger design, and conductive, convective, and radiative heat transfer. Corequisites: CBE:2105.

CBE:3113 Heat and Mass Transfer 3 s.h.

Fundamentals of heat and mass transfer including heat exchanger design; conductive, convective, and radiative heat transfer; mechanisms of diffusional and convective mass transfer. Prerequisites: MATH:2560 and CBE:2105. Recommendations: CBE:3109.

CBE:3115 Mass Transfer and Separations 3 s.h.

Mechanisms of diffusional mass transfer; solution of industrial problems, including the design of distillation, extraction, absorption, adsorption, drying, membrane processes; mechanical separations. Prerequisites: CBE:3110 and CBE:3105.

CBE:3117 Separations**3 s.h.**

Solution of industrial problems including design of distillation, extraction, absorption, adsorption, drying, membrane processes, and mechanical separations. Prerequisites: CBE:2105 and CBE:3105. Corequisites: CBE:3113.

CBE:3120 Chemical Reaction Engineering**3 s.h.**

Application of chemical reaction kinetics to design of chemical reactors: batch reactors, mixed flow reactors, plug flow reactors; reversible and irreversible single reactions; parallel, series, and mixed reactions; temperature and pressure effects on reactor design; heterogeneous catalysis; transport in porous catalysts. Prerequisites: MATH:2560. Corequisites: CBE:3105. Recommendations: CBE:3113.

CBE:3125 Chemical Process Safety**3 s.h.**

Application of transport phenomena, thermodynamics, chemical kinetics to study of safety, health, loss prevention; government regulations, toxicology/industrial hygiene, relief sizing, runaway reactions, toxic release and dispersion models, source models, fires and explosions, risk assessment, hazard identification, case studies and accident investigation, incorporation of safety into design; laboratory experiments. Prerequisites: CBE:3105 and CBE:3109. Corequisites: CBE:3113.

CBE:3150 Thermodynamics/Transport Laboratory**3 s.h.**

Error analysis, propagation of errors, experimental design, data collection techniques, report writing, oral presentations, laboratory safety; laboratory investigations of thermodynamics, fluid flow, heat transfer, fluid rheology. Prerequisites: CBE:3105 and CBE:3113. Recommendations: statistics course.

CBE:3155 Chemical Reaction Engineering/Separations Laboratory**2 s.h.**

Experimental design, data collection techniques, report writing, oral presentations; laboratory investigations of chemical reaction engineering and separations; experiments with plug flow and batch reactors, distillation, evaporation, membrane separation. Prerequisites: CBE:3117. Corequisites: CBE:3120. Recommendations: STAT:2020.

CBE:3160 Engineering Analysis of Alternative Energy Systems**3 s.h.**

Engineering and sustainability analyses of conventional and emerging energy technologies; alternative energy sources, including biomass, wind, solar, geothermal; alternative energy carriers (transportation fuels), including varied biofuels, hydrogen, natural gas, ammonia. Prerequisites: ENGR:2130.

CBE:3205 Introduction to Biochemical Engineering**3 s.h.**

Biochemistry, cellular biology, recombinant DNA and hybridoma technologies; emphasis on engineering aspects of biotechnology, including enzyme kinetics, cell growth kinetics, transport phenomena in bioreactors, bioreactor design, bioseparations, formulation and sterilization of growth media, commercial applications of biotechnology. Prerequisites: CBE:2105. Corequisites: CBE:3109. Recommendations: CBE:3120.

CBE:3415 Statistical and Computational Analysis of Weather and Climate Data**3 s.h.**

Statistical and computational (Python programming) analysis of weather and climate data, univariate and multivariate statistics, hypothesis testing, statistical forecasting, forecast verification, time-series analysis, principal component analysis, trend analysis, and cluster analysis. Requirements: senior or graduate standing.

CBE:3998 Individual Investigations: Chemical Engineering**arr.**

Individual projects for chemical engineering undergraduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

CBE:4105 Process Dynamics and Control in Design**3 s.h.**

Theory and application of process dynamics to the design of chemical process control systems; mathematical models of unit operations, transfer functions, feedback and feed-forward control, stability, instrumentation, digital control systems; computer methods, including simulation and commercial software use; laboratory focus on process analysis and design. Prerequisites: MATH:2560 and CBE:2105 and (CBE:3109 or CBE:3110). Corequisites: CBE:3120.

CBE:4109 Chemical Engineering Process Design I**2 s.h.**

Engineering economics of process evaluation, including time value of money and bases for cost estimation; preliminary design of chemical process plants using computer-aided engineering. Prerequisites: (CBE:3110 and CBE:3115) or (CBE:3109 and CBE:3113 and CBE:3117). Corequisites: CBE:3120 and CBE:3125.

CBE:4110 Chemical Engineering Process Design II**3 s.h.**

Capstone chemical engineering course; design and optimization of chemical process plants; application of process calculations, thermodynamics, kinetics, process synthesis, energy efficiency in separations, heat-exchanger network synthesis, physical property estimation, safety, computer-aided design, unit operations theory, process control, and economics. Prerequisites: CBE:4109. Recommendations: CBE:4105 and CBE:5205.

CBE:4156 Scanning Electron Microscopy and X-Ray Microanalysis**arr.**

Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as ACB:4156, EES:4156.

CBE:4195 Senior Enriching Activities Seminar**0 s.h.**

Aspects of chemical engineering education, including multidisciplinary team skills, understanding the impact of engineering practice locally and globally. Corequisites: CBE:4110. Requirements: completion of enriching activity.

CBE:4410 Sustainable Systems**3 s.h.**

New and emerging concepts in sustainable systems design and assessment. Same as CEE:4107.

CBE:4420 Environmental Chemistry**3 s.h.**

Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: CHEM:1120. Same as CEE:4150.

CBE:4459 Air Pollution Control Technology**3 s.h.**

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CEE:4159, IGPI:4159.

CBE:5000 Seminar in Chemical and Biochemical Engineering 1 s.h.

Presentation and discussion of recent advances and research in chemical and biochemical engineering by guest lecturers, faculty, students. Requirements: graduate standing.

CBE:5100 Graduate Professional Development Seminar 1 s.h.

Seminar participants work with a faculty member to select and attend eight hours of approved seminars and professional development trainings at the University of Iowa; final meeting of participants is held to share notable seminars; typical seminar series include College of Engineering lectures, departmental and research center graduate seminars, the CBE professional seminar series, offerings of the Center for Teaching and Learning. Requirements: CBE masters standing.

CBE:5104 Introduction to Literature Review and Technical Writing 3 s.h.

Review of technical literature, how to contribute to it; produce and present orally a peer-reviewed-journal-quality review article; brainstorming, group writing, research ethics, plagiarism. Recommendations: nonthesis track graduate standing.

CBE:5105 Introduction to Literature Review and Proposal Writing 3 s.h.

Tools for reviewing literature, skills for critical reading of publications, training in successful proposal writing; experience drafting a proposal that can be used as a starting point for the Ph.D. comprehensive.

CBE:5110 Intermediate Thermodynamics 3 s.h.

Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: CBE:3105 or ME:3040 or graduate standing. Same as ME:5210.

CBE:5115 Transport Phenomena I 3 s.h.

Unified treatment of momentum, mass, energy transport in chemical engineering problems; use of vector and tensor notations in expressing equations of continuity, motion, energy.

CBE:5140 Mathematical Methods in Engineering 3 s.h.

Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CEE:5513, ME:5113.

CBE:5199 Contemporary Topics: Chemical and Biochemical Engineering arr.

Research techniques for graduate students in chemical and biochemical engineering.

CBE:5205 Introduction to Biochemical Engineering 3 s.h.

Biochemistry, cellular biology, recombinant DNA and hybridoma technologies; emphasis on engineering aspects of biotechnology, including enzyme kinetics, cell growth kinetics, transport phenomena in bioreactors, bioreactor design, bioseparations, formulation and sterilization of growth media, commercial applications of biotechnology. Prerequisites: CBE:2105. Corequisites: CBE:3109. Recommendations: CBE:3120.

CBE:5210 Bioseparations 3 s.h.

Unit operations used to isolate and purify biologically derived chemicals, including flocculation, filtration, centrifugation, extraction, adsorption, chromatography, precipitation, crystallization, electrophoresis and cell disruption for intracellular product recovery.

CBE:5250 Introduction to Biocatalysis 3 s.h.

Applications of biological catalysis in varied industries; potential of biological catalysis to address future challenges in science and engineering.

CBE:5300 Drug Delivery Devices 3 s.h.

Why drug delivery devices are needed and how they are regulated; review of several clinical device categories (inhalation, transdermal, implantable) and preclinical technologies on the horizon.

CBE:5309 Polymer Fundamentals 1 s.h.

Basic knowledge of polymers required as a foundation for other UI courses on polymers: basic polymer terminology, polymer groups, polymerization mechanisms, molecular weight determination. Five weeks. Same as BME:5415.

CBE:5310 Polymer Science and Technology 3 s.h.

Uses, properties of industrially important polymeric materials; polymer chemistry, polymer structure, characterization, polymer processing. Prerequisites: CHEM:2220. Corequisites: CBE:3120.

CBE:5315 Polymer Chemistry 3 s.h.

Monomer reactivity and polymerization reactions; step, radical, ionic, and ring-opening polymerizations. Prerequisites: CHEM:2220.

CBE:5390 Photopolymerization Topics 1 s.h.

Seminars presented by faculty members, research assistants, students.

CBE:5405 Green Chemical and Energy Technologies 3 s.h.

Strategies for pollution prevention for chemical processes studied at the macroscale (industrial sector), the mesoscale (unit operations), and the microscale (molecular level); case studies. Prerequisites: CBE:2105.

CBE:5415 Satellite Image Processing and Remote Sensing of Atmosphere 3 s.h.

Introduction to principles of atmospheric radiation and techniques for satellite image processing; hands-on experience with data calibration, image registration and enhancement, noise filtering and (supervised and unsupervised) multi-spectral classification of satellite imageries; various satellite sensors used for monitoring of different atmospheric processes and constituents. Same as IGPI:5415.

CBE:5417 Physical Meteorology and Atmospheric Radiative Transfer 3 s.h.

Physical processes for weather and climate including radiative transfer, cloud and precipitation formation, and atmospheric electricity; theory of scattering by atmospheric particles (e.g., clouds, aerosols, molecules), atmospheric radiative transfer equations, and numerical techniques and tools to solve these equations. Requirements: senior or graduate standing. Same as IGPI:5417.

CBE:5425 Atmospheric Chemistry and Physics 3 s.h.

Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources and removal processes. Corequisites: CBE:3120. Same as CEE:5115.

CBE:5875 Perspectives in Biocatalysis 1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BIOC:5875, CEE:5875, CHEM:5875, MICR:5875, PHAR:5875.

CBE:5998 Individual Investigations: Chemical and Biochemical Engineering arr.

Individual projects for chemical and biochemical engineering graduate students; may include laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

CBE:5999 M.S. Thesis Research: Chemical and Biochemical Engineering arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in chemical and biochemical engineering. Requirements: graduate standing.

CBE:6145 Diffusive Transport 3 s.h.

Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: ME:5145. Same as ME:6245.

CBE:6415 Advanced Satellite and Remote Sensing of Atmosphere 3 s.h.

Cloud masking and retrieval of cloud properties from satellites, aerosol detection and retrievals, Earth radiation energy budget, land and/or ocean remote sensing, microwave remote sensing, wind retrieval, multi-sensor intercomparison and validation, optimization and inversion theory; hands-on projects.

CBE:7999 Research: Chemical and Biochemical Engineering Ph.D. Dissertation arr.

Experimental and/or analytical investigation of an approved topic for Ph.D. in chemical and biochemical engineering.

Chemical Engineering, B.S.E.

The undergraduate program in chemical engineering produces graduates who have a strong foundation of scientific and technical knowledge and are equipped with problem solving, teamwork, and communication skills that will serve them throughout their careers, consistent with the following educational objectives.

Within a few years of graduation, the program's graduates will:

- attain careers as practicing chemical engineers in fields such as pharmaceuticals, microelectronics, chemicals, polymers/advanced materials, food processing, energy, biotechnology, and environmental engineering;
- attain advanced studies in disciplines such as chemical engineering, environmental engineering, medicine, law, and business; and
- assume professional leadership roles.

The undergraduate program in chemical engineering uses the following methods and strategies to achieve its educational objectives:

- foster a personalized, supportive environment for all students by taking advantage of the unique combination of a small college atmosphere in a major research university;
- enrich the undergraduate experience through cultural diversity and international opportunities or experiential learning;
- provide a solid foundation and understanding of the fundamental principles of mathematics, science, and engineering;
- provide students with experience in learning and applying tools (e.g., computer skills) to solve theoretical and open-ended chemical engineering problems;
- provide students with opportunities to participate in multidisciplinary teams and to develop and practice written and oral communication skills, both within the team and to a broader audience;
- provide students with opportunities to design and conduct chemical engineering experiments and to design systems, components, and chemical processes to meet specific needs and constraints; and
- provide a contemporary grounding in professional responsibility, including ethics, the global and societal impact of engineering decisions, and the need for lifelong learning.

Requirements

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The major in chemical engineering provides a broad education at the leading edge of technology. It emphasizes fundamental concepts, problem solving, laboratory techniques, and communication skills. The biological sciences join physics, chemistry, and mathematics as foundation disciplines for chemical engineering.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing; and courses in

chemistry, engineering mathematics and fundamentals, and physics. They must earn a grade of C-minus or higher in the core requirements MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component (15 s.h. of humanities and social science courses). For information about the curriculum stems, see Bachelor of Science in Engineering [p. 1311] in the Catalog. Seminars do not count toward the 128 s.h. required for the degree.

The sophomore, junior, and senior years emphasize chemical engineering courses such as process calculations, fluid flow, chemical engineering thermodynamics, heat and mass transfer, separations, chemical reaction engineering, chemical process safety, chemical engineering laboratories, biochemical engineering, process dynamics and control, and process design. Experience in instrumentation, analysis, and design is obtained through an integrated laboratory program. Routine use is made of computer-based data analysis, simulation, and design.

Students are required to participate in at least one enriching activity, which may include a research experience, a cooperative education or internship experience, study abroad, completion of the Certificate in Technological Entrepreneurship [p. 1413], or other approved experiences.

Chemical engineering students may gain depth of knowledge related to a career path through their selection of science, engineering, humanities, and social science electives. Several preapproved elective focus areas may help students define potential careers.

Students must select elective focus area courses according to guidelines established by the Department of Chemical and Biochemical Engineering. See "Elective Focus Area" below.

Elective Focus Area

The elective focus area enables students to gain depth of knowledge in a career path. Students meet with their chemical engineering academic advisor to discuss career options and develop a plan for choosing electives based on their career interests. The department offers preapproved elective focus areas in biochemical engineering, pharmaceuticals, chemical process engineering, polymers, energy and environment, oil and gas engineering, sustainability, pre-medicine, business, and entrepreneurship.

Students may prefer to develop an individualized elective focus area, which is subject to approval by the department's curriculum committee. See Chemical Engineering Curriculum on the Department of Chemical and Biochemical Engineering website for detailed descriptions of preapproved elective focus areas, guidelines for tailored elective focus areas, and typical four-year study plans based on elective focus areas.

Combined Programs

B.S.E./M.S. in Chemical and Biochemical Engineering

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science for chemical engineering undergraduate students who intend to earn a M.S. in chemical and biochemical engineering. B.S.E./

M.S. students may count 12 s.h. of course work (typically advanced chemistry sequences and electives) toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they typically complete the M.S. one year later.

To be admitted to the degree program, students must have a cumulative g.p.a. of at least 3.25, and submit a letter of application and statement of purpose to the chair of the Department of Chemical and Biochemical Engineering. Visit M.S./B.S. Programs on the department's website to learn more.

B.S.E./M.S. in Civil and Environmental Engineering

Bachelor of Science in Engineering students majoring in chemical engineering who are interested in earning a Master of Science in civil and environmental engineering may apply to the combined B.S.E./M.S. program offered by the College of Engineering. The combined program enables undergraduate students to begin work on the M.S. degree while completing their B.S.E. degree. Students admitted to the program may count 12 s.h. of course work toward both the B.S.E. and the M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. For more information, see the M.S. in civil and environmental engineering [p. 1358] in the Catalog.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Chemical Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
	Hours	16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
CHEM:1120	Principles of Chemistry II	4
CBE:1000	CBE Departmental Seminar	1
	Hours	18

Second Year

Fall

MATH:2560	Engineering Mathematics IV: Differential Equations	3
GE: Engineering Be Creative		3
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
CHEM:2210 or CHEM:2230	Organic Chemistry I or Organic Chemistry I for Majors	3
CBE:2105	Process Calculations	3
	Hours	17

Spring

CBE:3105	Chemical Engineering Thermodynamics	3
CBE:3109	Fluid Flow	2
CHEM:2220 or CHEM:2240	Organic Chemistry II or Organic Chemistry II for Majors	3
CHEM:2420 or CHEM:2410	Organic Chemistry Laboratory for Majors or Organic Chemistry Laboratory	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
CBE:3000	Professional Seminar: Chemical Engineering	1
GE: CLAS General Education Component		3
	Hours	18

Third Year

Fall

CBE:3113	Heat and Mass Transfer	3
CBE:3125	Chemical Process Safety	3
CBE:3117	Separations	3
ENGR:2720	Materials Science	3
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
CBE:3000	Professional Seminar: Chemical Engineering	1
	Hours	16

Spring

CBE:3120	Chemical Reaction Engineering	3
CBE:3155	Chemical Reaction Engineering/ Separations Laboratory	2
CBE:5205	Introduction to Biochemical Engineering	3
Elective Focus Area: Elective course		3
GE: Approved Course Subjects ^a		3
CBE:3000	Professional Seminar: Chemical Engineering	1
	Hours	15

Fourth Year

Fall

CBE:4105	Process Dynamics and Control in Design	3
CBE:4109	Chemical Engineering Process Design I	2

CBE:3105	Chemical Engineering Thermodynamics	3
Advanced chemistry elective		3
Elective Focus Area: Elective course		3
Elective Focus Area: Elective course		3
CBE:3000	Professional Seminar: Chemical Engineering	1
Hours		18
Spring		
CBE:4110	Chemical Engineering Process Design II	3
Advanced science elective		3
Elective Focus Area: Elective course		3
GE: Approved Course Subjects ^a		3
GE: Approved Course Subjects ^a		3
CBE:4195	Senior Enriching Activities Seminar	0
Hours		15
Total Hours		133

^a A full list of approved course subjects can be found on the College of Engineering General Education Component website.

Career Advancement

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, energy, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE).

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Chemical and Biochemical Engineering, M.S.

Graduate students in the Department of Chemical and Biochemical Engineering gain an understanding of the principles of engineering science and use those principles in contemporary applications related to energy, the environment, biotechnology, and materials. The department emphasizes research, since most opportunities for graduates are in research and development.

Research and Study Areas

Current research strengths of the Department of Chemical and Biochemical Engineering are in the areas of global and regional atmospheric modeling, biomaterials and medical engineering, cellular engineering, photopolymerization, biocatalysis, and biofuels.

Biochemical Engineering

Biochemical engineering involves the industrial application of enzymes, microorganisms, cells, and tissues for production of chemicals, pharmaceuticals, and other materials of commercial value.

The department is working to solve problems with the use of insect cell culture for recombinant protein and viral insecticide production. Research is being conducted to improve the quality and quantity of recombinant proteins produced in large-scale bioreactors. In addition, a continuous viral insecticide production system is being developed for the large-scale production of these environmentally safe alternatives to chemical insecticides. The insect cell/baculovirus system is being used as a model system to investigate the role of oxidative stress in viral cytotoxicity.

Carbon dioxide accumulation, which commonly occurs in large-scale bioreactor systems, affects insect cell growth. The department's researchers are investigating the corresponding effect on insect cell growth and the baculovirus infection process.

The department works to design technologies for the characterization and use of extremophiles, organisms that possess unusual abilities to survive in harsh chemical environments. In these studies, novel bioreactor systems that can withstand extremes of temperature, pressure, pH, and salinity are being developed. Extremophile strategies for survival also are being studied, with the aim of discovering unique enzymes for industrial application as well as evaluating molecular interactions that govern protein stability under extreme conditions.

In addition to the study of natural extremophiles, efforts to engineer stability in biocatalysts for industrial processing are under way. Novel solvent-tolerant enzymes and organisms for environmentally beneficial chemical reactions are being generated using molecular biology tools. Combinations of chemical and biological processing are being used to produce valued chemicals from renewable feedstocks. This work contributes to the interdisciplinary training of engineers and scientists to address the challenges of minimizing and cleaning up environmental pollution, while maximizing the economic benefits of chemical processing.

The department also conducts research in structural enzymology, molecular mechanisms of host-pathogen interactions, and biocatalysis. The laboratory uses biophysical,

structural, and molecular biology techniques to understand the details of enzyme action. This information is used to design and engineer biocatalysts for the production of chiral compounds. Work also is under way on cellular recognition and signaling processing during infection and inflammation. Knowledge gained from these studies aids the design of drugs and biological sensors for bacterial presence.

The integration of biotechnology with traditional chemical engineering has led to an interdisciplinary area involving other engineering departments and the Departments of Chemistry and Biology (College of Liberal Arts and Sciences); the Department of Biochemistry, the Free Radical and Radiation Biology Program, and the Department of Microbiology and Immunology (Carver College of Medicine); and the College of Pharmacy. This focus includes involvement in the University's Center for Biocatalysis and Bioprocessing, whose fermentation capabilities are highlighted by its 1,500-liter fermentor.

Biomedical Research

The department's research involves a multidisciplinary approach to solving problems in the medical field, particularly in drug delivery and biomaterials.

Researchers are working to develop safe delivery systems that target drugs precisely in the human body and avoid premature metabolism or elimination. To treat respiratory infections, micron-sized particles are being engineered with properties that enhance aerodynamic performance, particle stability, and targeting within the respiratory tract. Polymeric vehicles are being designed to provide sustained protection and prevention against cancers by kick-starting the immune system. Finally, work is under way to overcome barriers to efficient delivery of DNA, with the potential to provide cures for genetic disorders such as cystic fibrosis and X-Linked Severe Combined Immunodeficiency (X-SCID). This work brings together collaborators from the Carver College of Medicine, the Colleges of Dentistry and Pharmacy, and the Departments of Chemistry and Biomedical Engineering.

In the biomaterials realm, new materials are being developed that can interact with the human body to perform certain functions while maintaining compatibility. A project with the Department of Ophthalmology and Visual Sciences involves development of biodegradable stent materials to alleviate a serious eye disease induced by a blood clot in the central retinal vein. Research with the Department of Otolaryngology—Head and Neck Surgery is exploring the development of photo-patterned surfaces for directed growth of cells to improve cochlear implants. Current research in the tissue engineering field applies microfabrication techniques to develop scaffolds that are biodegradable and biocompatible with cell-interactive properties, and that directly incorporate controlled-release functionality within the scaffold.

The department also conducts research that is focused on self-assembling systems, rational design of novel drug and gene delivery systems, and development of sophisticated scaffolds for tissue-specific regeneration. In tissue engineering, microfabrication techniques are applied to novel biomaterials to provide spatial control over tissue formation and to integrate minimally invasive scaffold delivery strategies. In drug and gene delivery, researchers are exploring the synergistic application of degradable particle technology, CpG oligonucleotides, and heat-shock protein therapy for generating sustained, stronger immune responses against carcinomas.

Students involved in animal research have access to the University's Office of Animal Resources, which is adjacent to University of Iowa Hospitals and Clinics.

Energy and Environment

Chemical engineers are well-suited to make major contributions toward meeting challenges for the environment, energy, and sustainable development. The Department of Chemical and Biochemical Engineering has an active research program in the environmental areas of air pollution, biofuels, atmospheric chemistry, atmospheric CO₂ fluxes, environmental change, bioremediation, and the design of new environmentally compatible technologies. Particular emphasis is placed on the chemistry and physics of local, regional, and global air-pollution problems. Research in support of this activity includes high-speed computing and detailed sensitivity analysis.

This work involves three centers and institutes on campus. The Center for Global and Regional Environmental Research brings together University scientists and scholars from more than 20 disciplines, including chemistry, civil and environmental engineering, geography, geology, law, and medicine. The center's chief area of concern is environmental change. Chemical and biochemical engineering researchers interact with scientists at IIHR—Hydroscience & Engineering, a research institute focusing on applied fluid mechanics; their collaborations involve environmental fluid mechanics and air pollution field studies. The Nanoscience and Nanotechnology Institute provides an interdisciplinary home for chemical and biochemical researchers working on the development, application, and environmental and health effects of nanomaterials.

Photopolymerization

Photopolymerizations are chain reactions in which a liquid monomer is converted to a solid, durable polymer in a process triggered by light of the appropriate wavelength. The use of light, rather than heat, to drive a polymerization reaction offers advantages in developing new processes or products.

Photopolymerizations provide both spatial control and temporal control of reactions, since light can be directed to locations of interest in the system and is easily shuttered on or off. Photopolymerizations also provide solvent-free formulations, which reduce the emissions of volatile organic pollutants, and they exhibit extremely rapid reaction rates. These advantages have led to tremendous growth in the application of photopolymerizations in the private sector, but much of this growth has occurred without a fundamental understanding of the underlying chemical processes.

The department's research in this area focuses on comprehensive characterization of the kinetics, mechanisms, structure, and properties of photopolymerizations. Work includes the following types of studies: characterization of the photochemical processes by which polymerizations may be initiated; kinetic characterization of cationic photopolymerization; development of methods for photopolymerization of thick polymers and composites; development of photopolymerization systems based upon agricultural feedstocks; new methods for monitoring high-speed photopolymerization reactions; nanostructured materials through photopolymerization; biomedical devices formed by photopolymerization; and influence of order on photopolymerization reactions.

Chemical and biochemical engineering researchers are members of the Photopolymerization Center, an industry/

university cooperative center on fundamentals and applications of photopolymerization. The center brings together experts from the University of Iowa, the University of Colorado, and member companies such as 3M, DSM, and Boeing. In addition, interdisciplinary collaborations are fostered on campus through the Optical Science and Technology Center, which oversees a seminar series, an annual symposium, training at the Microfabrication Facility, and equipment use in shared facilities.

Requirements

The Master of Science program in chemical and biochemical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. Students must earn at least 24 s.h. in approved graduate-level course work; courses numbered below 3000 do not count toward this requirement. Thesis students earn 6 s.h. in CBE:5999 M.S. Thesis Research: Chemical and Biochemical Engineering. Nonthesis students earn 6 s.h. in additional approved course work. Students must maintain a cumulative g.p.a. of at least 3.00.

Students who receive assistantships, fellowships, or other awarded financial support are expected to pursue an advanced degree with thesis; they may not elect the nonthesis option.

All students select one course in each of the four core chemical engineering branches below; they must earn a cumulative g.p.a. higher than 3.25 in those four courses.

Code	Title	Hours
Transport Phenomena		
CBE:5115	Transport Phenomena I	3
Alternate courses approved on a case-by-case basis, and may include:		
BME:5430	Biotransport	3
ME:5143	Computational Fluid and Thermal Engineering	3
PHAR:7702	Transport Phenomena	3
Another course with consent of advisor		
Chemical Thermodynamics		
CBE:5110	Intermediate Thermodynamics	3
Alternate courses approved on a case-by-case basis, and may include:		
A 5000-level thermal physics course		
Another course with consent of advisor		
Chemical Reaction Kinetics		
One of these plus corresponding undergraduate chemical reaction engineering:		
CBE:5205	Introduction to Biochemical Engineering	3
CBE:5315	Polymer Chemistry	3
CBE:5425	Atmospheric Chemistry and Physics	3
Technical Communication		
One of these:		
CBE:5104	Introduction to Literature Review and Technical Writing (for M.S. nonthesis students)	3

CBE:5105	Introduction to Literature Review and Proposal Writing (for M.S. thesis and Ph.D. students)	3
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All M.S. thesis students are required to take ENGR:7270 Engineering Ethics (1 s.h.) during their first semester. Thesis students also must pass a final M.S. examination.

Students in the nonthesis program may petition for entry into the thesis program or the Ph.D. program by requesting a change of status through the Graduate College. The request is reviewed by the graduate admissions committee. If approved by the committee, it is forwarded to the chemical and biochemical engineering faculty for final approval. Students then are assigned to research advisors as though they were newly admitted graduate students. For a detailed description of program requirements, see Graduate Program on the Department of Chemical and Biochemical Engineering website.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must provide the following:

- Completed application form.

- Unofficial transcript(s). If admitted, official transcripts will be required before enrollment. For international students, all academic records should bear the original stamp or seal of the institution and the signature of a school official. Documents not in English must be accompanied by a complete, literal, English translation, certified by the issuing institution.

- Official Graduate Record Examination (GRE) General Test scores (verbal and quantitative) from Educational Testing Services. The University's institutional code is 6681.

- Statement of purpose.

- Three letters of recommendation.

- Test of English as a Foreign Language (TOEFL) scores for applicants whose native language is not English.

Applicants should have a B.S. degree in chemical engineering or a related discipline with satisfactory grades from a recognized college or university in the United States and a cumulative g.p.a. of at least 3.00 on a 4.00 scale. Graduates of non-U.S. universities may be accepted, depending on evaluation of their records. Applicants who do not meet these requirements may be granted conditional admission by the Graduate Admissions Committee.

Graduate courses in chemical and biochemical engineering are designed for students who have an undergraduate background in chemical engineering. Exceptional students from other areas also may apply for admission to the M.S. program in chemical and biochemical engineering. If admitted, they may be required to take specific undergraduate courses to prepare them for graduate course work.

Financial Support

A number of fellowships, assistantships, and scholarships are awarded on a competitive basis to graduate students who qualify.

Graduate students have the opportunity to receive interdisciplinary research training in several fellowship programs administered through the Center for Biocatalysis and Bioprocessing (CBB). The program provides research training in areas that combine basic and applied research. Through these programs, students interact with other students and faculty members from biochemistry, biology, chemistry, civil and environmental engineering, medicinal and natural products chemistry, and microbiology and immunology.

Career Advancement

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, energy, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. The engineering profession also is a foundation for a variety of careers in medicine, law, government, and consulting. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Chemical and Biochemical Engineering, Ph.D.

Graduate students in the Department of Chemical and Biochemical Engineering gain an understanding of the principles of engineering science and use those principles in contemporary applications related to energy, the environment, biotechnology, and materials. The department emphasizes research, since most opportunities for graduates are in research and development.

Research and Study Areas

Current research strengths of the Department of Chemical and Biochemical Engineering are in the areas of global and regional atmospheric modeling, biomaterials and medical engineering, cellular engineering, photopolymerization, biocatalysis, and biofuels.

Biochemical Engineering

Biochemical engineering involves the industrial application of enzymes, microorganisms, cells, and tissues for production of chemicals, pharmaceuticals, and other materials of commercial value.

The department is working to solve problems with the use of insect cell culture for recombinant protein and viral insecticide production. Research is being conducted to improve the quality and quantity of recombinant proteins produced in large-scale bioreactors. In addition, a continuous viral insecticide production system is being developed for the large-scale production of these environmentally safe alternatives to chemical insecticides. The insect cell/baculovirus system is being used as a model system to investigate the role of oxidative stress in viral cytotoxicity.

Carbon dioxide accumulation, which commonly occurs in large-scale bioreactor systems, affects insect cell growth. The department's researchers are investigating the corresponding effect on insect cell growth and the baculovirus infection process.

The department works to design technologies for the characterization and use of extremophiles, organisms that possess unusual abilities to survive in harsh chemical environments. In these studies, novel bioreactor systems that can withstand extremes of temperature, pressure, pH, and salinity are being developed. Extremophile strategies for survival also are being studied, with the aim of discovering unique enzymes for industrial application as well as evaluating molecular interactions that govern protein stability under extreme conditions.

In addition to the study of natural extremophiles, efforts to engineer stability in biocatalysts for industrial processing are under way. Novel solvent-tolerant enzymes and organisms for environmentally beneficial chemical reactions are being generated using molecular biology tools. Combinations of chemical and biological processing are being used to produce valued chemicals from renewable feedstocks. This work contributes to the interdisciplinary training of engineers and scientists to address the challenges of minimizing and cleaning up environmental pollution, while maximizing the economic benefits of chemical processing.

The department also conducts research in structural enzymology, molecular mechanisms of host-pathogen interactions, and biocatalysis. The laboratory uses biophysical,

structural, and molecular biology techniques to understand the details of enzyme action. This information is used to design and engineer biocatalysts for the production of chiral compounds. Work also is under way on cellular recognition and signaling processing during infection and inflammation. Knowledge gained from these studies aids the design of drugs and biological sensors for bacterial presence.

The integration of biotechnology with traditional chemical engineering has led to an interdisciplinary area involving other engineering departments and the Departments of Chemistry and Biology (College of Liberal Arts and Sciences); the Department of Biochemistry, the Free Radical and Radiation Biology Program, and the Department of Microbiology and Immunology (Carver College of Medicine); and the College of Pharmacy. This focus includes involvement in the University's Center for Biocatalysis and Bioprocessing, whose fermentation capabilities are highlighted by its 1,500-liter fermentor.

Biomedical Research

The department's research involves a multidisciplinary approach to solving problems in the medical field, particularly in drug delivery and biomaterials.

Researchers are working to develop safe delivery systems that target drugs precisely in the human body and avoid premature metabolism or elimination. To treat respiratory infections, micron-sized particles are being engineered with properties that enhance aerodynamic performance, particle stability, and targeting within the respiratory tract. Polymeric vehicles are being designed to provide sustained protection and prevention against cancers by kick-starting the immune system. Finally, work is under way to overcome barriers to efficient delivery of DNA, with the potential to provide cures for genetic disorders such as cystic fibrosis and X-Linked Severe Combined Immunodeficiency (X-SCID). This work brings together collaborators from the Carver College of Medicine, the Colleges of Dentistry and Pharmacy, and the Departments of Chemistry and Biomedical Engineering.

In the biomaterials realm, new materials are being developed that can interact with the human body to perform certain functions while maintaining compatibility. A project with the Department of Ophthalmology and Visual Sciences involves development of biodegradable stent materials to alleviate a serious eye disease induced by a blood clot in the central retinal vein. Research with the Department of Otolaryngology—Head and Neck Surgery is exploring the development of photo-patterned surfaces for directed growth of cells to improve cochlear implants. Current research in the tissue engineering field applies microfabrication techniques to develop scaffolds that are biodegradable and biocompatible with cell-interactive properties, and that directly incorporate controlled-release functionality within the scaffold.

The department also conducts research that is focused on self-assembling systems, rational design of novel drug and gene delivery systems, and development of sophisticated scaffolds for tissue-specific regeneration. In tissue engineering, microfabrication techniques are applied to novel biomaterials to provide spatial control over tissue formation and to integrate minimally invasive scaffold delivery strategies. In drug and gene delivery, researchers are exploring the synergistic application of degradable particle technology, CpG oligonucleotides, and heat-shock protein therapy for generating sustained, stronger immune responses against carcinomas.

Students involved in animal research have access to the University's Office of Animal Resources, which is adjacent to University of Iowa Hospitals and Clinics.

Energy and Environment

Chemical engineers are well-suited to make major contributions toward meeting challenges for the environment, energy, and sustainable development. The Department of Chemical and Biochemical Engineering has an active research program in the environmental areas of air pollution, biofuels, atmospheric chemistry, atmospheric CO₂ fluxes, environmental change, bioremediation, and the design of new environmentally compatible technologies. Particular emphasis is placed on the chemistry and physics of local, regional, and global air-pollution problems. Research in support of this activity includes high-speed computing and detailed sensitivity analysis.

This work involves three centers and institutes on campus. The Center for Global and Regional Environmental Research brings together University scientists and scholars from more than 20 disciplines, including chemistry, civil and environmental engineering, geography, geology, law, and medicine. The center's chief area of concern is environmental change. Chemical and biochemical engineering researchers interact with scientists at IIHR—Hydroscience & Engineering, a research institute focusing on applied fluid mechanics; their collaborations involve environmental fluid mechanics and air pollution field studies. The Nanoscience and Nanotechnology Institute provides an interdisciplinary home for chemical and biochemical researchers working on the development, application, and environmental and health effects of nanomaterials.

Photopolymerization

Photopolymerizations are chain reactions in which a liquid monomer is converted to a solid, durable polymer in a process triggered by light of the appropriate wavelength. The use of light, rather than heat, to drive a polymerization reaction offers advantages in developing new processes or products.

Photopolymerizations provide both spatial control and temporal control of reactions, since light can be directed to locations of interest in the system and is easily shuttered on or off. Photopolymerizations also provide solvent-free formulations, which reduce the emissions of volatile organic pollutants, and they exhibit extremely rapid reaction rates. These advantages have led to tremendous growth in the application of photopolymerizations in the private sector, but much of this growth has occurred without a fundamental understanding of the underlying chemical processes.

The department's research in this area focuses on comprehensive characterization of the kinetics, mechanisms, structure, and properties of photopolymerizations. Work includes the following types of studies: characterization of the photochemical processes by which polymerizations may be initiated; kinetic characterization of cationic photopolymerization; development of methods for photopolymerization of thick polymers and composites; development of photopolymerization systems based upon agricultural feedstocks; new methods for monitoring high-speed photopolymerization reactions; nanostructured materials through photopolymerization; biomedical devices formed by photopolymerization; and influence of order on photopolymerization reactions.

Chemical and biochemical engineering researchers are members of the Photopolymerization Center, an industry/

university cooperative center on fundamentals and applications of photopolymerization. The center brings together experts from the University of Iowa, the University of Colorado, and member companies such as 3M, DSM, and Boeing. In addition, interdisciplinary collaborations are fostered on campus through the Optical Science and Technology Center, which oversees a seminar series, an annual symposium, training at the Microfabrication Facility, and equipment use in shared facilities.

Requirements

The Doctor of Philosophy program in chemical and biochemical engineering requires a minimum of 72 s.h. of graduate credit beyond the Bachelor of Science degree. However, the degree is granted primarily on the basis of achievement rather than on the accumulation of semester hours. Students typically are expected to have completed three academic years in residence, or two years if they already hold a recognized master's degree. In order to graduate, they must have an overall g.p.a. of at least 3.25.

All students must complete a core course requirement, which consists of a course in transport phenomena, a course in reaction engineering, a course on proposal writing, and a thermodynamics course, as well as six additional courses (total of 30 s.h.).

Code	Title	Hours
Transport Phenomena		
CBE:5115	Transport Phenomena I	3
Alternate courses approved on a case-by-case basis, and may include:		
BME:5430	Biotransport	3
ME:5143	Computational Fluid and Thermal Engineering	3
PHAR:7702	Transport Phenomena	3
Other courses with consent of advisor		
Chemical Thermodynamics		
CBE:5110	Intermediate Thermodynamics	3
Alternate courses approved on a case-by-case basis, and may include:		
A 5000-level thermal physics course		
Other courses with consent of advisor		
Chemical Reaction Kinetics		
One of these:		
CBE:5205	Introduction to Biochemical Engineering	3
CBE:5315	Polymer Chemistry	3
CBE:5425	Atmospheric Chemistry and Physics	3
Technical Communication		
CBE:5105	Introduction to Literature Review and Proposal Writing	3

All Ph.D. students are required to take ENGR:7270 Engineering Ethics (1 s.h.) during their first semester.

Students are required to satisfy a qualifying requirement with a minimum g.p.a. of at least 3.50 in the four core courses and pass a comprehensive examination before they can become candidates for degree. The comprehensive examination is the presentation and defense of the candidate's research proposal. These examinations are arranged by members of the examining committee and may be repeated at the

committee's discretion. Comprehensive examination policies are published in the Manual of Rules and Regulations of the Graduate College. A final examination, which is a defense of the thesis, completes the doctoral program.

For a detailed description of program requirements, see Graduate Program on the Department of Chemical and Biochemical Engineering website.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must provide the following:

- Completed application form.

- Unofficial transcript(s). If admitted, official transcripts will be required before enrollment. For international students, all academic records should bear the original stamp or seal of the institution and the signature of a school official. Documents not in English must be accompanied by a complete, literal, English translation, certified by the issuing institution.

- Official Graduate Record Examination (GRE) General Test scores (verbal and quantitative) from Educational Testing Services. The University's institutional code is 6681.

- Statement of purpose.

- Three letters of recommendation.

- Test of English as a Foreign Language (TOEFL) scores for applicants whose native language is not English.

Applicants should have a B.S. degree in chemical engineering or a related discipline with satisfactory grades from a recognized college or university in the United States and a cumulative g.p.a. of at least 3.00 on a 4.00 scale. Graduates of non-U.S. universities may be accepted, depending on evaluation of their records. Applicants who do not meet these requirements may be granted conditional admission by the Graduate Admissions Committee.

Graduate courses in chemical and biochemical engineering are designed for students who have an undergraduate background in chemical engineering. Exceptional students from other areas also may apply for admission to the Ph.D. program in chemical and biochemical engineering. If admitted, they may be required to take specific undergraduate courses to prepare them for graduate course work.

Financial Support

A number of fellowships, assistantships, and scholarships are awarded on a competitive basis to graduate students who qualify.

Graduate students have the opportunity to receive interdisciplinary research training in several fellowship programs administered through the Center for Biocatalysis and Bioprocessing (CBB). The program provides research training in areas that combine basic and applied research. Each year the center offers fellowships to doctoral students in biotechnology. These are funded by grants from the National Institute of General Medical Sciences, National Institutes of Health (NIH), National Science Foundation (NSF), and the CBB with funding from the State of Iowa. Through these programs, students interact with other students and faculty members

from biochemistry, biology, chemistry, civil and environmental engineering, medicinal and natural products chemistry, and microbiology and immunology.

Career Advancement

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, energy, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. The engineering profession also is a foundation for a variety of careers in medicine, law, government, and consulting. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Civil and Environmental Engineering

Chair

- A. Allen Bradley Jr.

Undergraduate majors: civil engineering (B.S.E.); environmental engineering (B.S.E.)

Graduate degrees: M.S. in civil and environmental engineering; Ph.D. in civil and environmental engineering

Faculty: <https://cee.engineering.uiowa.edu/people>

Website: <https://cee.engineering.uiowa.edu/>

Civil and environmental engineering is one of the three largest fields of engineering. It traditionally has been concerned with infrastructure facilities that are both large in scale and essential to modern life. Civil and environmental engineering projects include transportation systems and their components, such as bridges, highways, public transit systems, railways, harbors, airports, and seaports; large-scale structures and office buildings that provide enclosed working and living space; environmental and hydraulic systems that provide clean water and air, including filtration plants and distribution systems for municipal and industrial water supplies, wastewater treatment plants, dams, levees, and irrigation systems.

Growth areas of civil and environmental engineering include water sustainability, infrastructure development, construction management, computer-aided design, hazardous waste management, and engineered environmental systems. In the future, civil and environmental engineers will be called upon to design structures for earth, prevent erosion and sedimentation of our rivers, predict effects of global climate change on the environment, provide modern and efficient transportation systems, and ensure the quality of our air and our surface waters and groundwaters.

In planning and design, civil and environmental engineers work with other engineers, architects, landscape architects, planners, economists, financiers, sociologists, lawyers, and other specialists as members of the design team. Some civil engineers work in engineering offices; others may be called upon to construct or supervise outdoor projects they have designed. These field assignments, many of which are in remote and fascinating parts of the world, are particularly appealing to many civil and environmental engineers. There also is significant potential for entrepreneurial work by civil and environmental engineers as they start their own companies.

In addition to the degree programs offered by the Department of Civil and Environmental Engineering, the department also participates in two Graduate College programs: Applied Mathematical and Computational Sciences [p. 1426], an interdisciplinary doctoral program; and Transportation Studies [p. 1490], a graduate certificate program.

Certificates

Sustainable Water Development

The graduate Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. The Department of Civil and Environmental Engineering administers the

certificate program; see the Certificate in Sustainable Water Development [p. 1411] in the Catalog.

Related Certificate: Transportation Studies

The Transportation Studies Program offers the graduate Certificate in Transportation Studies, which requires 18 s.h. of credit. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), and the School of Urban and Regional Planning (Graduate College) participate in the program.

The certificate is coordinated by the School of Urban and Regional Planning. See the Certificate in Transportation Studies [p. 1491] in the Catalog.

Related Certificate: Wind Energy

The undergraduate Certificate in Wind Energy is interdisciplinary. Work for the certificate focuses on energy, environment, and information science. The certificate integrates course work and faculty expertise from the Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering (College of Engineering), and Geographical and Sustainability Sciences (College of Liberal Arts and Sciences). The certificate is administered by the Department of Mechanical Engineering; see the Certificate in Wind Energy [p. 1415] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Civil Engineering (Bachelor of Science in Engineering) [p. 1353]
- Major in Environmental Engineering (Bachelor of Science in Engineering) [p. 1356]

Graduate Programs of Study

Majors

- Master of Science in Civil and Environmental Engineering [p. 1358]
- Doctor of Philosophy in Civil and Environmental Engineering [p. 1360]

Facilities

Undergraduate Core

The first-year engineering course ENGR:1100 Introduction to Engineering Problem Solving includes an introduction to the Engineering Technology Center. Students in the course use computer-aided design tools on engineering work stations. All civil engineering courses require knowledge of personal computers and contain significant computer content.

For information about laboratories affiliated with core courses coordinated by other engineering departments, see the Catalog section for each of the departments.

Required and Elective Undergraduate Laboratories

CEE:2015 Civil Engineering Tools (2 s.h.), CEE:3763 Principles of Transportation Engineering (3 s.h.), and CEE:4850 Project Design and Management in Civil Engineering (3 s.h.): use of a state-of-the-art laboratory for computer-aided design and drawing.

CEE:3530 Geomechanics (4 s.h.): equipped for determining the classification, seepage characteristics, stress-strain properties, and strength of soils.

CEE:3155 Principles of Environmental Engineering (4 s.h.): conducted at the University Water Treatment Plant and Iowa City Wastewater Plant for demonstrations of unit operations and processes of water and wastewater treatment, and applications in environmental chemistry and microbiology.

CEE:3371 Principles of Hydraulics and Hydrology (3 s.h.): hydraulics of pressure conduits and open channels, dimensional analysis, flow measurements, hydraulic machinery, with laboratory.

CEE:3586 Civil Engineering Materials (3 s.h.): structure, strength and failure, durability, deformation, practice, and processing for primary construction materials systems, including steel, aluminum, concrete, asphalt, fiber-reinforced composites, masonry, timber.

CEE:5153 Fundamentals of Environmental Sampling and Analysis (3 s.h.): experiments to demonstrate fundamental principles of aquatic chemistry and chemical analyses for characterization of water and wastewater quality, conducted in the Environmental Engineering Laboratories.

CEE:5154 Environmental Microbiology (3 s.h.): typical microorganisms isolated and their physiology and metabolic characteristics studied in the Environmental Engineering Laboratories.

CEE:5155 Biological Treatment Processes (3 s.h.) and CEE:5156 Physical and Chemical Environmental Processes (3 s.h.): unit operations, processes studied in bench scale experiments; use of typical process analytical parameters; experiments conducted in the Environmental Engineering Laboratories, University Water Plant, and Iowa City Wastewater Treatment Plant.

Graduate Laboratories

Environmental Engineering and Science

The Environmental Engineering and Science Laboratories provide state-of-the-art facilities, equipment, and expertise to support both undergraduate and graduate-level instruction and research. The labs support research in contaminant fate and transport in various media (air, water, soil, plants, and microbes), drinking water disinfection and distribution, wastewater treatment, geochemical-contaminant interactions, bioremediation, and phytoremediation. They also provide resources for analytical chemistry, electrochemistry, molecular biology, microscopy, computer modeling, and simulated environments on the bench- and pilot-scale levels.

The Environmental Engineering and Science Laboratories are affiliated with the University's Center for Health Effects of Environmental Contamination and its Center for Global and Regional Environmental Research, and with the UI Environmental Health Sciences Research Center, an affiliate

of the National Institute of Environmental Health Sciences (NIEHS).

Hydraulics, Hydrology, and Water Resources

The teaching and research functions of the department are closely connected to the research activities of IIHR—Hydrosience & Engineering. The institute houses some of the most modern research facilities in the world, including a 100-meter towing tank, a wave basin facility for ship hydrodynamics research, several flumes, an array of field instrumentation for hydrologic experiments, extensive laboratory space for hydraulic modeling, state-of-the-art instrumentation for flow measurements and visualization, and comprehensive computational facilities.

Research related to ecohydraulics and the environment takes place at the Lucille A. Carver Mississippi Riverside Environmental Research Station. IIHR—Hydrosience & Engineering operates the 250-square-foot facility, which is located on the Mississippi River near Muscatine, Iowa. The station provides engineers and biological scientists with an ideal facility in which to examine the multifaceted ecohydraulic processes of the upper Mississippi. It is equipped with water quality laboratories, research boats, and a seminar room.

Structures, Mechanics, and Materials

Facilities for computations, materials testing, geotechnical experiments, and small-scale structural testing are available for research and teaching. Faculty, staff, and students in structures, mechanics, and materials (SMM) have access to the computing resources of the Engineering Technology Center and the Center for Computer-Aided Design (CCAD). Both centers continuously update their computing facilities to maintain pace with the rapidly changing field.

A wide range of experimental facilities is available for testing structural materials such as Portland cement concrete, asphalt, metals, timber, and composites. These facilities include several loading frames (purely uniaxial, purely torsional, and axial-torsional) that are available with computer-based control and data collection systems. Facilities for creep testing, triaxial soil testing, and high-cycle fatigue testing also are available. The laboratories have a variety of ovens and other facilities for preparation and treatment of test specimens.

Four well-equipped physical testing laboratories are dedicated to SMM teaching and research: the Civil Materials Laboratory, Soil Mechanics Laboratory, Plasticity Laboratory, and the Asphalt Laboratory. The Civil Materials Laboratory currently has a small-scale single-degree-of-freedom shaker table. Faculty, staff, and students have access through CCAD to a six-degree-of-freedom man-rated shaker table with 4000-pound payload and a 12-camera Vicon motion-capture system.

Transportation Engineering

The department's Asphalt Laboratory is equipped with a set of SuperPave testing equipment and asphalt mixture performance testing equipment, which can measure dynamic modulus and flow number of asphalt mixtures. The lab has a Hamburg Wheel Tracking Device for measuring the moisture sensitivity of asphalt mixtures; asphalt foaming equipment for mix design of cold in-place recycled asphalt using foamed asphalt; and equipment for Marshall mix design, indirect tensile strength test, and volumetric analysis of asphalt

mixtures. The Asphalt Laboratory is one of the department's group of laboratories for testing the strength behavior of other materials.

Courses

Civil and Environmental Engineering Courses

CEE:0000 Civil Engineering Internship/Co-op 0 s.h.

Civil engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record card. Requirements: admission to the Cooperative Education Program.

CEE:1010 Introduction to Careers in Environmental Engineering 0 s.h.

Past, present, and future roles of environmental engineers in society; introduction to the discipline's historical roots and early visionary leaders in sanitation engineering and public health; growth during the environmental movement, and current role of environmental engineers in modern society as stewards for clean air, water, and energy; range of career opportunities available to environmental engineering majors, particularly in the emerging role of ambassadors for sustainable development.

CEE:1030 Introduction to Earth Science 3-4 s.h.

Relationships between plate tectonics, geologic time, and the rock cycle with volcanoes and igneous, sedimentary, metamorphic rocks; fossils; radioactive isotopes; landscape evolution; mountain building; natural resources; their impacts on civilization. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as EES:1030.

CEE:1031 Introduction to Earth Science Laboratory 1 s.h.

Laboratory component of EES:1030. Requirements: completion of 3 s.h. in EES:1030 or CEE:1030. GE: Natural Sciences Lab only. Same as EES:1031.

CEE:2000 Civil and Environmental Engineering Sophomore Seminar 0 s.h.

Introduction to civil and environmental engineering curriculum and profession; presentations by senior undergraduate students, faculty, and professionals; lifelong learning skills and requirements for professional licensure in civil engineering. Requirements: sophomore standing.

CEE:2010 Civil and Environmental Engineering Professional Practice and Ethics 1 s.h.

Practical issues associated with civil engineering practice; topics may include safety and OSHA regulations, engineering specifications/building codes, contracts, liability, and ethics; role that a professional engineering license plays in the student's career and professional/ethical obligations that come with it; history of civil engineering and development of civil practice in the United States.

CEE:2015 Civil Engineering Tools 2 s.h.

Tools and methods used in civil engineering career: AutoCAD, programming, project estimating, heavy equipment productivity estimation, and earthwork estimation.

CEE:2050 Severe and Unusual Weather 3 s.h.

Basic weather concepts behind severe weather phenomena and essential safety information; how weather events cause billions of dollars in damage and thousands of casualties; winter storms can impact half of the nation, paralyzing the transportation network with icy roads and wind driven snow; tornadoes can strike within minutes tearing apart homes; hurricanes can destroy entire communities with strong winds, heavy rain, and deadly storm surge; understanding severe weather and knowing what to do before, during, and after an event can significantly reduce injury, deaths, and property damage. Same as CBE:2050.

CEE:2240 Digital Drafting with AutoCAD 3 s.h.

Basic principles of 2-D and 3-D computer-aided drafting; use of AutoCAD software to draw plans, elevations, and sections for objects and interior spaces. Prerequisites: CERM:2010 or SCLP:2810 or TDSN:2210 or MTLs:2910. Same as TDSN:2240.

CEE:3001 Leadership Skills for Engineers 1 s.h.

Survey of leadership ideas and principles as applied to situations commonly encountered in civil engineering practice, especially as they relate to challenges that beginning engineers face; speakers in selected engineering professions provide context and examples; exercises on leadership principles. Requirements: junior standing in civil and environmental engineering.

CEE:3002 Technical Communication in Civil and Environmental Engineering 1 s.h.

Development of communication skills through writing and oral presentations; impact of engineering solutions in a global, economic, environmental, and societal context; writings and presentations on current or historical engineering solutions; exposure to professionals with significant experiences to share in these areas. Requirements: junior standing.

CEE:3003 Project Management Skills 1 s.h.

Review and extension of civil and environmental engineering project management skills in preparation for capstone senior design course; project scheduling, cost estimating, contract types, construction phasing; review for Fundamentals of Engineering Exam (FE) and practice tests in four subdisciplinary areas. Requirements: senior standing.

CEE:3136 Design of Concrete Structures 3 s.h.

Fundamental analysis and design of reinforced concrete members and structures, flexure, shear, bond, continuity, beams, one-way slab system; columns. Corequisites: CEE:3533.

CEE:3142 Quality Control 3 s.h.

Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or (STAT:3100 and STAT:3101 and STAT:3200). Same as IE:3600, STAT:3620.

CEE:3155 Principles of Environmental Engineering 4 s.h.

Water supply and treatment processes; wastewater treatment processes; processes for air pollution control, groundwater remediation; solid and hazardous waste management. Corequisites: CEE:2150.

CEE:3328 Fluvial Geomorphology 3 s.h.

Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: EES:3020 or another 3000-level geology or hydraulics course. Same as EES:3380.

CEE:3371 Principles of Hydraulics and Hydrology 3 s.h.

Hydraulics of pressure conduits and open channels, dimensional analysis, flow measurements, hydraulic machinery, laboratory. Prerequisites: ENGR:2510.

CEE:3430 Water Treatment 4 s.h.

Physical, chemical, and biological processes and operations to remove and treat chemical and pathogenic pollutants and protect human and environmental health; relevant to drinking water, municipal wastewater, water reuse, stormwater, industrial process water, agricultural wastewater; modern technologies and appropriate designs for the developing world; theory and applications; hands-on laboratory. Prerequisites: CEE:3155 and ENGR:2510.

CEE:3530 Geomechanics 4 s.h.

Identification and classification of earth materials; hydraulic and mechanical properties of soils; soil improvement; laboratory testing. Prerequisites: ENGR:2750.

CEE:3533 Principles of Structural Engineering 4 s.h.

Fundamental principles of structural analysis applied to statically determinate and indeterminate structures, continuous beams, trusses, and frames; external and internal equilibrium, compatibility of deformation, influence lines, virtual work; parallel use of classical and matrix formulation; slope deflection, flexibility and stiffness methods; use of computers. Prerequisites: ENGR:2750.

CEE:3586 Civil Engineering Materials 3 s.h.

Structure, strength and failure, durability, deformation, practice, and processing for primary construction materials systems, including steel, aluminum, concrete, asphalt, fiber-reinforced composites, masonry, timber. Prerequisites: ENGR:2750.

CEE:3763 Principles of Transportation Engineering 3 s.h.

History of transportation modes, new transport technologies, traffic operations and control, economic evaluation of transport alternatives, transportation planning, roadway design and construction, route location, preventive maintenance strategies. Requirements: sophomore standing.

CEE:3783 Surveying and Remote Sensing 3 s.h.

Engineering surveying measurements, methods, computations. Prerequisites: ENGR:1100.

CEE:3790 Resilient Infrastructure and Emergency Response 3 s.h.

Concepts of resilient cities with specific emphasis on role of infrastructure and built environment; risk analysis, hazard mitigation and emergency response to various threats; resiliency through good design.

CEE:3996 Civil and Environmental Engineering: Engineering Project 1 s.h.

Support for student learning associated with an engineering project; students work as a team to design and fabricate a product; student projects are often associated with a contest or competitions (e.g., steel bridge, concrete canoe).

CEE:3997 Engineering Service Project 1-3 s.h.

Provides support of student learning associated with a variety of international engineering service projects facilitated by the Department of Civil and Environmental Engineering; service projects are usually designed and built as part of an Engineers Without Borders USA and/or a Bridges to Prosperity (Continental Crossings) approved program; active involvement by students in these organizations required.

CEE:3998 Individual Investigations: Civil Engineering arr.

Individual projects for civil engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

CEE:4097 Topics in Teaching and Learning 1 s.h.

Overview of Iowa's hydroclimate; emphasis on discharge, rainfall, and temperature; how to address basic research questions related to Iowa's climate and extreme events; hands-on exercises.

CEE:4102 Groundwater 3 s.h.

Groundwater quality and quantity; Darcy's Law, 2-D flow equation, unsaturated zone, contaminant transport, redox reactions, drinking water quality, bioremediation; laboratories in permeameter testing, porous media grain size analysis, pump testing, monitoring well installation.

CEE:4103 Water Quality 3 s.h.

Sources, availability, uses, characteristics, criteria, best management practices for surface waters; protection of waters impaired by eutrophication, soil erosion and sedimentation; pathogenic organisms, habitat destruction, wastewater discharges, contaminated sediments, atmospheric deposition, watershed development, invasive species, irrigation return flows, stormwater discharges, nonpoint sources, agricultural runoff; laboratory component, measurement of water quality characteristics in the field. Requirements: junior or higher standing.

CEE:4104 Groundwater Modeling 3 s.h.

Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: MATH:1860 and (EES:4630 or CEE:4103). Same as EES:4660.

CEE:4107 Sustainable Systems 3 s.h.

New and emerging concepts in sustainable systems design and assessment. Same as CBE:4410.

CEE:4116 Computer-Aided Design for Civil and Environmental Engineering 3 s.h.

Introduction to engineering design process and graphical communications tools used by civil engineers; fundamentals of engineering drawing, descriptive geometry, multiview projection, graphical analysis, coordinate systems, database manipulation, building information modeling (BIM); AutoCAD. Prerequisites: CEE:2015. Requirements: civil and environmental engineering major.

CEE:4118 Probabilistic Methods in Hydrosience 3 s.h.

Common probabilistic models used in hydrology, hydraulics, and water resources; derived distributions; multivariate models and estimation of model parameters; analysis of data and model building; uncertainty analysis. Prerequisites: STAT:2020 and MATH:2560.

CEE:4119 Hydrology**3 s.h.**

Overview of fundamental processes in water cycle, including precipitation, evaporation, infiltration, and runoff; quantitative approaches for predicting streamflow and design discharges; applications to flood hazard assessment and stormwater management. Prerequisites: ENGR:2510.

CEE:4123 Hydroclimatology**3 s.h.**

Introduction to fundamental processes governing climate system and hydrological cycle, links between them; measurements of atmospheric and terrestrial components; atmosphere-ocean interactions (e.g., El Nino, Pacific Decadal Oscillation); teleconnections; climatology of atmospheric storms and impacts (e.g., atmospheric rivers, tropical cyclones, floods, droughts); climate change and variability; tools for analysis of climate data. Recommendations: CEE:4118, CEE:4119, CEE:4180, and CEE:4378.

CEE:4135 Structural Modeling and Health Monitoring**3 s.h.**

Measurements, structural modeling, structural analysis, stiffness method, trusses and frames, structural testing, modal analysis. Prerequisites: CEE:3533 and ENGR:2750.

CEE:4146 Multiscale Hydrology: Introduction to Multiscale Hydrologic Phenomena**3 s.h.**

Hydrologic principles over the last century developed from experimentation at laboratory and small plot scales; major scientific and engineering challenges, including links between statistical fluctuations that data exhibits; physical, chemical, and biological principles through appropriate mathematical theories, numerical models, and field observations; coupled hydrologic processes at larger scales using newly built on abstraction; observations used in hydrologic engineering at larger scales for several decades and missing a coherent theory that ties them together. Prerequisites: MATH:6600 and ENGR:2510. Requirements: three semesters of calculus and college physics, an introductory hydrology course, and a probability and statistics course.

CEE:4150 Environmental Chemistry**3 s.h.**

Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: CHEM:1120. Same as CBE:4420.

CEE:4157 Environmental Engineering Design**3 s.h.**

Application of physical, chemical, and biological operations and processes to the design of water and wastewater treatment systems; applications in solid and hazardous waste treatment. Prerequisites: CEE:3155.

CEE:4158 Solid and Hazardous Wastes**3 s.h.**

Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: for CEE:4158—CEE:2150, for OEH:4920—OEH:4240. Same as OEH:4920.

CEE:4159 Air Pollution Control Technology**3 s.h.**

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CBE:4459, IGPI:4159.

CEE:4160 Introduction to Bridge Engineering**3 s.h.**

Bridge engineering and design; history of the bridge; factors that affect bridge design; bridges according to use (e.g., road, rail, pedestrian and bicycle) and type (e.g., suspension, cable stay, truss); how sustainability concepts may impact bridge design; substantial design exercise. Prerequisites: CEE:3533.

CEE:4162 Structural Systems for Buildings**3 s.h.**

Detailed analysis and design of gravity and lateral force resisting systems for buildings; roof, floor, and bearing wall gravity systems; steel braced frames, steel and concrete moment frames, and masonry and timber shear walls lateral systems; introduction to tall building structures. Prerequisites: CEE:3533.

CEE:4164 Design of Wood Structures**3 s.h.**

Framing layout and analysis of wood frame structures for gravity and lateral loads; design of structural members for bending, axial load, and shear, including joists, beams, columns, engineered lumber, bearing walls, shear walls, and diaphragms; introduction to connection design. Prerequisites: CEE:3533.

CEE:4176 Transportation Demand Analysis**3 s.h.**

City planning procedures and traffic engineering techniques applied to transportation problems; trip generation, distribution, assignment, mode choice models; travel surveys, data collection techniques; arterial flow, intersection performance, parking; transit system analysis. Same as URP:4262.

CEE:4180 Fundamentals of Atmospheric Science**3 s.h.**

Review of fundamental principles in atmospheric sciences needed for study of interdisciplinary topics involving the Earth's atmosphere; understanding weather and climate processes to address problems in engineering; hydrometeorology of rainfall and its measurement by remote sensing; impact of climate anomalies and climate change on water resources; exchange of water, energy, and chemicals at the land-atmosphere boundary; forecasting of atmospheric chemistry and air quality. Prerequisites: ENGR:2510.

CEE:4187 Statistics for Experimenters**3 s.h.**

Application of statistical techniques to evaluate data derived from experimental samples designs; use of spreadsheets, statistical software; design and analysis of experiments; regression analysis; model building; practical applications. Same as OEH:4540.

CEE:4317 Remote Sensing**3 s.h.**

Fundamentals of electromagnetic waves, atmospheric radiative transfer, passive remote sensing, weather radar, hydrologic application of remote sensing.

CEE:4370 Open Channel Flow and Sediment Transport**3 s.h.**

In-depth analysis of governing flow equations; steady uniform flow in channels of different resistance and cross section; flow control sections; specific energy considerations; analysis and computation of gradually varied profiles and spatially varied flow effected by lateral outflow and inflow; unsteady flow; flood routing. Prerequisites: CEE:3371.

CEE:4371 Water Resources Engineering**3 s.h.**

Planning and economics of varied water resources projects; stochastic basis for design; flood damage mitigation, reservoirs, river morphology, economic analysis of water projects, urban water requirements, water supply, hydroelectric power systems, river navigation; contemporary civil-engineering problems and issues associated with water infrastructure development. Corequisites: CEE:3371.

CEE:4374 Water Resource Design 3 s.h.

Prerequisites to storm water management systems design, including design flows and rates; analysis and design of storm sewers, detention basins, street and highway drainage facilities, culverts, dams, spillways, measures for energy dissipation; review of wastewater transfer systems and design. Prerequisites: CEE:3371.

CEE:4378 Hydrometeorology 3 s.h.

Atmospheric thermodynamics; precipitation processes; evaporation; infiltration; surface runoff; hydrographs, runoff relations; runoff hydrography; storage problems; frequency, intensity, duration studies of storms, floods, droughts; hydrometeorological observations and network design; watershed modeling; urban hydrology climate.

CEE:4385 International Perspectives in Water Sciences and Management 3 s.h.

Internationalization and water, with focus on a country or a world region; intensive, in-depth exposure to complex issues that affect planning and execution of water projects in large-scale watersheds.

CEE:4410 Interdisciplinary Scientific Visualization 3 s.h.

Fundamentals of data visualization and practice communicating with data; techniques and algorithms for creating effective visualizations for engineers based on principles from graphic design, visual arts, human perception, and effective storytelling; targeted towards students interested in using visualization in their own work, as well as students interested in building better visualization tools and systems; examples might include interactive visualization systems, augmented/virtual reality applications, data and visual analytics tools, or new applications of existing visualizations methods.

CEE:4511 Numerical Calculations 3 s.h.

Development of algorithms for functional approximations, numerical differentiation and integration; solution of algebraic and differential equations, with emphasis on digital computations; initial and boundary value problems. Prerequisites: MATH:2560. Same as ME:4111.

CEE:4512 Engineering Design Optimization 3 s.h.

Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: ENGR:2110 and MATH:2550. Requirements: junior standing. Same as ME:4112.

CEE:4515 Computer-Aided Engineering 3 s.h.

Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: ME:3052 and ENGR:2750. Same as ME:4110.

CEE:4532 Fundamentals of Vibrations 3 s.h.

Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: ENGR:2750. Same as ME:4153.

CEE:4533 Finite Element I 3 s.h.

One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: ENGR:2750. Same as IGPI:4115, ME:4115.

CEE:4535 Design of Steel Structures 3 s.h.

Concepts and procedures in steel design; LRFD (load and resistance factor design) methodology for beams/columns; analysis and design of indeterminate structures. Prerequisites: CEE:3533.

CEE:4539 Foundations of Structures 3 s.h.

Application of soil mechanics to analysis of structural foundations; slope stability analysis; bearing capacity and settlement of shallow and deep foundations; retaining structures, braced cuts, reinforced earth structures; usage of computational models; subsurface exploration methods. Prerequisites: CEE:3530.

CEE:4560 Pavement Engineering 3 s.h.

Fundamental design principles; characterization and testing of asphalt and concrete paving materials; stresses and strain development within pavement structure; basic principles of mechanistic-empirical pavement design procedures. Prerequisites: CEE:3763.

CEE:4730 Transportation Infrastructure Construction and Management 3 s.h.

Analytical methods for developing transportation infrastructure construction and management systems; e-construction, transportation infrastructure condition evaluation, performance modeling, maintenance and rehabilitation optimization, asset management, development of transportation infrastructure construction and management system; application of information technology and mobile computing to solving transportation infrastructure construction and management problems. Prerequisites: CEE:3763.

CEE:4762 Design of Transportation Systems 3 s.h.

Overview of different modes within transportation systems; concepts of sustainability and livability in transportation system design; derivation of standards for geometric design of highways; roundabout design; cross-sectional and longitudinal geometric design of highways. Prerequisites: CEE:3763.

CEE:4763 Traffic Engineering 3 s.h.

Design of traffic control devices; evaluation and analysis of intersections and transportation networks using appropriate computer software. Prerequisites: CEE:3763.

CEE:4764 Winter Highway Maintenance 3 s.h.

Aspects of winter highway maintenance; current and innovative practices and the theory that underpins them.

CEE:4788 International Perspectives: Xicotepec 2-3 s.h.

Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Requirements: P3 standing. Same as GHS:4126, PHAR:8788, THTR:4265.

CEE:4850 Project Design and Management in Civil Engineering 3 s.h.

Design of civil engineering systems, individual and team design projects oriented toward the solution of local problems, project management, construction management, contracts, budgeting, bidding. Prerequisites: CEE:3763 and CEE:3533 and CEE:3371 and CEE:3155. Corequisites: CEE:3003. Requirements: senior standing.

CEE:4995 Contemporary Topics in Civil and Environmental Engineering

arr.

New topics or areas of study not formally offered in other civil and environmental courses; ice engineering, chaos and strange attractors, remote sensing, nonlinear dynamics of hydrologic processes, advanced water and wastewater treatment processes, hazardous waste control, global climate change, damage mechanics; based on faculty/student interest.

CEE:5083 Introduction to Comp Flow in Pipes and Channels

3 s.h.

General review of numerical methods in hydraulics (finite-difference, finite-element, and method of characteristics); stability and accuracy of numerical schemes; steady free surface flows; flow transients in pipelines and channels. Prerequisites: ME:5160.

CEE:5091 Graduate Seminar: Structure, Mechanics, Materials

0 s.h.

Presentation and discussions of recent advances and research in structures, mechanics, and materials engineering by guest lecturers, faculty, students. Requirements: senior or graduate standing.

CEE:5092 Graduate Seminar: Environmental Engineering Seminar

0 s.h.

Presentation and discussion of current topics, case studies, and research in environmental science and engineering by students, guest lecturers, faculty. Requirements: senior or graduate standing.

CEE:5093 Graduate Seminar: Hydraulics, Hydrology, and Water Resources

0 s.h.

Presentation and discussions of recent advances and research in hydraulics, hydrology, and water resources by guest lecturers, faculty, students. Requirements: senior or graduate standing.

CEE:5094 Graduate Seminar: Transportation

0 s.h.

Recent advances and research in transportation engineering. Requirements: senior or graduate standing.

CEE:5095 Career Paths in Sustainable Water Development

0 s.h.

Introduction to different career paths in the food, energy, and water (FEW) sector; speakers from a variety of different careers—including researchers, professors, entrepreneurs, consultants, and civic, professional, and global engineers—discuss their own career paths as well as current opportunities in their fields; students prepare individual development plans that identify their preferred career (i.e., training) path, a plan of study (i.e., path course work), mentors, and their preferred research area. Requirements: graduate standing in sustainable water development program.

CEE:5096 Water, Energy, and Food Nexus Seminar

0 s.h.

Invited presentations on research, policy, economics, and social drivers of water, energy, and food in the 21st century.

CEE:5097 Coaching Seminar on Communicating Water Science

0 s.h.

Presentation of student research on water, energy, and food in the 21st century; students receive live, immediate feedback from their peers and faculty coaches on best practices to improve their oral communication skills.

CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation

0 s.h.

Presentation and discussion of recent advances and research in structures, mechanics, materials, and transportation engineering by guest lecturers, faculty, and students. Requirements: graduate standing.

CEE:5100 Cultural Competence for Sustainable Water Development Engineers

0 s.h.

Skills needed to be culturally responsive to a wide range of communities in which sustainable water development engineering students interact with during their professional careers; series of three workshops; focus on how to identify cultural strengths that support development in underserved, resource-constrained communities; how to engage, build trust, and bridge differences with diverse stakeholders; how to conduct culturally sensitive interviews; how to communicate effectively across culture; preparation for Capstone Community Engagement project. Requirements: graduate standing in sustainable water development program.

CEE:5115 Atmospheric Chemistry and Physics

3 s.h.

Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources and removal processes. Corequisites: CBE:3120. Same as CBE:5425.

CEE:5137 Composite Materials

3 s.h.

Mechanical behavior of composite materials and their engineering applications; composite constituents (fibers, particles, matrices) and their properties and behavior; macromechanical behavior of composite laminae; micromechanical predictions of composite overall properties; classical lamination theory; composite beams and plates. Prerequisites: ENGR:2750. Same as ME:5167.

CEE:5153 Fundamentals of Environmental Sampling and Analysis

3 s.h.

Laboratory experiments to demonstrate important concepts in environmental chemistry and to familiarize students with procedures used to characterize water and wastewater and evaluate certain treatment processes. Prerequisites: CHEM:1120. Corequisites: CEE:5152.

CEE:5154 Environmental Microbiology

3 s.h.

Microorganisms possess diverse metabolic functions, inhabit a myriad of environments, and play important roles in global biogeochemical cycles; environmental microbiology concepts with emphasis on metabolic diversity and application of molecular methods to characterize microbial community structure and function in ecosystems (polymerase chain reaction, next-generation DNA sequencing, proteomics); biodegradation and bioremediation of hydrocarbon pollutants in groundwater, biological processes relevant to food-water-energy nexus (nitrogen cycling in agriculturally impacted watersheds), and microbial ecology of marine environments (hydrothermal vent plumes, oxygen minimum zones). Corequisites: CEE:5152.

CEE:5155 Biological Treatment Processes

3 s.h.

Applied microbiology and fundamental principles of aerobic and anaerobic biological wastewater treatment processes; sludge processing and advanced wastewater treatment and bioremediation; lectures and laboratory. Prerequisites: CEE:5154 and CEE:3155 and CEE:5152. Corequisites: CEE:3155 and CEE:5156.

CEE:5156 Physical and Chemical Environmental Processes 3 s.h.

Theory of physical and chemical operations and processes in water and wastewater treatment, including fundamental aspects of process dynamics; lectures, laboratory. Prerequisites: CEE:5152 and CEE:2150. Corequisites: CEE:3155.

CEE:5179 Continuum Mechanics arr.

Mechanics of continuous media; kinematics of deformation, concepts of stress and strain; conservation laws of mass, momentum and energy; constitutive theories; boundary and initial value problems. Prerequisites: ENGR:2750 or ENGR:2510. Same as ME:5179.

CEE:5186 Introduction to Hydroinformatics 3 s.h.

Hydroinformatics as the study, design, development, and deployment of cyberinfrastructure systems for hydrologic data collection, distribution, interpretation, visualization, and analysis to aid in the understanding and management of geospatial data; introduction to fundamental and advanced hydroinformatics concepts and procedures including automated data collection, relational databases, data management, metadata and semantics, data formats and standards, data transformations and processing to support modeling and analysis, and scientific visualization of hydroclimate data.

CEE:5188 Computational Methods in Water Resources 3 s.h.

Computational methods for solution of problems; emphasis on problems in water resources; standard methods for problem solutions using computers; problems of interest in hydraulics/hydrology. Recommendations: some programming ability.

CEE:5210 Developing Professional Service Business 2-3 s.h.

Use of professional skills and functional knowledge in creating a specialized service business. Same as ENTR:9000.

CEE:5236 Optimization of Structural Systems 3 s.h.

Advanced topics; optimization of structural topology, shape, and material; finite dimensional dynamic response optimization, sensitivity analysis, distributed parameter systems; projects. Same as BME:5720, ME:5236.

CEE:5310 Informatics for Sustainable Systems 3 s.h.

Introduction to fundamental and advanced environmental informatics concepts and procedures including automated data collection, data management, data transformations, and processing to support modeling and analysis; scientific visualization of environmental data to support management of food, energy, and water (FEW) resources; sustainability in FEW systems. Same as IGPI:5311.

CEE:5350 Watershed Hydrology and Ecosystem Processes 3 s.h.

Introduction to hydrologic and ecosystem processes within a watershed; description of water, energy, and nutrient cycling in watersheds; focus on hydrologic and water-quality issues in agricultural Midwest; watershed modeling techniques, ecosystem goods and services, and selected case studies in watershed and ecosystem management problems. Requirements: graduate standing.

CEE:5369 Intermediate Mechanics of Fluids 3 s.h.

Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: ENGR:2510. Same as ME:5160.

CEE:5372 Experimental Methods in Fluid Mechanics and Heat Transfer 3 s.h.

Hands-on experience in methodology of conducting experiments in fluid mechanics and heat transfer from design to data acquisition and processing; essential theoretical elements, experimental methodologies, data acquisition systems, uncertainty analysis; wide variety of instruments for fundamental and applied experimentation; work in small groups; design, implement, test, and report an experiment in area of interest. Same as ME:5162.

CEE:5374 Environmental Fluid Dynamics 3 s.h.

Introduction to the fundamentals of fluid dynamics with emphasis on application to natural flows of air and water in environmental systems; physical laws describing fluid dynamics, focus on development of physical insight of environmental fluids problems and strategies for solving them; analysis tools for solving various problems related to the movement of mass, momentum, and energy in natural and urban environments; systems include the atmospheric boundary layer, rivers, and streams, lakes, wetlands, and coastal zones; topics include incompressible viscous fluid flows, turbulence, waves, effects of rotation and stratification, scaling analysis, and scalar transport. Prerequisites: ENGR:2510. Requirements: working knowledge of multivariate calculus, partial differential equations, statistics, hydrology/hydraulics, and elementary fluid mechanics.

CEE:5380 Fluid Flows in Environmental Systems 3 s.h.

Introduction to environmental fluid flows and transport processes with focus on application and developing a language of environmental fluid mechanics; topics include physical and mathematical description of conservation and transport laws, statistical techniques for analyzing environmental flow data, scaling and similarity, stratification, turbulent flux measurement and modeling, environmental boundary conditions; application to surface waters and the planetary boundary layer; applied project involving collection and analysis of environmental flow data.

CEE:5390 PCBs in the Environment 3 s.h.

Polychlorinated biphenyls (PCBs) as potent carcinogens and linked to metabolic syndrome, autism, learning disabilities, hearing loss, and neurological disorders; how these compounds become to be such ubiquitous environmental pollutants; what the impact of their presence is; how sites are remediated and exposures reduced; in-depth examination through literature review, laboratory experiments, computational modeling, final written reports, and presentations. Recommendations: laboratory experience.

CEE:5410 Politics and Economics of the Food, Energy, Water Nexus 3 s.h.

Focus on the relationships between food, energy, and water resources; current and future political and economic frameworks that shape the food, energy, and water nexus.

CEE:5440 Foundations of Environmental Chemistry and Microbiology 3 s.h.

Investigation of chemical and biological processes at the food-energy-water nexus; example topic areas include biogeochemical cycling of nutrients, biomass conversion, resource recovery from wastewater, removing pollutants from drinking water sources, water reuse, engineered natural treatment systems, pollutant transformation and control, treatment of process waters. Requirements: undergraduate senior standing or graduate standing.

CEE:5460 Water Quality and Flow**3 s.h.**

Laboratory and field experiments to promote student learning of flow-dependent movement and associated environmental transformation of surface water and groundwater pollutants; exploration of water quality and flow fundamentals needed to design and numerically model treatment reactors for small-community wastewater, urban storm water, and agricultural runoff; emphasis on engineered solutions that couple water quality and flow considerations as potential mitigations for adverse effects on natural water cycle caused by floods and other natural and human-influenced phenomena.

CEE:5513 Mathematical Methods in Engineering**3 s.h.**

Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CBE:5140, ME:5113.

CEE:5540 Intermediate Mechanics of Deformable Bodies**3 s.h.**

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: ENGR:2750. Same as BME:5660, ME:5150.

CEE:5549 Fracture Mechanics**3 s.h.**

3-D stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: BME:4910 or ME:4055 or ME:5150. Same as ME:5159.

CEE:5678 Application Simulation to Transportation**3 s.h.**

Transportation system management and traffic engineering; application of real-time simulation and visualization. Prerequisites: CEE:3763 or CEE:4763. Same as URP:5678.

CEE:5875 Perspectives in Biocatalysis**1-3 s.h.**

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BIOC:5875, CBE:5875, CHEM:5875, MICR:5875, PHAR:5875.

CEE:5990 Structural Engineering Practicum A**2 s.h.**

Students select a design project and develop two or more alternative design concepts in consultation with a three-member advisory committee consisting of at least one faculty member and one design professional; entire design process documented in a written report. Prerequisites: CEE:3136 and CEE:4535.

CEE:5991 Structural Engineering Practicum B**1 s.h.**

Detailed design development of one of the concepts developed in CEE:5990; students perform detailed design calculations using applicable structural analysis and design software, produce professional quality structural plans including connection details, and defend design to a three-member advisory committee. Prerequisites: CEE:5990.

CEE:5993 Community-Centered Problem Solving and Design**3 s.h.**

Analysis, evaluation, and modeling of food-energy-water systems (FEWS) development challenges faced by resource-constrained communities in developed and developing countries; design and development of appropriate solutions to address disparities in FEWS and anticipate social, economic, political, technological, human health, and environmental impacts of these interventions; communication with a diverse suite of stakeholders using modern forms of media intended for public engagement and dissemination of research impacts; demonstration of cultural responsiveness consistent with social and economic realities of resource-limited communities.

CEE:5998 Individual Investigations: Civil and Environmental Engineering**arr.**

Individual projects for civil and environmental engineering graduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

CEE:5999 Research: Civil and Environmental Engineering M.S. Thesis**arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the M.S. with thesis in civil and environmental engineering. Requirements: graduate standing.

CEE:6151 Environmental Systems Modeling**3 s.h.**

Mathematical modeling of environmental systems, including rivers, lakes, estuaries, treatment systems for conventional and toxic pollutants. Prerequisites: CEE:5152 and CEE:2150 and CEE:3155. Same as IGPI:6151.

CEE:6223 Environmental Boundary Layers**4 s.h.**

Fundamentals of environmental boundary layer dynamics and thermodynamics of natural and engineered systems; atmospheric boundary layers and aquatic surface layer dynamics; land-atmosphere interaction, air-water exchange, and turbulent transport in aquatic ecosystems; turbulence, surface energy balance, spectral analysis, similarity theory; flow over homogeneous and heterogeneous surfaces, thermal stratification effects, measurement, simulation of turbulent and surface fluxes; applications to environmental modeling, urban meteorology, ecosystem dynamics, renewable energy; recent and current research topics. Prerequisites: ENGR:2510.

CEE:6225 Communicating Science**3 s.h.**

Writing and speaking about environmental engineering and science research; key principles of writing with clarity and cohesion, and practice applying these principles on a piece of research writing that students are currently working on; review best practices for presenting research to peers and at conferences; students are required to share their work with peers through writing and presentations. Recommendations: graduate standing in earth and environmental sciences; M.S. students must be thesis option.

CEE:6253 Environmental Organic Chemistry**3 s.h.**

Environmental factors that govern processes that determine fate of organic chemicals in natural and engineered systems; knowledge of chemical fate applied toward quantitatively assessing environmental behavior of organic chemicals; holistic view on physical-chemical properties of organic compounds, including aspects of gas-solid partitioning, bioaccumulation, and transformations in the atmosphere.

CEE:6255 Environmental Biotechnology and Bioremediation 3 s.h.

Concepts in molecular microbial ecology and bioremediation; microbial diversity and genetics, evolution of biodegradation pathways, application of quantitative PCR, high-throughput amplicon and metagenomic and transcriptomic sequencing, proteomics, stable isotopes; bioremediation research and practice. Prerequisites: CEE:5154.

CEE:6310 Analytical Methods in Mechanical Systems 3 s.h.

Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: ME:5113. Same as ME:6214.

CEE:6372 Environmental Dispersion Processes 3 s.h.

Review of classical diffusion theories; longitudinal dispersion, transverse and vertical mixing in free-surface turbulent shear flow; application to natural channels; selected topics including stream-tube models, mixing and dispersion of heated effluents. Corequisites: CEE:5369.

CEE:6376 Viscous Flow 3 s.h.

Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers—equations, solution methods, applications; stability theory and transition; incompressible turbulent flow—mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: for ME:6260—ME:5160; for CEE:6376—CEE:5369. Same as ME:6260.

CEE:6520 Watershed Sedimentation 3 s.h.

Exploration of rich and complex field of sediment transport, geomorphology, and contaminant transport; associated physical, chemical, and biological processes with associated mathematical modeling; investigation of current topics not covered elsewhere, including physical processes affecting stability/mobility, transport, and fate of soil/sediments; lack of general understanding in development of fine-scale sedimentary structure in different systems, particularly contamination and contamination release; suspension effects on turbulent flows. Prerequisites: CEE:4370 and CEE:4373.

CEE:6532 Finite Element II 3 s.h.

Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as IGPI:6216, ME:6215.

CEE:6534 Applied Optimal Design 3 s.h.

Optimal design problem formulation; optimality conditions; linear, quadratic, convex, and nonlinear programming; Lagrangian duality; numerical algorithms for unconstrained and constrained design problems, design sensitivity analysis, engineering applications. Prerequisites: CEE:5513. Same as ME:6534.

CEE:7197 Teaching Undergraduate Science and Engineering arr.

Basic skills to be a successful undergraduate instructor; teaching of technical subjects and solving problems; emphasis on practical applications of lesson material and class demonstrations; techniques for teaching effective classes; opportunity for students to teach; intended for graduating Ph.D. students with a career interest in a university environment.

CEE:7250 Advanced Fracture Mechanics 3 s.h.

Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: ME:5113 and (ME:5159 or CEE:4533). Same as ME:7250.

CEE:7549 Multiscale Modeling 3 s.h.

Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: ME:5143 or CEE:4533. Same as ME:6255.

CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the Ph.D. in civil and environmental engineering.

Civil Engineering, B.S.E.

Within a few years of graduation, graduates of the Bachelor of Science in Engineering (B.S.E.) program in civil engineering are expected to:

- be productive and contributing members of the civil and environmental engineering profession as practitioners, entrepreneurs, researchers or teachers, and be engaged in learning, understanding, and applying new ideas as the field develops;
- pursue advanced studies if qualified and interested; and
- promote the safety, health, and welfare of the public and the environment through professional practice and civic leadership.

Requirements

The Bachelor of Science in Engineering with a major in civil engineering requires a minimum of 131 s.h.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing; and courses in chemistry, engineering mathematics and fundamentals, and physics.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component. For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

Students must select elective focus area courses according to guidelines established by the Department of Civil and Environmental Engineering. See "Elective Focus Area" below.

Elective Focus Areas

Civil engineering students may choose from several standard elective focus areas developed by the department or create an individual focus area tailored to their interests.

Standard elective focus areas are offered in the broad field of civil and environmental engineering practice and in the four technical areas: environmental engineering; hydraulics and water resources; structures, mechanics, and materials; and transportation engineering. Other areas of focus include pre-architecture and urban and regional planning. For more detailed information about elective focus areas, see the Bachelor of Science in Engineering [p. 1311] in the Catalog. For a list of standard elective focus area options and guidelines for tailored elective focus areas in civil engineering, see Elective Focus Areas on the Department of Civil and Environmental Engineering website.

Combined Programs

B.S.E./M.S. in Civil and Environmental Engineering

The College of Engineering offers the combined Bachelor of Science in Engineering/Master of Science program for civil engineering undergraduate students who intend to earn a M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while they are

still undergraduates. They may count a limited amount of course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h. and have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. Graduate Record Examination (GRE) General Test scores are not required for the degree program.

Applications are due by May 15.

B.S.E./M.A. or M.S. in Urban and Regional Planning

The College of Engineering and the School of Urban and Regional Planning offer the combined Bachelor of Science in Engineering/Master of Arts or Master of Science program in urban and regional planning. The program, which is completed in five years, is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

Graduates are technically oriented professionals who have a clear understanding of policy development and implementation, which they apply to civil and industrial engineering problems. They fill positions such as public works director, transportation engineer, and public utilities staff member.

Each student in the combined program has two advisors, one in civil engineering and one in urban and regional planning. Students enroll in the College of Engineering for their first four years in the program and in the Graduate College for their fifth year. They follow the standard curriculum of their B.S.E. program during the first two years and begin adding courses from the urban and regional planning program during the third year. Successful students receive a B.S.E. at the end of the fourth year and an M.A. or M.S. in urban and regional planning at the end of the fifth year.

Students in the combined program must maintain a cumulative g.p.a. of at least 3.00 in order to graduate with an M.A. or M.S. in urban and regional planning.

For more information about the graduate degrees, see the M.A. in urban and regional planning or the M.S. in urban and regional planning (Graduate College) in the Catalog. Contact Engineering Student Services for information about applying to the combined program.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Civil Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
Hours		16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering Be Creative ^c		3
Hours		16
Second Year		
Fall		
MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	4
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
CEE:1030	Introduction to Earth Science	3
Hours		18
Spring		
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ENGR:2710	Dynamics	3
ENGR:2750	Mechanics of Deformable Bodies	3
CEE:2010	Civil and Environmental Engineering Professional Practice and Ethics	1
CEE:3763	Principles of Transportation Engineering	3
GE: CLAS General Education Component ^d		3
Hours		16
Third Year		
Fall		
CEE:2015	Civil Engineering Tools	2
CEE:3530	Geomechanics	4
CEE:3533	Principles of Structural Engineering	4
ENGR:2510	Fluid Mechanics	4
Elective Focus Area: #1		3
CEE:3001	Leadership Skills for Engineers	1
Hours		18

Spring

CEE:3155	Principles of Environmental Engineering	4
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:3586	Civil Engineering Materials	3
Elective Focus Area: #2		3
GE: Approved Course Subjects ^e		3
CEE:3002	Technical Communication in Civil and Environmental Engineering	1
Hours		17

Fourth Year

Fall

Civil and Env. Engr Design Course ^f		3
Civil and Env. Engr Design Course ^f		3
Elective Focus Area: #3		3
Elective Focus Area: #4		3
GE: Approved Course Subjects ^e		3
CEE:3003	Project Management Skills	1
Hours		16

Spring

CEE:4850	Project Design and Management in Civil Engineering	3
Elective Focus Area: #5		3
Elective Focus Area: #6		3
Elective Focus Area: #7		3
GE: Approved Course Subjects ^e		3
Hours		15
Total Hours		132

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.
- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.
- f Design Courses: CEE:4374; CEE:3136; CEE:4157; CEE:4762; CEE:4535. Design courses must be taken from two different technical areas.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Environmental Engineering, B.S.E.

Graduates of the Bachelor of Science in Engineering (B.S.E.) program in environmental engineering apply engineering principles to design systems that control pollution and protect public health. Environmental engineers restore air, soil, and water quality at previously contaminated sites, and develop systems that convert waste into clean energy. Environmental engineering addresses the complex food, energy, and water issues of the 21st century.

Requirements

The Bachelor of Science in Engineering with a major in environmental engineering requires a minimum of 131 s.h.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing; and courses in chemistry, engineering mathematics and fundamentals, and physics. They must earn a grade of C-minus or higher in the core requirements MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component (15 s.h. of humanities and social science courses). For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

Students must select elective focus area courses according to guidelines established by the Department of Civil and Environmental Engineering. See "Elective Focus Area" below.

Elective Focus Areas

Environmental engineering students may choose from a standard and elective focus area developed by the department or create an individual focus area tailored to their interests.

For more detailed information about elective focus areas, see the Bachelor of Science in Engineering [p. 1311] in the Catalog. For a description of the standard elective focus area options and guidelines for tailored elective focus areas in environmental engineering, see Elective Focus Areas on the Department of Civil and Environmental Engineering website.

Combined Programs

B.S.E./M.S. in Civil and Environmental Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science program for environmental engineering undergraduate students who intend to earn a M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while they are still undergraduates. They may count a limited amount of course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted

the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h. and have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. Graduate Record Examination (GRE) General Test scores are not required for the fast-track degree program.

Applications are due by May 15.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Environmental Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
Hours		16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
CHEM:1120	Principles of Chemistry II	4
CEE:1010	Introduction to Careers in Environmental Engineering	0
Hours		17
Second Year		
Fall		
MATH:2560	Engineering Mathematics IV: Differential Equations	3
CHEM:2210	Organic Chemistry I	3
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
CEE:1030	Introduction to Earth Science	3
Hours		17

Spring

STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3
CEE:2010	Civil and Environmental Engineering Professional Practice and Ethics	1
CEE:3155	Principles of Environmental Engineering	4
GE: Engineering Be Creative ^c		3
Hours		17

Third Year**Fall**

CEE:4158	Solid and Hazardous Wastes	3
ENGR:2510	Fluid Mechanics	4
GE: CLAS General Education Component ^d		3
BIOL:1411	Foundations of Biology	4
Elective Focus Area: #2		3
CEE:3001	Leadership Skills for Engineers	1
Hours		18

Spring

CEE:3430	Water Treatment	4
CEE:3371	Principles of Hydraulics and Hydrology	3
Elective Focus Area: #3		3
Elective Focus Area: #4		3
GE: Approved Course Subjects ^e		3
CEE:3002	Technical Communication in Civil and Environmental Engineering	1
Hours		17

Fourth Year**Fall**

CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4150	Environmental Chemistry	3
CEE:4102	Groundwater	3
GE: Approved Course Subjects ^e		3
CEE:3003	Project Management Skills	1
Hours		16

Spring

CEE:4850	Project Design and Management in Civil Engineering	3
CEE:4159	Air Pollution Control Technology	3
Elective Focus Area: #6		3
Elective Focus Area: #7		3
GE: Approved Course Subjects ^e		3
Hours		15
Total Hours		133

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.

- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Civil and Environmental Engineering, M.S.

Graduate study in civil and environmental engineering prepares students for professional careers and further study. The principal concentration areas are environmental engineering and environmental science; hydraulics, hydrology, and water resources; structures, mechanics, and materials; sustainable water development; and transportation.

Research and Study Areas

Environmental Engineering and Science

The environmental engineering and science curriculum provides a comprehensive base of course work and research in the areas of air- and water-quality management, environmental chemistry and microbiology, natural systems modeling, and processes for water supply, pollution control, and solid and hazardous waste management. Interdisciplinary specialization and study are conducted with programs including IIHR—Hydrosience & Engineering, the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, the Hazardous Substances Research Center, the Center for Biocatalysis and Bioprocessing; the Departments of Chemical and Biochemical Engineering, Earth and Environmental Sciences, Geographical and Sustainability Sciences, Microbiology and Immunology, Occupational and Environmental Health; and the School of Urban and Regional Planning. Other areas of interdisciplinary focus include groundwater contamination, biotechnology, global climate change, and hazardous substances.

Hydraulics, Hydrology, and Water Resources

The hydraulics, hydrology, and water resources curriculum is associated with IIHR—Hydrosience & Engineering, a world-renowned research institute. Senior staff members of the institute are professors in the program; they devote about half of their time to teaching.

IIHR offers unique opportunities for students to participate actively in the research, analysis, and design aspects of real-world problems. Considerable attention is given to the use of computers in mathematical modeling and in data acquisition and processing. IIHR high-speed computer facilities and advanced graphics and communication software complement the hydrology, hydraulics, and water resources curriculum.

Structures, Mechanics, and Materials

The structures, mechanics, and materials curriculum is designed for students who wish to gain knowledge and skill in the mechanics of solids and structures that they can apply to civil infrastructure systems and other fields. The program concentrates on developing appropriate methodologies for tackling broad, complex issues related to civil infrastructure systems, and on educating engineers in the implementation and application of methodologies to actual engineering projects. Faculty members have expertise in structural engineering, design optimization, solid mechanics, and computational methods.

Sustainable Water Development

The sustainable water development curriculum is a revolutionary new approach to graduate education. This program is focused on training interdisciplinary professional engineers, researchers, educators, and those who are ready to meet the water resource challenges of communities most in need. Students are encouraged to tailor the curriculum to fit unique interests and career goals—everything from politics to public health, chemistry to microbiology, and informatics to entrepreneurship. Students involve themselves with innovative research at the food, energy, and water nexus, focusing on the impacts of climate change, resource recovery from waste, and technologies for sustainable and healthy communities, among other areas. Community service and professional development, including immersive internships with diverse project partners, complement transformative research.

Transportation Engineering

The transportation engineering curriculum aims toward students interested in developing specialized knowledge and skills applicable to the diverse set of issues associated with transportation. Faculty members have expertise in traffic engineering, infrastructure management systems, pavement engineering, advanced construction materials, dynamic load and pavement simulation, optimal design, winter highway maintenance, real-time simulation, human factors, intelligent sensors, nondestructive testing, transportation planning, and travel demand modeling.

Requirements

The Master of Science program in civil and environmental engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. The program enables students to concentrate in one or more areas of their choice. Students who choose the thesis program may earn up to 6 s.h. for the thesis. M.S. students must maintain a g.p.a. of at least 2.75.

With the approval of their advisor, students develop a study plan that satisfies the requirements of their chosen curriculum. Students must pass an oral examination and in some program options, a written examination.

Consult the department's Graduate Student Manual for more detailed information about the M.S. program in civil and environmental engineering.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Each of the program's curricula is flexible; students may be admitted from all disciplines of engineering as well as from the mathematical and basic sciences.

Applicants should have a cumulative undergraduate g.p.a. of at least 3.00. Those with grade-point averages slightly lower should contact the department.

Applicants should have a combined verbal and quantitative score of at least 301 on the Graduate Record Examination (GRE) General Test. Lower scores are considered with other evidence of academic promise (recommendation letters, grade-point average). GRE General Test scores also are used in financial aid decisions.

Financial Support

A significant number of research assistantships are available on a variety of research projects, and a limited number of teaching assistantships may be available. Selection of recipients usually is based on scholastic achievement and research interest.

Career Advancement

Current and projected demand for M.S. graduates is excellent. Graduates are placed in advanced technical positions in industry, consulting firms, or government, or they may continue their graduate study. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Civil and Environmental Engineering, Ph.D.

Graduate study in civil and environmental engineering prepares students for professional careers and further study. The principal concentration areas are environmental engineering and environmental science; hydraulics, hydrology, and water resources; structures, mechanics, and materials; sustainable water development; and transportation.

Research and Study Areas

Environmental Engineering and Science

The environmental engineering and science curriculum provides a comprehensive base of course work and research in the areas of air- and water-quality management, environmental chemistry and microbiology, natural systems modeling, and processes for water supply, pollution control, and solid and hazardous waste management. Interdisciplinary specialization and study are conducted with programs including IIHR—Hydrosience & Engineering, the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, the Hazardous Substances Research Center, the Center for Biocatalysis and Bioprocessing; the Departments of Chemical and Biochemical Engineering, Earth and Environmental Sciences, Geographical and Sustainability Sciences, Microbiology and Immunology, Occupational and Environmental Health; and the School of Urban and Regional Planning. Other areas of interdisciplinary focus include groundwater contamination, biotechnology, global climate change, and hazardous substances.

Hydraulics, Hydrology, and Water Resources

The graduate program in hydraulics, hydrology, and water resources prepares students for careers by providing a strong theoretical and applied foundation, and a broad-based academic background, necessary for positions in engineering design, research, and academia. The program combines hydraulics, fluid mechanics, hydrology, and water resources with elements from environmental engineering, meteorology, remote sensing and systems analysis, and related disciplines such as mathematics, statistics, electrical and computer science engineering, geology, and geographical information systems.

The hydraulics, hydrology, and water resources curriculum is associated with IIHR—Hydrosience & Engineering, a world-renowned research institute. All the professors in the program are research engineers at the institute. IIHR, a leading laboratory in fluids-related fundamental and applied research, offers unique opportunities for students to participate actively in the research of real-world problems—including river health and restoration, hydraulic structures for urban water management and fish passage, and wind energy—providing interdisciplinary education for future leaders in science and engineering, and advancing knowledge in support of sustainable natural and engineered systems.

Most of the faculty members in the hydraulics, hydrology, and water resources program also are part of the Iowa Flood Center, the only academic flood center in the nation. By training and educating a workforce knowledgeable in the flood-related sciences, the Iowa Flood Center provides

students with the opportunity to work on improving flood monitoring and prediction capabilities, and on developing models for flood frequency estimation and real-time forecasting.

Structures, Mechanics, and Materials

The structures, mechanics, and materials curriculum is designed for students who wish to gain knowledge and skill in the mechanics of solids and structures that they can apply to civil infrastructure systems and other fields. The program concentrates on developing appropriate methodologies for tackling broad, complex issues related to civil infrastructure systems, and on educating engineers in the implementation and application of methodologies to actual engineering projects. Faculty members have expertise in structural engineering, design optimization, solid mechanics, and computational methods.

Sustainable Water Development

The sustainable water development curriculum is a revolutionary new approach to graduate education. This program is focused on training interdisciplinary professional engineers, researchers, educators, and those who are ready to meet the water resource challenges of communities most in need. Students are encouraged to tailor the curriculum to fit unique interests and career goals—everything from politics to public health, chemistry to microbiology, and informatics to entrepreneurship. Students involve themselves with innovative research at the food, energy, and water nexus, focusing on the impacts of climate change, resource recovery from waste, and technologies for sustainable and healthy communities, among other areas. Community service and professional development, including immersive internships with diverse project partners, complement transformative research.

Transportation Engineering

The transportation engineering curriculum aims toward students interested in developing specialized knowledge and skills applicable to the diverse set of issues associated with transportation. Faculty members have expertise in traffic engineering, infrastructure management systems, pavement engineering, advanced construction materials, dynamic load and pavement simulation, optimal design, winter highway maintenance, real-time simulation, human factors, intelligent sensors, nondestructive testing, transportation planning, and travel demand modeling.

Requirements

The Doctor of Philosophy program in civil and environmental engineering requires a minimum of 72 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00 throughout the program. The doctoral degree is granted primarily on the basis of achievement rather than on a prescribed course of study.

Students usually need at least three years of full-time graduate study to complete the degree. All students must pass a qualifying examination. Students also must pass a written and oral comprehensive examination before they may be formally admitted to Ph.D. candidacy; the comprehensive examination usually is taken after all required course work has been completed. Students devote one year to the preparation of a dissertation that contributes to knowledge in the field; they must defend their dissertation successfully in a final examination.

Consult the department's Graduate Student Manual for more detailed information about the Ph.D. program in civil and environmental engineering.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Each of the program's curricula is flexible; students may be admitted from all disciplines of engineering as well as from the mathematical and basic sciences.

Applicants should have a graduate g.p.a. of at least 3.00. Those with grade-point averages slightly lower should contact the department.

Applicants should have a combined verbal and quantitative score of at least 301 on the Graduate Record Examination (GRE) General Test. Lower scores are considered with other evidence of academic promise (recommendation letters, grade-point average). GRE General Test scores also are used in financial aid decisions.

Financial Support

A significant number of research assistantships are available on a variety of research projects, and a limited number of teaching assistantships may be available. Selection of recipients usually is based on scholastic achievement and research interest.

Career Advancement

Graduates are placed in advanced technical positions in industry, consulting firms, or government.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Electrical and Computer Engineering

Chair

- Er-Wei Bai

Undergraduate majors: computer science and engineering (B.S.E.); electrical engineering (B.S.E.)

Graduate degrees: M.S. in electrical and computer engineering; Ph.D. in electrical and computer engineering

Faculty: <https://ece.engineering.uiowa.edu/people>

Website: <https://ece.engineering.uiowa.edu/>

Electrical engineers and computer engineers make vital contributions to nearly all facets of modern society through their work in areas such as computer systems, software applications, medical imaging, robotics, wireless communications, and fiber optics. From smart technologies to high-definition television, cellular telephones, and computer networks, the contributions of electrical and computer engineers are constantly reinventing the world.

Many benefits that have sprung from electrical and computer engineering technology now are taken for granted—noninvasive imaging of the brain and other internal organs, astonishing views of the solar system's outer planets, and wireless telecommunications. Electrical and computer engineers also play crucial roles in major emerging technologies, such as driverless vehicles, smart cities, and human genomics.

As the United States strives to retain or enlarge its share of national and international markets, electrical and computer engineers will play a more important role in fostering innovation, increasing productivity, and creating intelligent systems to improve the quality of life for residents.

Electrical and computer engineers work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries, and many graduates pursue entrepreneurial ventures.

Certificate

Wind Energy

The undergraduate Certificate in Wind Energy is interdisciplinary. Work for the certificate focuses on energy, environment, and information science. The certificate integrates course work and faculty expertise from the Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering (College of Engineering), and Geographical and Sustainability Sciences (College of Liberal Arts and Sciences). The certificate is administered by the Department of Mechanical Engineering; see the Certificate in Wind Energy [p. 1415] in the Catalog.

Programs

Undergraduate Programs of Study

Majors

- Major in Computer Science and Engineering (Bachelor of Science in Engineering) [p. 1369]
- Major in Electrical Engineering (Bachelor of Science in Engineering) [p. 1373]

Graduate Programs of Study

Majors

- Master of Science in Electrical and Computer Engineering [p. 1378]
- Doctor of Philosophy in Electrical and Computer Engineering [p. 1380]

Research and Study Areas

Bioinformatics and Computational Biology

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research enterprise that encompasses numerous laboratories and collaborates with many graduate programs on campus. Students may earn the Certificate in Informatics [p. 1471] (Graduate College), to augment their Ph.D. training in disciplines ranging from molecular biology to biochemistry to computer science to engineering.

The Coordinated Laboratory for Computational Genomics, a CBCB affiliate, engages in a broad range of research activities that complement the Human Genome Project. Members of the laboratory develop new hardware and software techniques for analysis and annotation of genomic sequence, its transcription and translation, and the proteome. Other efforts are aimed at systematic capture and curation of phenotypic information acquired from massive databases of clinical information derived from collaborations with the Carver College of Medicine. The goal of these projects is to elucidate the mechanisms of human disease and develop promising new methods for cures and treatments.

The laboratory's facilities include more than 200 workstations, three Linux clusters, and access to the NSF TeraGrid and other high-performance computing facilities. Projects in the laboratory frequently involve cutting-edge genomic and proteomic instruments such as the Roche 454 next-generation sequencing platform and several high-throughput gene expression (microarray) measurement platforms.

Computer Systems

High-performance computing research involves development of collaborative and parallel computing environments and associated software tools, and use of these facilities and tools in varied application domains, including image processing and computational biology. Current work in networking focuses on protocols and layer-integration schemes that support high-performance wireless networking, and on control and coordination of mobile ad hoc networks. Current research facilities in these areas include several large cluster

computers and an experimental asynchronous transfer mode (ATM) network.

Departmental facilities that support this work include Linux and Windows workstations and server nodes that provide college-wide networked computer services. Advanced computing facilities also are available at national supercomputing centers and federal laboratories.

Control Systems and Systems Theory

Control systems and system theory use feedback to improve the predictability and efficiency of engineered systems ranging from electronic amplifiers to vehicle guidance systems, manufacturing processes, communication channels, and the internet. Work in control systems and systems theory draws heavily on results from mathematics, physics, and computer science to model the systems that are to be controlled and to implement feedback controllers.

Current research emphasizes optimal, adaptive, digital, robust, and stochastic control and the control of discrete event dynamical systems. Recent work has concerned the estimation, identification, and robust control of linear and nonlinear dynamical systems; set membership identification, control over wireless communication channels; coordinated fault tolerant control of unmanned vehicles; use of control theory to analyze distributed computing, communications, and manufacturing systems; interplay between communications and control; design of fast digital controllers using subband coding; and multirate control systems.

Research in control systems and systems theory is supported by extensive computing resources and collaborations with local industry, the Center for Computer-Aided Design, the National Advanced Driving Simulator (NADS), and the Carver College of Medicine.

Nanoscale Electronics and Spintronics

Nanotechnology is the branch of technology that deals with dimensions that are 10,000 times smaller than the width of the hair. Nanoscience and nanotechnology involve the ability to see and to control individual atoms and molecules. Utilizing the nanofabrication and nanoimaging facilities available on campus, nanoscale transistors, optical circuits, biosensors, and solar cells are being developed. Departmental researchers are pursuing experimental, theoretical, and large-scale computational approaches.

Optoelectronics

Research in this area is carried out primarily in the Optical Science and Technology Center at the Iowa Advanced Technology Laboratories, a well-equipped, modern facility two blocks from the Seamans Center for the Engineering Arts and Sciences. Current research topics are optical and electronic properties of semiconductors, semiconductor devices, electro-optics, nonlinear optics, nonlinear wave propagation in plasmas, nanotechnology, and medical devices. This research is at the interface of optical engineering, materials engineering, quantum physics, and electromagnetics.

Much work is done in collaboration with other University of Iowa departments, including the Departments of Physics and Astronomy, and Chemistry (College of Liberal Arts and Sciences), and the Departments of Internal Medicine

and Neurosurgery (Carver College of Medicine). Facilities include two molecular beam epitaxy reactors (in physics and astronomy), a microfabrication laboratory with nanometer resolution capabilities, electrical characterization capability to 22 GHz, several Ti-sapphire lasers, a mid-infrared optical parametric oscillator, and plasma equipment for nonlinear wave plasma interaction studies.

Examples of current projects are the design and fabrication of diode lasers and light-emitting diodes based on the bandgap engineering of antimony and arsenic-based III-V compound semiconductors, phase control of laser arrays, development of an all-optical power equalizer, characterization of quantum well devices, nonlinear waveguide devices, development of a noncontact method to measure transport properties, plasma and optical soliton excitation and propagation, development of cellular probes, gas sensors, and a laser scalpel for medical research.

Signal and Image Processing

Research in image processing and basic and applied signal processing is supported by a digital signal processing laboratory and an image analysis laboratory. Collaborative research with faculty in the Departments of Radiology, Neurology, Psychiatry, Internal Medicine, Ophthalmology and Visual Sciences, Radiation Oncology (Carver College of Medicine), and Biomedical Engineering is directed at quantitative analysis of medical images.

In the area of signal processing, current projects include analysis and design of efficient adaptive algorithms for signal processing, efficient coding and transmission of speech, speech processing aids for the hearing-impaired, robust equalization of uncertain channels, application of neural networks to communications systems, multirate signal processing, and subband coding and channel equalization.

Image processing and analysis projects include development of novel methods for image segmentation, image registration, computer-aided detection and diagnosis, early identification of disease patterns from medical image data, computer-aided surgical planning, virtual and augmented reality medical image visualization, building anatomic atlases, and a broad range of translational medicine projects focusing on research and clinical applications of the novel methods. The areas of interest span all scales, from molecules to cells to small animals to humans, and cover a broad range of organ systems and targeted diseases. The spectrum of medical imaging modalities used for research and applications in image processing and analysis is equally broad, encompassing all existing modalities, including X-ray, CT, MR, PET, SPECT, and OCT.

The Medical Image Analysis Labs consist of several specialized facilities for digital image processing. They are equipped with state-of-the-art devices for data storage, transfer, visualization, and analysis. High-capacity data storage devoted to image processing research offers more than 35 TB of online hard disk space. An augmented reality medical image visualization lab serves as a high-performance collaborative resource for the Iowa Institute for Biomedical Imaging. The institute makes additional resources available to image processing research, including small and large animal as well as human research scanning facilities, and provides a backbone for interdisciplinary medical image analysis research to electrical and computer engineering graduate students and faculty.

Wireless Communication Systems

The department is engaged in research using wireless sensor networks (WSNs), which consist of spatially distributed autonomous devices that use sensors to cooperatively monitor physical or environmental conditions such as temperature, sound, vibration, pressure, motion, and pollutants at different locations. WSNs are used for environment and habitat monitoring, health care applications, home automation, and traffic control. Current research includes the application of WSN, traditional telemetry, and commercial cellular communication infrastructure for geosciences data collection (e.g., rainfall, water quality, soil moisture).

Another important research interest involving distributed sensor networks is the distributed control of power systems, especially requirements of the next-generation electric grid with smart metering and distributed generation using small-scale wind and solar generators. Research on WSNs also includes the design of cooperative communication techniques for energy efficient WSNs and issues of localization, network organization, and control.

Research activities in communication systems focus on design and analysis of receivers for digital wireless communications, especially the development of effective and practical receivers for multiple-user wireless cellular systems in multipath channels. Topics of research include the design, analysis, and experimental demonstration of large-scale distributed multiple-input multiple-output (MIMO) arrays for communication sensing and electronic warfare; precision interference cancellation techniques using feedback control; and synchronization and channel estimation for massive MIMO Base Stations.

Facilities

Undergraduate Core

Electrical and computer engineering provides core instruction for the college in electrical circuits, electronics, instrumentation, and computers. A key part of this core teaching responsibility lies in providing students with an early opportunity to use engineering laboratory instrumentation.

Undergraduate Laboratories

The department's undergraduate laboratories include facilities for the study of electrical and electronic circuits, wireless communication, power and sustainable energy, signals and systems, microprocessor-based computers and systems, measurement automation, communication systems, control systems, computer-aided design of VLSI circuits, image processing, robotics, and optics. The laboratories are equipped with modern equipment, including digital oscilloscopes, computer-controlled virtual instrumentation, and software and hardware for embedded-systems development.

Graduate Facilities and Laboratories

The department has laboratories intended primarily for graduate research in the areas of bioinformatics, image processing, software engineering, electro-optics, control systems, medical imaging and image analysis, large-scale intelligent systems, and wireless communication. Linux and Windows workstations and server nodes provide college-

wide networked computing support. Through cooperative arrangements, advanced computing facilities at national supercomputing centers, federal laboratories, and other universities are available for graduate research.

Courses

Electrical and Computer Engineering Courses

ECE:0000 Electrical Engineering Internship/Co-op 0 s.h.

Electrical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

ECE:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

ECE:2120 Art and Engineering 3 s.h.

Collaborative, interdisciplinary, cutting-edge opportunity to gain real world engineering experience while learning to think creatively and analytically to create engaging works of art; interdisciplinary collaboration and creative methodologies that enhance life-long creative practice of artists and engineers; basic electronics and Arduino prototyping platform to create programmable, sensor-driven, responsive circuits. Prerequisites: MTL:2910 or CERM:2010 or SCLP:2810 or TDSN:2210. Same as TDSN:2205.

ECE:2400 Linear Systems I 3 s.h.

Introduction to continuous and discrete time signals and systems with emphasis on Fourier analysis; examples of signals and systems; notion of state and finite state machines; causality; linearity and time invariance; periodicity; Fourier transforms; frequency response; convolution; IIR and FIR filters, continuous and discrete Fourier transforms; sampling and reconstruction; stability. Prerequisites: ENGR:2120 and MATH:2560.

ECE:2410 Principles of Electronic Instrumentation 4 s.h.

Principles of analog signal amplification, signal conditioning, filtering; operational amplifier circuit analysis and design; principles of operation of diodes, bipolar transistors, field effect transistors; discrete transistor amplifier analysis and design; laboratory included. Prerequisites: ENGR:2120 and PHYS:1612 and MATH:2560.

ECE:3000 Professional Seminar: Electrical Engineering 1 s.h.

Professional aspects of electrical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: junior standing.

ECE:3320 Introduction to Digital Design 3 s.h.

Modern design and analysis of digital switching circuits; combinational logic; sequential circuits and system controllers; interfacing and busing techniques; design methodologies using medium- and large-scale integrated circuits; lab arranged. Requirements: sophomore standing.

ECE:3330 Introduction to Software Design 3 s.h.

Design of software for engineering systems; algorithm design and structured programming; data structures; introduction to object-oriented programming in JAVA; applications to engineering problems; lab arranged. Prerequisites: ENGR:2730. Same as IGPI:3330.

ECE:3350 Computer Architecture and Organization 3 s.h.

Basic concepts; computer evolution, register transfer level design, simulation techniques, instruction sets (CISC and RISC), assembly language programming, ALU design, arithmetic algorithms and realization of arithmetic functions, hardwired and microprogrammed control, memory hierarchies, virtual memory, cache memory, interrupts and DMA, input/output; introduction to high-performance techniques, pipelining, multiprocessing; introduction to hardware description languages (Verilog, VHDL); students design and simulate a simple processor. Prerequisites: ENGR:2730 and ECE:3320.

ECE:3360 Embedded Systems 3 s.h.

Microprocessors and microcontrollers as components in engineering systems; embedded system design processes; microcontroller/microprocessor architecture; interrupts and traps; memory and device interfacing; low-level and high-level software design for embedded systems; examples of embedded system architecture and design; fundamentals of operating systems; tasks and processes; context switching and scheduling; memory and file management, interprocess communication; device drivers. Prerequisites: ENGR:2730 and ECE:3320. Corequisites: ECE:2410.

ECE:3400 Linear Systems II 3 s.h.

Continuation of ECE:2400, emphasis on Laplace and Z-transform analysis; unilateral and bilateral Laplace transform; region of convergence; stability; block diagram algebra; first- and second-order continuous and discrete time systems; Bode plots. Prerequisites: ECE:2400.

ECE:3410 Electronic Circuits 4 s.h.

Design and analysis of FET and BJT amplifiers; low, midrange, high-frequency analysis; difference amplifiers; feedback amplifiers; SPICE simulation; power amplifiers; digital logic families. Prerequisites: ECE:2410 and ECE:2400.

ECE:3500 Communication Systems 3 s.h.

Introduction to analog and digital communications, with an emphasis on modulation and noise analysis; Fourier analysis, probability theory, random variable and processes, AM, FM, pulse-coded modulation, binary digital modulation, SNR analysis of AM and FM, BER analysis of digital modulation schemes. Prerequisites: ECE:2400.

ECE:3540 Communication Networks 3 s.h.

Communication networks, layered network architectures, applications, network programming interfaces (e.g., sockets), transport, congestion, routing, data link protocols, local area networks, emerging high-speed networks, multimedia networks, network security, internet protocol; technology examples. Prerequisites: ENGR:2730. Corequisites: STAT:2020.

ECE:3600 Control Systems 3 s.h.

Fundamental concepts of linear feedback control, mathematical modeling, transfer functions, system response, feedback effects, stability, root-locus and frequency response analysis and design, compensation, lab arranged. Prerequisites: ECE:2400.

ECE:3700 Electromagnetic Theory 3 s.h.

Electric and magnetic forces, Maxwell's equations, wave propagation; applications, including radiation, transmission lines, circuit theory. Prerequisites: MATH:3550 and PHYS:1612.

ECE:3720 Semiconductor Devices 3 s.h.

Fundamentals of semiconductor physics and devices; principles of the p-n junction diode, bipolar transistor, field effect transistor. Prerequisites: ECE:3410 and PHYS:1612.

ECE:3998 Individual Investigations: Electrical Engineering arr.

Individual projects for electrical engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

ECE:4480 Knowledge Discovery 3 s.h.

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as CS:4480, IGPI:4480, MSCI:4480.

ECE:4720 Introductory Optics 3 s.h.

Geometrical and physical optics; interference; diffraction; polarization; microscopic origins of macroscopic optical properties of matter; optical activity; electro-optical, magneto-optical, acousto-optical phenomena; spontaneous Brillouin, Raman, Rayleigh scattering. Prerequisites: (PHYS:1512 or PHYS:2703 or PHYS:1612) and (MATH:1560 or MATH:1860). Same as PHYS:4720.

ECE:4728 Introductory Solid State Physics 3 s.h.

Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: PHYS:3741. Same as PHYS:4728.

ECE:4880 Principles of Electrical and Computer Engineering Design 3 s.h.

Design problems requiring integration of subject matter from other required electrical and computer engineering courses. Prerequisites: ECE:2410 and ENGR:2730. Requirements: senior standing.

ECE:4890 Senior Electrical and Computer Engineering Design 3 s.h.

Individual or team project; demonstration of completed project and formal engineering report. Prerequisites: ECE:4880. Requirements: completion of three required subprogram courses.

ECE:5000 Graduate Seminar: Electrical and Computer Engineering 0 s.h.

Presentation and discussion of recent advances and research in electrical and computer engineering by guest lecturers, faculty, students. Requirements: graduate standing.

ECE:5210 Bioinformatics Techniques 3 s.h.

Informatics tools and techniques applied to modern problems in biomedicine and basic life sciences; common tools, experience applying tools in contemporary problem settings; genomics and genetics, how to sequence a genome, transcription and expression, SNPs, Perl, BioPerl, Perl modules, Ensembl API, BLAST/BLAT, NCBI, UCSC, Ensembl Genome browsers, linkage, association, disease gene identification. Prerequisites: BIOL:1411 and (ENGR:2730 or CS:2110 or CS:5110). Same as BME:5320, IGPI:5321.

ECE:5220 Computational Genomics 3 s.h.

Introduction to computational methods used in genome analysis and functional genomics; biological sequence analysis, sequence database search, microarray data analysis, biological network analysis; in-depth coverage of principal genome science challenges and recent solutions. Prerequisites: (BIOS:4120 or STAT:3510) and BME:5320 and (CS:5110 or ENGR:1300). Same as BIOL:5320, BME:5330, GENE:5173, IGPI:5330.

ECE:5300 Switching Theory 3 s.h.

Switching algebras; combinational circuits—hazards, minimization, multiple-output networks; sequential circuits—critical races, essential hazards, fundamental-mode, pulse-mode, synchronous circuits-state assignment, state reduction; input-output experiments. Prerequisites: ECE:3320.

ECE:5310 Introduction to VLSI Design 3 s.h.

MOS devices and circuits; MOS transistor theory, MOS processing technologies, MOS device models; timing and power considerations; performance issues; scaling; various logic schemes; circuit techniques; clocking strategies; I/O structures; design styles; ASIC design; MOS subsystem design; system case studies, use of electronic design automation tools, introduction to hardware description languages, design synthesis, design projects; lab. Prerequisites: ECE:3320 and ECE:3410.

ECE:5320 High Performance Computer Architecture 3 s.h.

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: ECE:3350 or CS:3620. Same as CS:5610.

ECE:5330 Graph Algorithms and Combinatorial Optimization 3 s.h.

Combinatorial optimization problems; time complexity; graph theory and algorithms; combinatorial optimization algorithms; complexity theory and NP-completeness; approximation algorithms; greedy algorithms and matroids. Prerequisites: ECE:3330. Same as IGPI:5331.

ECE:5380 Testing Digital Logic Circuits 3 s.h.

Logic models for faults; fault detection in combinational and sequential circuits; fault-diagnosis; design for testability; random testing, compressed data testing, built-in testing. Prerequisites: ECE:3320.

ECE:5410 Advanced Circuit Techniques 3 s.h.

Advanced circuit principles; component, signal and noise models; sub-circuit design including oscillators, amplifiers, multipliers, noise generators, frequency converters, phase-locked loops, filters, transmission gates and level-shifters; measurement techniques including bridge, signal averaging and lock-in techniques, case studies of A/D and D/A converters, single-supply op amps, low-noise, large-signal and high frequency circuits; lab. Prerequisites: ECE:3410.

ECE:5420 Power Electronics 3 s.h.

Fundamental concepts and design techniques of power electronics circuits; switching power pole and various switch-mode DC to DC power conversion topologies; feedback control of switch-mode DC to DC power supplies; diode rectification of AC utility power and Power Factor Control (PFC) circuits; electromagnetic concepts and design of high-frequency inductors and transformers; electrically isolated switch-mode DC power supply topologies and soft-switching DC-DC converters and inverters; techniques for synthesis of DC and low-frequency AC sinusoidal voltages. Prerequisites: PHYS:1611 and ENGR:2120. Requirements: junior standing.

ECE:5430 Electric Drive Systems 3 s.h.

Basic characteristics of DC and AC electric motors and their associated power electronics interfaces; applications of electric machines and drives that are essential for wind turbines, electric and hybrid-electric; emphasis on vehicles; electric machines in context of overall drives and associated applications; space-vector theory used to analyze electric machines and drives; DC motor/generator characteristics and control; AC single phase and three-phase motor characteristics and feedback control, including AC synchronous and induction motors. Prerequisites: ENGR:2120 and PHYS:1611. Requirements: junior standing.

ECE:5450 Pattern Recognition 3 s.h.

Mathematical foundations and practical techniques of pattern recognition; adaptation, learning, description; statistical pattern recognition; syntactic pattern recognition, neural networks for recognition; fuzzy logic for recognition; nonstandard and combined pattern recognition approaches. Prerequisites: ECE:2400. Same as IGPI:5450.

ECE:5460 Digital Signal Processing 3 s.h.

Theory, techniques used in representing discrete-time signals; system concepts in frequency and sampling domains; FIR and IIR digital filter theory, design and realization techniques; theory, application of discrete Fourier transforms/FFT. Prerequisites: ECE:3400. Same as IGPI:5460.

ECE:5480 Digital Image Processing 3 s.h.

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: ECE:2400 or BME:2200. Same as BME:5220, IGPI:5480.

ECE:5490 Multi-Dimensional Image Analysis Tools and Techniques 3 s.h.

Broad exposure to common tools of medical imaging analysis in commercial, clinical, and research settings, including algorithm development (using C++ and ITK), rapid prototyping (SimpleITK, nipy, ipython notebook), statistical analysis (R), machine learning (scikit-learn, keras/tensorflow) and reproducible science tools (python, git, bash); special emphasis on big data challenges associated with volume, velocity, and veracity; real-world settings for problems include image-guided robotic surgery, dose treatment planning, and image analysis. Prerequisites: ECE:5480 and (ECE:3330 or CS:2820).

ECE:5500 Communication Theory 3 s.h.

Random processes, source coding, digital transmission at baseband, optimum receiver design for Gaussian noise, error probability and power spectrum analysis, signal design for bandlimited channels, digital carrier modulation, bandwidth/energy/error probability tradeoffs, coding for error detection and correction. Prerequisites: STAT:2020 and ECE:3500.

ECE:5520 Introduction to Information and Coding Theories 3 s.h.

Quantitative measure of information; source encoding; error detecting codes; block and convolutional codes, design of hardware and software implementations; Viterbi decoding. Prerequisites: ECE:3500 and STAT:2020.

ECE:5530 Wireless Sensor Networks 3 s.h.

Wireless sensor networks overview; antennas, radio propagation models; WSN power and energy considerations, engineering issues, batteries, networks layers, stacks; medium access control (MAC); spread spectrum, FHSS, CDMA; infrastructure establishment; WSN routing; localization; synchronization; sensors; RFID; WSN case studies; lab. Prerequisites: STAT:2020 and ECE:3500. Requirements: senior standing.

ECE:5550 Internet of Things 3 s.h.

Internet of Things (IoT) describes the evolution of the internet to intelligent devices, sensors, actuators, controllers, and other types of internet-enabled components; soon, IoT-based applications will enable seminal advances in a wide range of areas including health and lifestyle, transportation, smart cities, environment, energy, agriculture, and industry; topics include IoT logical and physical structure, IoT-enabled internet services, IoT devices/platforms/endpoints, IoT application domains, IoT security and privacy issues, and IoT data analytic; case studies and projects focused on design and implementation of a working IoT application. Prerequisites: ENGR:2730. Requirements: background in computer networks or embedded systems.

ECE:5600 Control Theory 3 s.h.

State space approach; controllability, observability, canonical forms, Luenberger observers, feedback control via pole placement, stability, minimal realization and optimal control. Prerequisites: ECE:3600. Same as ME:5360.

ECE:5620 Electric Power Systems 3 s.h.

Overview of electric power systems; single phase and three-phase representations of electric power signals and electromagnetic concepts; AC transmission lines and underground cables, power flow in a power system network, AC power transformers, High Voltage DC (HVDC) power transmission, electric power distribution, synchronous generators, voltage regulation and stability, power system transients and dynamic stability, control of interconnected power systems, transmission line faults, transient over-voltages and surge protection. Prerequisites: PHYS:1611 and ENGR:2120. Requirements: junior standing.

ECE:5630 Sustainable Energy Conversion 3 s.h.

Overview of sustainable energy conversion technologies; thermal energy conversion; Carnot and Rankine cycles; solar resource and raw energy availability, PV solar cell characteristics, solar panel construction, Maximum Power Point (MPP) tracking and utility grid interface; wind energy conversion resource and available energy, wind turbine configurations, electrical power interface electronics; ocean energy conversion tidal and wave resources and conversion technologies; tidal basin containment conversion and tidal current turbine systems. Prerequisites: ENGR:2120 and PHYS:1611. Requirements: junior standing.

ECE:5640 Computer-Based Control Systems 3 s.h.

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: ECE:5600. Same as IGPI:5641, ME:5362.

ECE:5700 Advanced Electromagnetic Theory 3 s.h.

Time varying fields; plane wave propagation, reflection, refraction; waves in anisotropic media transmission lines, impedance matching, Smith chart; metallic and dielectric wave guides; resonators; antennas, antenna arrays. Prerequisites: ECE:3700.

ECE:5720 Solid State Physical Electronics 3 s.h.

Advanced topics in semiconductor physics and devices; elementary concepts in quantum and statistical mechanics, diodes, bipolar transistor, field-effect transistor. Prerequisites: ECE:3720.

ECE:5780 Optical Signal Processing 3 s.h.

Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: for ECE:5780—ECE:3700; for PHYS:4820—PHYS:3812. Same as PHYS:4820.

ECE:5790 Electro Optics 3 s.h.

Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: for ECE:5790—ECE:3700; for PHYS:4726—PHYS:3812. Same as PHYS:4726.

ECE:5800 Fundamentals of Software Engineering 3 s.h.

Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: CS:2820 or ECE:3330. Same as CS:5800.

ECE:5810 Formal Methods in Software Engineering 3 s.h.

Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: ECE:3330 or CS:2820. Recommendations: CS:4350. Same as CS:5810.

ECE:5820 Software Engineering Languages and Tools 3 s.h.

Modern agile software development practices for cloud and web-based applications, using state-of-the-art software engineering languages, tools, and technologies; agile software development practices, software-as-a-service (SAAS), and the Ruby on Rails Development Framework. Prerequisites: ECE:3330 or CS:2820. Same as CS:5820.

ECE:5830 Software Engineering Project 3 s.h.

Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: ECE:5820 and CS:5800. Same as CS:5830.

ECE:5995 Contemporary Topics in Electrical and Computer Engineering arr.

New topics or areas of study not offered in other electrical and computer engineering courses; based on faculty/student interest; not available for individual study. Prerequisites: ECE:2400 and STAT:2020.

ECE:5998 Individual Investigations: Electrical and Computer Engineering arr.

Individual projects for electrical and computer engineering graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis arr.

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for M.S. degree with thesis in electrical and computer engineering. Requirements: graduate standing.

ECE:7470 Image Analysis and Understanding 3 s.h.

Mathematical foundations and practical techniques of digital image analysis and understanding; image segmentation (from edges and regions), object description (from boundaries, regions, scale, scale insensitive descriptions, 3-D shape, texture) pattern recognition (statistical and syntactic methods, cluster analysis), image understanding (knowledge representation, control strategies, matching, context, semantics), image analysis and understanding systems; lab arranged. Prerequisites: ECE:5480. Same as IGPI:7470.

ECE:7480 Advanced Digital Image Processing 3 s.h.

Advanced local operators (scale-space imaging, advanced edge detection, line and corner detection), image morphology (binary/gray scale operators, morphological segmentation and watershed), digital topology and geometry (binary/fuzzy digital topology, distance functions, skeletonization), color spaces, wavelets and multi-resolution processing (Haar transform, multi-resolution expansions, wavelet transforms in one or two dimensions, fast wavelet transform, wavelet packets), image registration (intensity correlation, mutual information, and landmark-based deformable registration methods). Prerequisites: ECE:5460 and ECE:5480. Same as IGPI:7480.

ECE:7720 Semiconductor Physics 3 s.h.

Electronic, optical, and materials properties of semiconductors. Prerequisites: PHYS:4728 and PHYS:5742. Same as PHYS:7720.

ECE:7930 Seminar: Plasma Physics arr.

Current research. Same as PHYS:7930.

ECE:7995 Advanced Topics in Electrical and Computer Engineering arr.

Discussion of current literature in electrical and computer engineering.

ECE:7999 Research: Electrical and Computer Engineering Ph.D. Thesis arr.

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for Ph.D. in electrical and computer engineering.

Computer Science and Engineering, B.S.E.

The Bachelor of Science in Engineering (B.S.E.) program in computer science and engineering combines the technical content of a computer science degree and a computer engineering degree in a single degree program. The program curriculum is jointly taught by faculty from the Departments of Electrical and Computer Engineering and Computer Science. The program provides students with a strong theoretical and conceptual understanding of the principles underlying computer software and hardware along with the engineering analysis, design, and multidisciplinary teamwork skills needed to develop large and complex systems containing both software and hardware components.

The computer science and engineering program encompasses the technical rigor of a Bachelor of Science program in computer science and a Bachelor of Science program in computer engineering. Graduates gain the foundational knowledge provided by a computer science education together with the critical thinking, problem-solving, and system design skills at the heart of a computer engineering curriculum.

Graduates of the program will:

- exhibit leadership and vision in contributing to the technical and policy decision of industry, government, and research enterprises;
- demonstrate problem-solving abilities that permit them to contribute in a variety of technical, business, and academic careers;
- thrive in diverse, global, and multidisciplinary environments;
- possess the ability to communicate effectively and participate collaboratively in interactions with engineers and other professionals; and
- participate in lifelong learning activities that enhance their professional and personal development.

Requirements

The Bachelor of Science in Engineering with a major in computer science and engineering (CSE) requires a minimum of 129 s.h. The major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals and interests. Students choose one of several elective focus areas (EFAs) according to the type of job or research they plan to pursue; see "Elective Focus Area Courses" below. Students also have the opportunity to work with their academic advisor to build an EFA plan that adheres to their goals and interests.

Students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric, ENGR:1300 Introduction to Engineering Computing; and courses in chemistry, engineering mathematics and fundamentals, and physics. Students take CS:1210 Computer Science I: Fundamentals instead of ENGR:1100 Introduction to Engineering Problem Solving. Those who complete ENGR:1100 Introduction to Engineering Problem Solving before entering the CSE program may use that course for elective credit. All students must earn a grade of C-minus or higher in the core requirements MATH:1550 Engineering Mathematics I: Single Variable

Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component. For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

CSE students must complete core courses; math, science, and communication courses; required computer science and engineering program courses; a constrained program elective course; approved elective focus area (EFA) courses; general education component (GEC) courses; and a two-semester capstone design sequence.

The B.S.E. with a major in computer science and engineering requires the following course work.

Core Computing Courses

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
ENGR:1300	Introduction to Engineering Computing	3
ENGR:2730	Computers in Engineering	3

Core Engineering Courses

Code	Title	Hours
All of these:		
ENGR:1000	Engineering Success for First-Year Students	1
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3

Math, Science, and Communication Courses

Code	Title	Hours
All of these:		
CHEM:1110	Principles of Chemistry I	4
PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
MATH:2560	Engineering Mathematics IV: Differential Equations	3
RHET:1030	Rhetoric	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3

Required Program Courses

Code	Title	Hours
All of these:		
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3000	Professional Seminar: Electrical Engineering	1
ECE:3320	Introduction to Digital Design	3
ECE:3330	Introduction to Software Design	3
ECE:3350	Computer Architecture and Organization	3
ECE:3360	Embedded Systems	3
ECE:3540	Communication Networks	3
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
CS:3620	Operating Systems	3
CS:3820	Programming Language Concepts	3

Constrained Program Elective

Code	Title	Hours
One of these:		
CS:4330	Theory of Computation	3
CS:4350	Logic in Computer Science	3

Elective Focus Area Courses

Students select an elective focus area (EFA) to personalize their curriculum and to prepare them for certain jobs or research study they intend to seek. A number of areas are available, such as bioinformatics, business, medical imaging, embedded systems, and software engineering. Students also may work with their academic advisor to create a customized plan tailored to their goals and interests.

Students complete five elective focus area courses, which they select according to guidelines established by the department. For a complete list of EFAs and course selection guidelines, see Elective Focus Areas on the Department of Electrical and Computer Engineering website.

Students who choose their EFA and general education component carefully may be able to earn the Certificate in Sustainability [p. 1858], the Certificate in Technological Entrepreneurship [p. 1413], or one of several undergraduate minors offered by the University by taking minimal additional course work beyond that required for the computer science and engineering major.

General Education Component

Students are required to take at least 15 s.h. of General Education Component (GEC) courses; see General Education Component on the College of Engineering website.

The requirements are:

- Engineering Be Creative: complete 3 s.h.

A full list of approved courses can be found on the College of Engineering GEC Options: Be Creative Course List web page.

- GE CLAS Core: complete 3 s.h.

Students must complete 3 s.h. of course work from one of the approved GE CLAS Core [p. 459] areas below.

Interpretation of Literature
World Languages
Historical Perspectives
International and Global Issues
Literary, Visual, and Performing Arts
Social Sciences
Values and Culture

- Approved Course Subjects: complete 9 s.h.

See the College of Engineering GEC Options: Approved Course Subjects web page.

Capstone Design Courses

In their senior year, students complete a two-semester capstone design sequence culminating in the development and implementation of a significant, original project. The capstone design experience emphasizes teamwork, professionalism, open-ended problem solving, and the ability to work within real-world constraints and engineering standards.

Code	Title	Hours
Both of these:		
ECE:4880	Principles of Electrical and Computer Engineering Design	3
ECE:4890	Senior Electrical and Computer Engineering Design	3

Double Major in Computer Science and Engineering/ Electrical Engineering

Students may earn a double major in computer science and engineering (CSE) and electrical engineering (EE). They must satisfy all requirements of the electrical track of the EE major and all requirements of the CSE major. The double major may be achieved with as few as six courses.

The following list shows the required courses that are not in common between the EE and CSE majors. In addition to the courses below, students must take one computer science elective, one ECE 5000-level course, and an additional 5000-level course that is cross-listed in the Department of Electrical and Computer Engineering and the Department of Computer Science. For more information, contact the Department of Electrical and Computer Engineering.

Code	Title	Hours
ECE:3330	Introduction to Software Design (required for CSE, EE elective focus area)	3
ECE:3350	Computer Architecture and Organization (required for CSE, EE elective focus area)	3
ECE:3360	Embedded Systems (required for CSE, EE elective focus area)	3

ECE:3400	Linear Systems II (required for EE, CSE elective focus area elective)	3
ECE:3410	Electronic Circuits (required for EE, CSE elective focus area)	4
ECE:3500	Communication Systems (required for EE)	3
ECE:3540	Communication Networks (required for CSE, EE breadth elective)	3
ECE:3600	Control Systems (required for EE)	3
ECE:3700	Electromagnetic Theory (required for EE)	3
ECE:3720	Semiconductor Devices (required for EE)	3
EE depth elective (required for EE)		3
CS:1210	Computer Science I: Fundamentals (required for CSE, EE substitute for ENGR:1100)	4
CS:2210	Discrete Structures (required for CSE, EE elective focus area)	3
CS:2230	Computer Science II: Data Structures (required for CSE)	4
CS:3330	Algorithms (required for CSE)	3
CS:3620	Operating Systems (required for CSE)	3
CS:3820	Programming Language Concepts (required for CSE)	3
CS:4330	Theory of Computation (CSE systems elective, EE depth elective)	3
or CS:4350	Logic in Computer Science	
CS elective (required for CSE)		3
MATH:3550	Engineering Mathematics V: Vector Calculus (required for EE)	3

Combined Programs

B.S.E./M.S. in Electrical and Computer Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science for computer science and engineering undergraduate students who intend to earn a M.S. in electrical and computer engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work and do thesis-level research while they are still undergraduates. They may count 9 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Electrical and Computer Engineering.

For more information, see Joint B.S./M.S. Degree on the Department of Electrical and Computer Engineering website.

B.S.E./M.C.S.

The College of Engineering and the Department of Computer Science (College of Liberal Arts and Sciences) offer a combined Bachelor of Science in Engineering/Master of Computer Science for computer science and engineering undergraduate students.

The combined degree program allows students to count a limited amount of credit toward both degrees. For more information, see the Master of Computer Science [p. 299] in the Catalog.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Computer Science and Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1300	Introduction to Engineering Computing	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
	Hours	16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
CS:1210	Computer Science I: Fundamentals	4
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering	Be Creative ^c	3
	Hours	17
Second Year		
Fall		
MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	4
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
	Hours	15

Spring

CS:2210	Discrete Structures	3
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ENGR:2730	Computers in Engineering	3
GE: CLAS General Education Component ^d		3
Hours		16

Third Year**Fall**

STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ECE:3320	Introduction to Digital Design	3
CS:2230	Computer Science II: Data Structures	4
ECE:3330	Introduction to Software Design	3
GE: Approved Course Subjects ^e		3
ECE:3000	Professional Seminar: Electrical Engineering	1
Hours		17

Spring

CS:3330	Algorithms	3
ECE:3350	Computer Architecture and Organization	3
ECE:3360	Embedded Systems	3
Elective Focus Area: #1		3
GE: Approved Course Subjects ^e		3
CS:3820	Programming Language Concepts	3
Hours		18

Fourth Year**Fall**

ECE:4880	Principles of Electrical and Computer Engineering Design	3
Elective Focus Area: #2 (technical, CS)		3
Elective Focus Area: #3 (technical, ECE)		3
ECE:3540	Communication Networks	3
CS:3620	Operating Systems	3
Hours		15

Spring

ECE:4890	Senior Electrical and Computer Engineering Design	3
Theory Elective: CS:4330 Theory of Computation or CS:4350 Logic in Computer Science		3
Elective Focus Area: #4 (advanced CS)		3
Elective Focus Area: #5 (advanced ECE)		3
GE: Approved Course Subjects ^e		3
Hours		15
Total Hours		129

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.
- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.

Career Advancement

Students who earn a major in computer science and engineering work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries, and many graduates pursue entrepreneurial ventures.

The major also prepares students for further study in many areas demanding computational and engineering skill sets.

Electrical Engineering, B.S.E.

Electrical engineers develop technologies and systems for a wide variety of applications ranging from telecommunications to medical imaging. They play a central role in the design and implementation of any technology that is powered by electricity as well as the generation and distribution of electric power. Topics covered in the electrical engineering curriculum include: design of electronic circuits, communication systems, control systems, and semiconductor devices. Students may opt to specialize in any of these areas as well as others that include electrical power generation and distribution, medical image processing, computer systems, or design of micro- and nano-scale optical and electronic devices.

Graduates of the program will:

- exhibit leadership and vision in contributing to the technical and policy decisions of industry, government, and research enterprises;
- demonstrate problem-solving abilities that permit them to contribute in a variety of technical, business, and academic careers;
- thrive in diverse, global, and multidisciplinary environments;
- possess the ability to communicate effectively and participate collaboratively in interactions with engineers and other professionals; and
- participate in lifelong learning activities that enhance their professional and personal development.

Requirements

The Bachelor of Science in Engineering (B.S.E.) with a major in electrical engineering requires a minimum of 128 s.h. The major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals. Students choose one of several elective focus areas (EFAs) according to the type of job or research they plan to pursue. More than 20 EFAs are available; see "Elective Focus Area Courses" below. Students also have the opportunity to work with their academic advisor to build an EFA plan that adheres to their goals and objectives.

Students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing; and courses in chemistry, engineering mathematics and fundamentals, and physics. They must earn a grade of C-minus or higher in the core requirements MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus. Students also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component. For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

The curriculum is built on a common core of electrical and computer engineering courses taken by all students. Beginning in their sophomore year, students select either the electrical or computer curricular track and begin taking more specialized courses. The electrical track is intended to provide a broad background in electrical engineering concepts

and practice that prepares students for graduate study or electrical engineering careers in a wide range of industries and organizations. The computer track provides focus and depth for students preparing for graduate study, or a career in computer hardware or software engineering.

Electrical engineering (EE) students first complete the core curriculum. During their second year, they select an elective focus area (EFA) and choose a track that corresponds with it: the computer track or the electrical track. They begin taking track and EFA courses in their third year.

Students must complete core courses; math, science, and communication courses; required electrical engineering program courses; electrical or computer track courses; one depth elective; one breadth elective; approved elective focus area (EFA) courses; general education component (GEC) courses; and a two-semester capstone design sequence.

The B.S.E. with a major in electrical engineering requires the following course work.

Core Engineering Courses

Code	Title	Hours
All of these:		
ENGR:1000	Engineering Success for First-Year Students	1
ENGR:1100	Introduction to Engineering Problem Solving	3
ENGR:1300	Introduction to Engineering Computing	3
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
ENGR:2730	Computers in Engineering	3

Math, Science, and Communication Courses

Code	Title	Hours
All of these:		
RHET:1030	Rhetoric	4
CHEM:1110	Principles of Chemistry I	4
PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
MATH:2560	Engineering Mathematics IV: Differential Equations	3
MATH:3550	Engineering Mathematics V: Vector Calculus	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3

Required Program Courses

Code	Title	Hours
All of these:		
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3000	Professional Seminar: Electrical Engineering	1
ECE:3320	Introduction to Digital Design	3
ECE:3410	Electronic Circuits	4
ECE:3700	Electromagnetic Theory	3

Track Courses

Electrical Track Courses

Students in the electrical track complete these track courses.

Code	Title	Hours
All of these:		
ECE:3400	Linear Systems II	3
ECE:3410	Electronic Circuits	4
ECE:3500	Communication Systems	3
ECE:3600	Control Systems	3
ECE:3720	Semiconductor Devices	3

Computer Track Courses

Students in the computer track complete these courses plus CS:2230 Computer Science II: Data Structures (which is one of the required technical EFA courses).

Code	Title	Hours
All of these:		
ECE:3330	Introduction to Software Design	3
ECE:3350	Computer Architecture and Organization	3
ECE:3360	Embedded Systems	3
CS:2210	Discrete Structures	3
CS:3330	Algorithms	3

Track Breadth and Depth Electives

Students complete one track breadth elective and one track depth elective.

Students in the computer track must choose their track breadth elective from the list of required electrical track courses above. Students in the electrical track must choose their track breadth elective from the list of required computer track courses. Students in either track may instead use ECE:3540 Communication Networks as their track breadth elective.

The track depth elective must be an advanced course in a subject area within a student's track—normally numbered 4000 or above. For a complete list of depth electives for each track, consult the Department of Electrical and Computer Engineering website.

Elective Focus Area Courses

Students select an elective focus area (EFA) to personalize their curriculum and to prepare them for certain jobs or research study they intend to seek. More than 20 EFAs are available, such as bioinformatics, business, communication systems, medical imaging, nanotechnology, power systems, and software engineering; see Elective Focus Areas on the Department of Electrical and Computer Engineering website. Students also may also work with their academic advisor to create a customized plan tailored to their goals and objectives.

Students complete six elective focus area courses in addition to their track breadth and track depth courses, which they choose according to guidelines established by the department.

Students who choose their track, EFAs, and general education component carefully may be able to earn the Certificate in Sustainability [p. 1858], the Certificate in Technological Entrepreneurship [p. 1413], or one of several undergraduate minors offered by the University without taking courses beyond those required for the electrical engineering major. Students selecting the computer track are required to take CS:2230 Computer Science II: Data Structures as one of their technical EFA courses that then satisfies the requirements for a minor in computer science. Students who take one additional advanced math course meet the requirements for a minor in mathematics.

General Education Component

Students are required to take at least 15 s.h. of General Education Component (GEC) courses; see General Education Component on the College of Engineering website.

The requirements are:

- Engineering Be Creative: complete 3 s.h.
A full list of approved courses can be found on the College of Engineering GEC Options: Be Creative Course List web page.
- GE CLAS Core: complete 3 s.h.
Students must complete 3 s.h. of course work from one of the approved GE CLAS Core [p. 459] areas below.
 - Interpretation of Literature
 - World Languages
 - Historical Perspectives
 - International and Global Issues
 - Literary, Visual, and Performing Arts
 - Social Sciences
 - Values and Culture
- Approved Course Subjects: complete 9 s.h.
See the College of Engineering GEC Options: Approved Course Subjects web page.

Capstone Design Courses

In their senior year, students complete a two-semester capstone design sequence culminating in the development and implementation of a significant, original project. The capstone design experience emphasizes teamwork, professionalism, open-ended problem solving, and the ability to work within real-world constraints and engineering standards.

Code	Title	Hours
Both of these:		
ECE:4880	Principles of Electrical and Computer Engineering Design	3
ECE:4890	Senior Electrical and Computer Engineering Design	3

Double Major in Electrical Engineering/Computer Science and Engineering

Students may earn a double major in electrical engineering (EE) and computer science and engineering (CSE). They must satisfy all requirements of the electrical track of the EE major and all requirements of the CSE major. The double major may be achieved with as few as six courses.

The following list shows the required courses that are not in common between the EE and CSE majors. In addition to the courses below, students must take one computer science elective, one ECE 5000-level course, and an additional 5000-level course that is cross-listed in the Department of Electrical and Computer Engineering and the Department of Computer Science. For more information, contact the Department of Electrical and Computer Engineering.

Code	Title	Hours
ECE:3330	Introduction to Software Design (required for CSE, EE elective focus area)	3
ECE:3350	Computer Architecture and Organization (required for CSE, EE elective focus area)	3
ECE:3360	Embedded Systems (required for CSE, EE elective focus area)	3
ECE:3400	Linear Systems II (required for EE, CSE elective focus area elective)	3
ECE:3410	Electronic Circuits (required for EE, CSE elective focus area)	4
ECE:3500	Communication Systems (required for EE)	3
ECE:3540	Communication Networks (required for CSE, EE breadth elective)	3
ECE:3600	Control Systems (required for EE)	3
ECE:3700	Electromagnetic Theory (required for EE)	3
ECE:3720	Semiconductor Devices (required for EE)	3
EE depth elective (required for EE)		3
CS:1210	Computer Science I: Fundamentals (required for CSE, EE substitute for ENGR:1100)	4
CS:2210	Discrete Structures (required for CSE, EE elective focus area)	3

CS:2230	Computer Science II: Data Structures (required for CSE)	4
CS:3330	Algorithms (required for CSE)	3
CS:3620	Operating Systems (required for CSE)	3
CS:3820	Programming Language Concepts (required for CSE)	3
CS:4330	Theory of Computation (CSE systems elective, EE depth elective)	3
or CS:4350	Logic in Computer Science	
CS elective (required for CSE)		3
MATH:3550	Engineering Mathematics V: Vector Calculus (required for EE)	3

Combined Programs

B.S.E./M.S. in Electrical and Computer Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science for electrical engineering undergraduate students who intend to earn a M.S. in electrical and computer engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work and do thesis-level research while they are still undergraduates. They may count 9 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Electrical and Computer Engineering. For more information, see Joint B.S./M.S. Degree on the Department of Electrical and Computer Engineering website.

Academic Plans

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Electrical Engineering, B.S.E.

- Electrical Track [p. 1375]
- Computer Track [p. 1376]

Electrical Track

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4

ENGR:1000	Engineering Success for First-Year Students	1
CSl:1600	Success at Iowa	0
Hours		16

Spring

MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering Be Creative ^c		3
Hours		16

Second Year**Fall**

MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	4
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
Hours		15

Spring

MATH:3550	Engineering Mathematics V: Vector Calculus	3
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ENGR:2730	Computers in Engineering	3
GE: CLAS General Education Component ^d		3
Hours		16

Third Year**Fall**

STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ECE:3320	Introduction to Digital Design	3
ECE:3400	Linear Systems II	3
ECE:3410	Electronic Circuits	4
ECE:3700	Electromagnetic Theory	3
ECE:3000	Professional Seminar: Electrical Engineering	1
Hours		17

Spring

ECE:3500	Communication Systems	3
ECE:3600	Control Systems	3
ECE:3720	Semiconductor Devices	3
Elective Focus Area: #1		3
GE: Approved Course Subjects ^e		3
Hours		15

Fourth Year**Fall**

ECE:4880	Principles of Electrical and Computer Engineering Design	3
Elective Focus Area: #2		3

Elective Focus Area: #3	3
Track Breadth Elective ^f	3
GE: Approved Course Subjects ^e	3
Hours	15

Spring

ECE:4890	Senior Electrical and Computer Engineering Design	3
Track Depth Elective ^g		3
Elective Focus Area: #4		3
Elective Focus Area: #5		3
GE: Approved Course Subjects ^e		3
Hours		15
Total Hours		125

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.
- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.
- f Track breadth elective must be chosen from Computer lists.
- g Track depth elective must be an advanced course in a subject area within the track. Normally this is defined as a 3000-level course which has one of the required courses as a pre-requisite. See ECE Undergraduate Handbook.

Computer Track

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSl:1600	Success at Iowa	0
Hours		16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering Be Creative ^c		3
Hours		16

Second Year**Fall**

MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	4
ENGR:2110	Engineering Fundamentals I: Statics	2

ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
Hours		15
Spring		
MATH:3550	Engineering Mathematics V: Vector Calculus	3
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ENGR:2730	Computers in Engineering	3
GE: CLAS General Education Component ^d		3
Hours		16
Third Year		
Fall		
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ECE:3320	Introduction to Digital Design	3
CS:2210	Discrete Structures	3
ECE:3330	Introduction to Software Design	3
ECE:3700	Electromagnetic Theory	3
ECE:3000	Professional Seminar: Electrical Engineering	1
Hours		16
Spring		
CS:2230	Computer Science II: Data Structures	4
ECE:3350	Computer Architecture and Organization	3
ECE:3360	Embedded Systems	3
Elective Focus Area: #1		3
Elective Focus Area: #2		3
GE: Approved Course Subjects ^e		3
Hours		19
Fourth Year		
Fall		
ECE:4880	Principles of Electrical and Computer Engineering Design	3
CS:3330	Algorithms	3
Elective Focus Area: #3		3
Track Breadth Elective ^f		3
GE: Approved Course Subjects ^e		3
Hours		15
Spring		
ECE:4890	Senior Electrical and Computer Engineering Design ^g	3
Track Depth Elective ^h		3
Elective Focus Area: #4		3
Elective Focus Area: #5		3
GE: Approved Course Subjects ^e		3
Hours		15
Total Hours		128

- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.
- f Track breadth elective must be chosen from Electrical lists
- g Three required track courses
- h Track depth elective must be an advanced course in a subject area within the track. Normally this is defined as a 3000-level course which as one of the required courses as a pre-requisite. See ECE Undergraduate Handbook.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). Electrical engineers find employment everywhere smart technology is employed. They consistently rank among the most sought after and highest-paid technology professionals. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Electrical engineers work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester. EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.

Electrical and Computer Engineering, M.S.

The Department of Electrical and Computer Engineering stimulates excellence in scholarship and research through close contact with the faculty and programs tailored to fit students' individual needs.

Students select an advisor and, with the advisor, plan an individual program bounded only by the broad guidelines of the Graduate College and the program. The department maintains close interdisciplinary ties with other University of Iowa departments, especially with the Departments of Physics and Astronomy, Computer Science (College of Liberal Arts and Sciences), Industrial and Systems Engineering, Mechanical Engineering, Biomedical Engineering, and the Carver College of Medicine. Principal areas of graduate study include medical image analysis, signal and image processing, control systems and systems theory, wireless communications, waves and materials, computer systems, and computational genomics. View principal areas of study under Research and Study Areas [p. 1362] in the Electrical and Computer Engineering section of the Catalog.

Requirements

The Master of Science program in electrical and computer engineering requires 30 s.h. of graduate credit with or without thesis. Either option may precede Ph.D. study. M.S. students must maintain a cumulative g.p.a. of at least 3.00.

Thesis students must complete at least 12 s.h. from an approved list of electrical and computer engineering courses and 6 s.h. in ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis. Nonthesis students must complete at least 18 s.h. from an approved list of electrical and computer engineering courses; they may count no more than 3 s.h. of independent study toward the degree. For a list of approved courses, see the Electrical and Computer Engineering Graduate Manual. Courses required for the B.S.E. in electrical engineering do not count toward the M.S. requirements.

Students who plan to satisfy thesis requirements must successfully complete a final examination, which is conducted by a committee of at least three faculty members. The final examination consists of an oral defense of the thesis.

Software Engineering Subprogram

A software engineering subprogram is available to both thesis and nonthesis students. Both thesis and nonthesis options require a minimum of 30 s.h. of graduate credit. All rules for additional credit and the M.S. final examination are the same as for the M.S. without the subprogram. Successful completion of the subprogram results in a degree designation that specifies the software engineering subprogram on a student's transcript.

The software engineering subprogram requires the following course work.

Code	Title	Hours
ECE:5310	Introduction to VLSI Design	3
ECE:5320	High Performance Computer Architecture	3

ECE:5330	Graph Algorithms and Combinatorial Optimization	3
ECE:5800	Fundamentals of Software Engineering	3
ECE:5810	Formal Methods in Software Engineering	3
ECE:5820	Software Engineering Languages and Tools	3
ECE:5830	Software Engineering Project	3

In addition to the courses listed above, thesis students complete another 3 s.h. of approved course work and 6 s.h. in ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis; nonthesis students complete another 9 s.h. of approved course work. Students who complete one or more required courses as an undergraduate can substitute courses from the list of approved ECE courses; see the list of approved courses in the Electrical and Computer Engineering Graduate Manual.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must have a g.p.a. of at least 3.00 on all electrical and computer engineering, mathematics, and physics course work. Those with a g.p.a. between 2.75 and 3.00 in electrical and computer engineering, mathematics, and physics course work may be admitted on probation, if warranted by other aspects of their academic records.

Students with baccalaureate degrees in related areas (e.g., physics, mathematics, and computer science) may be admitted on conditional status. They may be required to complete additional course work, without earning graduate credit, before being granted regular status.

Each application is reviewed individually. Extenuating circumstances may permit deviations from the usual standards.

Financial Support

A number of fellowships, traineeships, assistantships, scholarships, and industrial grants are available to graduate students who qualify. These are awarded on a competitive basis.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Electrical engineers find employment everywhere smart technology is employed. They consistently rank among the most sought after and highest-paid technology professionals. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester. EPD also offers individual advising and class presentations on

résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Electrical and Computer Engineering, Ph.D.

The Department of Electrical and Computer Engineering stimulates excellence in scholarship and research through close contact with the faculty and programs tailored to fit students' individual needs.

Students select an advisor and, with the advisor, plan an individual program bounded only by the broad guidelines of the Graduate College and the program. The department maintains close interdisciplinary ties with other University of Iowa departments, especially with the Departments of Physics and Astronomy, Computer Science (College of Liberal Arts and Sciences), Industrial and Systems Engineering, Mechanical Engineering, Biomedical Engineering (College of Engineering), and the Carver College of Medicine. Principal areas of graduate study include medical image analysis, signal and image processing, control systems and systems theory, wireless communications, waves and materials, computer systems, and computational genomics. View principal areas of study under Research and Study Areas [p. 1362] in the Electrical and Computer Engineering section of the Catalog.

Requirements

The Doctor of Philosophy program in electrical and computer engineering requires a minimum of 72 s.h. of graduate credit. At least 45 s.h. must be earned in formal course work (not in thesis work or other independent study), including 30 s.h. from an approved list of electrical and computer engineering courses. For the list of approved courses, see the Electrical and Computer Engineering Graduate Manual. Each Ph.D. student's study plan must be approved by the student's advisor and by the graduate committee.

Acceptance to the Ph.D. program requires successful completion of the Ph.D. qualifying process. The qualifying process consists of two parts—an examination and a course breadth requirement. The half-day written exam is given once a year, late in the spring semester. It covers two subjects chosen by a student from a list of nine. Students normally are expected to take the qualifying examination within the first 30 s.h. of their graduate studies. A cumulative g.p.a. of at least 3.25 is required for admittance to the exam. Students who fail the examination may retake it only once the next time it is offered. To complete the breadth requirement, students must take two courses associated with the same list of nine subjects that the examination is drawn from and complete the courses with grades of at least A-minus. The breadth courses must not duplicate the subjects chosen for the examination and must be completed within the fourth semester of graduate study.

Ph.D. students take a qualifying examination and a comprehensive examination. Then they must successfully complete a research program that includes a minimum of 18 s.h. of Ph.D. research and culminates in the preparation of a thesis. Finally, the candidate must present a successful oral defense of the thesis.

Students must maintain a cumulative g.p.a. of 3.25 or higher in all graduate course work.

Following successful completion of the qualifying examination and invitation to the Ph.D. program, a student must complete the two-part comprehensive examination. The first part is a

written research proposal that includes a thorough literature survey providing the motivation and background for the proposal. The second part is an oral examination.

Students must pass the qualifying examination before they may take the comprehensive exam, and they must complete the comprehensive exam no later than three calendar years after passing the qualifying exam. Students who fail to meet this deadline must retake the qualifying exam. The qualifying exam and the comprehensive exam may not be taken in the same semester.

The final requirement for completion of the Ph.D. program is the preparation and successful defense of the thesis. This must be completed no sooner than six months but no longer than three years after completion of the comprehensive examination.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must have a g.p.a. of at least 3.25 on all electrical and computer engineering, mathematics, and physics course work.

Each application is reviewed individually. Extenuating circumstances may permit deviations from the usual standards.

Financial Support

A number of fellowships, traineeships, assistantships, scholarships, and industrial grants are available to graduate students who qualify. These are awarded on a competitive basis.

Career Advancement

Engineering is a well-respected profession that is used as a foundation for a variety of careers in industry, medicine, law, government, and consulting. Graduates consistently rank among the most sought after and highest-paid technology professionals.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester. EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Industrial and Systems Engineering

Interim Chair

- Geb W. Thomas

Undergraduate major: industrial engineering (B.S.E.)

Graduate degrees: M.S. in industrial engineering; Ph.D. in industrial engineering

Faculty: <https://ise.engineering.uiowa.edu/people>

Website: <https://ise.engineering.uiowa.edu>

The Department of Industrial and Systems Engineering offers distinct undergraduate and graduate degrees and research programs in industrial and systems engineering.

Industrial and systems engineering is concerned with analysis, design, and implementation of systems through optimal use of resources—human, material, energy, information, and financial. Systems may range from small units to extremely large operations. In order to accomplish these activities, the industrial engineer must be skilled in mathematics, physical sciences, management, and human relations as well as manufacturing, computer systems, economics, optimization, human behavior, and systems analysis and design.

Related Certificate

Transportation Studies

The Transportation Studies Program offers the Certificate in Transportation Studies. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), and the School of Urban and Regional Planning (Graduate College) participate in the program.

The certificate is coordinated by the School of Urban and Regional Planning; see the Certificate in Transportation Studies [p. 1491] in the Catalog.

Programs

Undergraduate Program of Study Major

- Major in Industrial Engineering (Bachelor of Science in Engineering) [p. 1387]

Graduate Programs of Study Majors

- Master of Science in Industrial Engineering [p. 1389]
- Doctor of Philosophy in Industrial Engineering [p. 1392]

Facilities

The following facilities and laboratories are used by undergraduate and graduate students. For information about laboratories affiliated with core courses coordinated by other

College of Engineering departments, see those departments' Catalog sections.

Additive Manufacturing-Integrated Product Realization Laboratory (AMPRL)

The research of AMPRL focuses on the study of how material forming processes existing in nature can be utilized to enable next-generation additive manufacturing (AM) technologies. Current research topics include:

- Next-generation AM technology development. The lab learns from nature how to develop next-generation AM technologies, which features multimaterial, multiscale, ultra-fast speed, energy-efficiency, among others.
- AM process modeling, quality control and optimization. The lab uses experimental and theoretical techniques to advance the understanding of fundamental physics behind nature-inspired AM processes and to achieve performance-driven process control.
- Novel applications of new AM technologies. The lab utilizes the unique capabilities of AM technologies to create devices for various applications, such as tissue engineering, sensing, energy harvest, robots, among others.

The lab has state-of-the-art material preparation, processing and characterization equipment, as well as several custom 3-D printers invented and developed by the group.

Graphical Representation of Knowledge Lab (GROK)

The GROK Lab develops technologies to help scientists and doctors improve their understanding and control of complex systems such as robots, distributed sensor networks, and augmented-reality systems. The lab designs and builds software, electronic circuits, and mechanical devices that create or modify complex systems that extend scientists' understanding of how to make systems better perform intended tasks.

The lab has a variety of software development platforms and manufacturing tools, including computer numerical control (CNC) machines and supplies for casting and molding, as well as a suite of equipment for circuit design, testing, and assembly. The GROK lab has developed technologies used by NASA to control robots exploring South America and Mars. Its most recent projects have focused on using distributed sensor networks to track the activities of health care workers and on developing training simulators for orthopedic surgeons.

Information and Cognitive Systems Engineering Lab (ICSE)

Research in the ICSE lab focuses on design and analysis of cognitive work and information systems in real-world domains. Current emphasis is on cognitive work in health care systems.

Studies are conducted in usability testing, process mapping, cognitive walk throughs, discrete-event simulation, dynamic systems simulation, and interface design, prototyping, and evaluation. The research facility houses state-of-the-art qualitative field data collection equipment and data analysis tools, programming tools for discrete event and dynamic systems simulations, and design, prototyping, and usability-testing hardware and software tools for interface and display

design. The facility also employs data modeling, and mining and diagramming tools.

Intelligent Systems Laboratory

The Intelligent Systems Laboratory conducts research in data science and computational intelligence leading to applications in manufacturing, energy, service organizations, and health care. Research in the lab has been funded by government agencies and industrial corporations. Solutions to practical problems and enhancement of engineering education are emphasized. Most of the lab's recent projects concentrate on development of software tools for product development, manufacturing, and health care applications. Diverse software is available for modeling, design, and construction of intelligent systems.

National Advanced Driving Simulator Laboratory (NADS)

The NADS laboratory is home to the nation's largest and first public simulator of its kind in the world. For the last 25 years, the University of Iowa has conducted advanced research and development in support of saving lives, improving quality of life, advancing technology, and improving efficiency and productivity of the automotive and supporting industries. Most importantly, NADS serves as a place where students can learn firsthand about how innovation occurs in science and engineering.

From drug research to automated vehicles, NADS is dedicated to engaging in a broad, holistic approach. Faculty, staff, and students at NADS collaborate with nearly all University of Iowa colleges in their automotive safety research. Human factors research at NADS is funded by government agencies and industry leaders for public and private sectors. NADS supports undergraduate and graduate students in driving research studies. Many of these studies include the use of the NADS miniSim™, a portable, high-performance driving simulator based on NADS' state-of-the-art driving simulation technology developed through decades of research. In-house workstations and computers equipped with software such as MATLAB, Visual Studio, R, and SAS are available to students with approved access to the facility.

Operator Performance Laboratory (OPL)

The Operator Performance Laboratory is a flight test organization. The OPL specializes in civilian and military flight testing and assessment of technologies in operational contexts such as flight in degraded visual environments (DVE) and GPS-denied environments. Quantification of data link and sensor performance for manned and unmanned aircraft in such operational context is an area of focus. OPL develops, tests, and evaluates helmet mounted displays (HMDs), synthetic vision systems (SVS), live virtual constructive (LVC) training systems, physiological-based workload measurement systems, pilot spatial orientation enhancement systems, and embedded flight simulation capabilities.

Unmanned aircraft operations include fifth- and sixth-generation manned-unmanned teaming (MUMT) concepts and the extension of LVC toward MUMT. The OPL team developed the cognitive assessment tool set (CATS), which is able to accurately quantify human cognitive workload using a flight-approved sensor package. CATS has been used in many flight tests as the data collection and analysis tool for pilot behavior in real-world flight environments. OPL

pioneered the development and testing of LVC technology that blends ground-based battlespace simulations with airborne testbeds that have radar and weapons simulators that can employ simulated ordnance for effect in distributed simulation environments. The OPL team developed and tested a synthetic vision system that was commercialized by Dynon Avionics under the brand name Skyview.

OPL has performed many flight test projects on its fleet of aircraft, exceeding 2,200 flight hours of incident-free data collection. Eleven instrumented research aircraft comprise OPL's fleet.

Visual Intelligence Laboratory

The Visual Intelligence Laboratory conducts fundamental research to bridge state-of-the-art computational geometry, vision, and machine-learning technologies to real-world industrial applications such as computational human factor, autonomous driving, image-guided radiotherapy, medical image analysis, computational design and fabrication, among others. The lab strives to discover new mathematical theories and algorithms allowing the description, comparison, and algebraic (de)composition of shapes and visual features. Such mathematical understanding of shapes enables computers to see and understand the world and to become smarter assistants to humans.

The laboratory has a variety of imaging devices to obtain 2-D/3-D geometric information of various objects. The lab's imaging capacity includes the Studio360, a state-of-the-art imaging facility comprised of over 100 digital single-lens reflex (DSLR) cameras mounted on a 20-foot diameter geodesic dome. The Studio360 can capture time-synced photos/videos of dynamic objects (e.g., a person performing a motion) from multiple perspectives and reconstruct 3-D models of the objects. The lab also owns a high-performance computing server with 8x NVIDIA GeForce 1080Ti GPUs and 2x Intel Xeon E5 CPUs (total 48 threads) designated for massive-scale image/geometry processing and deep learning.

The Visual Intelligence Laboratory has established broad academic research collaboration with a variety of entities across campus, including the Virtual Soldier Research (VSR) program, the National Advanced Driving Simulator (NADS), and University of Iowa Hospitals and Clinics (UIHC). In addition, the lab has been engaged in a number of research projects sponsored by government and industry partners, including the U.S. Department of Transportation, the U.S. Department of Defense, and a few international manufacturing companies.

Shared Laboratory

Design for Manufacturing Laboratory

The Design for Manufacturing Laboratory is used by students in industrial and systems engineering and in mechanical engineering. The laboratory provides students with experience in CAD/CAM systems. It is equipped with 4-axis CNC mills (Haas and Tormach), CNC router (Techno-CNC), CNC metal lathe (Haas and Techno-CNC), drill press, plastic injection molder, thermoforming machine, band saw, disc sander, bench grinder, polishing wheel, hand drill, sandblasting cabinet, press, foot shear, and welding station. The lab has the latest software technology, including Pro/ENGINEER and Rhinoceros.

Courses

Industrial and Systems Engineering Courses

IE:0000 Industrial Engineering Internship/Co-op 0 s.h.

Industrial engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

IE:1000 First-Year Seminar 0-1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

IE:2000 Industrial Engineering Sophomore Seminar 0 s.h.

Curriculum and profession; ethics and professionalism in classroom and workplace. Requirements: sophomore or transfer standing in engineering.

IE:2500 Engineering Economy 3 s.h.

Basic concepts of engineering economy: time value of money, cash flow equivalence, depreciation, tax considerations, continuous cash flows, cost accounting overview; main analysis techniques—present worth, uniform annual cost, rate of return, benefit/cost ratio, replacement and break-even analysis. Corequisites: STAT:2020.

IE:3000 Professional Seminar: Industrial Engineering 0 s.h.

Professional aspects of industrial engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: junior standing.

IE:3149 Information Visualization 3 s.h.

Instruments for reasoning about quantitative information; analyzing and communicating statistical information; main typologies of data graphics (data-maps, time-series, space-time narrative, relational diagrams, graphs and methods for dimensionality reduction); language for discussing data visualizations combined with knowledge of human perception of visual objects; how to visualize information effectively by using statistical methods, knowledge of human perception, and basics of data graphics. Prerequisites: STAT:2020.

IE:3300 Manufacturing Systems 3 s.h.

Manufacturing and logistics systems, supply chain management, MRP/ERP systems, lean manufacturing, concurrent engineering, value stream mapping and six sigma. Offered spring semesters. Prerequisites: IE:3700 and ENGR:2760. Same as ME:4131.

IE:3350 Process Engineering 4 s.h.

Methodologies, algorithms, and tools for processing modeling, analysis, and reengineering; modeling issues in product and component design, product and process modularity, quality, reliability, agility. Offered spring semesters. Prerequisites: IE:3700.

IE:3400 Human Factors 3 s.h.

Design of human-machine systems; development of optimum work environments by applying principles of behavioral science and basic knowledge of human capacities and limits. Offered fall semesters. Prerequisites: PSY:1001.

IE:3450 Ergonomics 3 s.h.

Ergonomic design of jobs and products in an industrial and consumer market setting; principles of good design, examples of poor design; consequences of poor job and product design; principles of work sampling, usability studies, performance rating, sizing and planning of workstations, hand tool design, ergonomic design in transportation; related group project.

IE:3500 Information Systems Design 3 s.h.

Structure and design of computer-based information systems; concepts of information systems, decision making; computer hardware, software, data structures; methods for determining system requirements; designing, implementing, evaluating, managing information systems; applied projects. Prerequisites: ENGR:1300.

IE:3600 Quality Control 3 s.h.

Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or (STAT:3100 and STAT:3101 and STAT:3200). Same as CEE:3142, STAT:3620.

IE:3610 Stochastic Modeling 3 s.h.

Fundamental probabilistic models and applications of industrial engineering; overview of probability and distributions, stochastic processes and Markov chains, queuing theory, inventory theory, decision theory under uncertainty, and elements of risk management. Prerequisites: STAT:2020. Corequisites: IE:3700.

IE:3660 Data Analytics with R 3 s.h.

Basics of data analytics and data mining; how to implement a variety of popular data mining methods in R to tackle business and engineering problems; focus on process of turning raw data into intelligent decisions and algorithms commonly used to build predictive models and find relevant patterns in data. Prerequisites: STAT:2020.

IE:3700 Operations Research 3 s.h.

Operations research models and applications; emphasis on deterministic model (linear programming, duality). Offered fall semesters. Prerequisites: MATH:2550. Corequisites: STAT:2020.

IE:3750 Digital Systems Simulation 3 s.h.

Simulation modeling and analysis; emphasis on construction of models, interpretation of modeling results; input and output analysis; hands-on usage of ARENA simulation software, manufacturing, health care, and service. Offered spring semesters. Prerequisites: IE:3610 and IE:3700.

IE:3760 Applied Linear Regression 3 s.h.

Regression analysis with focus on applications; model formulation, checking, selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010. Same as IGPI:3200, STAT:3200.

IE:3998 Individual Investigations: Industrial Engineering arr.

Independent projects in industrial engineering for undergraduate students, including laboratory study, an engineering design project, analysis and simulation of an engineering system, computer software development, CAD/CAM applications, or research.

IE:4113 Control of Mechanical Engineering Systems**3 s.h.**

How to model simple engineering systems, apply time and frequency domain analysis techniques, and design control systems; application of these techniques using MATLAB; writing differential equations describing engineering systems and determine time domain response to a wide range of inputs; use of state-variable equations to model engineering systems and determine their time response to a wide range of inputs; describe advantages of feedback control; analyze performance of control systems; determine stability of control systems using Root-Locus, Bode, and Nyquist methods; design feedback control systems using frequency domain and state-variable methods. Prerequisites: MATH:2550 and MATH:2560 and ENGR:2710. Same as ME:4113.

IE:4116 Manufacturing Processes Simulations and Automation**3 s.h.**

Material processing, metal cutting theories, forming, micro/nano fabrication, programmable logic controller, computer numerical controllers, discrete control system, DC and AC servo motors, Command generation. Prerequisites: ENGR:2760. Same as ME:4116.

IE:4172 Big Data Analytics**3 s.h.**

Principles of data mining and machine learning in context of big data; basic data mining principles and methods—pattern discovery, clustering, ordering, analysis of different types of data (sets and sequences); machine learning topics including supervised and unsupervised learning, tuning model complexity, dimensionality reduction, nonparametric methods, comparing and combining algorithms; applications of these methods; development of analytical techniques to cope with challenging and real "big data" problems; introduction to MapReduce, Hadoop, and GPU computing tools (Cuda and OpenCL). Prerequisites: STAT:2020. Requirements: basic programming skills in C, C++, Java, or Python; knowledge of Matlab, Octave, or R; and knowledge of a word processor. Recommendations: IE:3760 and CS:4400 and CS:3330 and MATH:2550.

IE:4175 Safety Engineering**3 s.h.**

Systems safety principles and methods, occupational safety, product safety and liability, accident investigation and prevention methods and analysis, hazard analysis, and standards and regulations.

IE:4550 Wind Power Management**3 s.h.**

Principles of wind power production, wind turbine design, wind park location and design, turbine and wind park control, predictive modeling, integration of wind power with a grid.

IE:4600 Industrial Engineering Design Project**1-4 s.h.**

Projects involving product and related operational system design in an industrial or service organization; associated entrepreneurial or intrapreneurial planning. Corequisites: IE:3300 and IE:3350 and IE:3400 and IE:3450 and IE:3500 and IE:3600 and IE:3750, if not taken as prerequisites.

IE:4620 Design of Experiments for Quality Improvement**3 s.h.**

Development of skills necessary to efficiently and effectively design and analyze experiments for quality improvement; topics include experiment planning, design, and statistical analysis of the results; experimentation is beneficial in all phases of industrial processes including new product design, process development, and manufacturing process improvement; students develop successful experiments that can lead to reduced development lead time, enhanced process performance, and improved product quality. Prerequisites: STAT:2020. Requirements: junior (third year) standing.

IE:4650 Mechatronics Engineering for Smart Device Design**3 s.h.**

Introduction to basic mechatronics system components and design principles using mechatronics to meet functionality requirements of products, processes, and systems; lab-oriented assignments and team-based projects presented with innovative case studies in diverse application domains; labs require students to use a micro-controller kit to finish hardware development assignments; for students who plan to have a career in areas such as product development, robotics, design and manufacturing automation, technology management and innovations. Prerequisites: ENGR:2120 and ENGR:2760. Same as ME:4650.

IE:4900 Introduction to Six Sigma**3 s.h.**

Six Sigma techniques for the DMAIC cycle (Define, Measure, Analyze, Improve, Control); what is needed for data collection (process inputs and outputs, measurement tools), conduct analysis (hypothesis testing, process capability studies), and conduct process improvement studies (design of experiments, response surface methodology); overview of Six Sigma, process and project management skills; application of the DMAIC model to a real-life improvement projection (a "learn-by-doing" approach). Prerequisites: IE:3600.

IE:5000 Graduate Seminar: Industrial Engineering**1 s.h.**

Recent advances and research in industrial engineering presented by guest lecturers, faculty, students. Requirements: graduate standing.

IE:5420 Automated Vehicle Systems**3 s.h.**

Overview of vehicle technologies (HAV) and advanced driver assistance systems (ADAS) including a historical perspective, testing, policy and regulation, algorithm design, and human factors. Recommendations: IE:3400.

IE:5860 Health Informatics I**3 s.h.**

Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IGPI:5200, MED:5300, SLIS:5900.

IE:5995 Contemporary Topics in Industrial Engineering**arr.**

New topics or areas of study not offered in other industrial engineering courses; topics based on faculty/student interest.

IE:5998 Individual Investigations: Industrial Engineering**arr.**

Individual projects for industrial engineering graduate students: laboratory study, engineering design, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

IE:5999 Research: Industrial Engineering M.S. Thesis**arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in industrial engineering. Requirements: graduate standing.

IE:6211 Human Factors in Healthcare Systems 3 s.h.

Solving human factors problems in health care work systems; cognitive systems engineering, interface design, health care productivity, patient safety; specific research including decision making, information transfer, and communication; discrete event and dynamic systems simulation modeling; human computer interaction; health information technology/systems; usability; business models of organizational, technical, and social elements of health care systems.

IE:6220 Cognitive Engineering 3 s.h.

Cognitive engineering principles; decision making and judgment; distributed cognition; cognitive work; human system interaction; cognitive work analysis; situated action and ecological models; mental models and representation; cognitive engineering methods and applications.

IE:6232 Advanced Computer-Aided Design and Manufacturing 3 s.h.

In-depth study of CAD and manufacturing (CAD/CAM); review of CAD/CAM, computer graphics, NURBS modeling (curves/surfaces, solid modeling, design data exchange); computational geometry for product development, heterogeneous object modeling, rapid prototyping (RP) and layered manufacturing, computer-aided path planning, CAD applications (computer-aided tissue engineering, biomedical imaging and processing, biomanufacturing); related lab projects and assignments. Requirements: knowledge of one programming language (C, C++, C#, VB, or Java).

IE:6300 Innovation Science and Studies 3 s.h.

Innovative typology and sources, classical innovation models, measuring innovation, innovation discovery from data, evolutionary computation in innovation, innovation life cycle.

IE:6350 Computational Intelligence 3 s.h.

Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Prerequisites: IE:3700. Same as NURS:6900.

IE:6410 Research Methods in Human Factors Engineering 3 s.h.

Logic and methods for research and for analysis and evaluation of complex human-machine systems; advanced techniques for enhancement of human interaction with advanced information technology; emphasis on cognitive task analysis techniques for innovative design, understanding of how technology affects safety, performance, user acceptance.

IE:6420 Human/Computer Interaction 3 s.h.

Development of projects using human factors principles in the design of computer interfaces.

IE:6440 Airborne Design of Experiments 3 s.h.

Issues in design of airborne human factors research, and techniques applicable to ground transportation research; statistical, human factors, flight mechanics, and organizational principles in flight test engineering; basic understanding of systematic approach to human factors flight testing, development of test points and test apparatus, flight envelope, proper briefing techniques, mission execution, and after-action review; securing, synchronizing, and analyzing data.

IE:6450 Human Factors in Aviation 3 s.h.

Measuring, modeling, and optimizing human visual performance; display design for optimal legibility, research in visibility, legibility, conspicuity, and camouflage; visibility model development.

IE:6460 The Design of Virtual Environments 3 s.h.

Development of techniques for designing and creating three-dimensional representations of information for simulation, scientific visualization, and engineering; emphasis on human factors issues, software.

IE:6480 Unmanned Aircraft Systems 3 s.h.

Applications and research in unmanned aircraft systems (UAS) with focus on engineering aspects; new era of aviation and how UAS are fast emerging as a disruptive technology in aviation; applications ranging from film production, photography, precision agriculture, remote sensing, and infrastructure inspections to military applications; problem space of UAS from a variety of angles including engineering controls design, data links, UAS types, human factors, regulatory aspects.

IE:6600 Linear Programming 3 s.h.

Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as IGPI:6600, MSCI:6600.

IE:6720 Nonlinear Optimization 3 s.h.

Mathematical models, theory, algorithms for constrained and unconstrained nonlinear optimization; optimality conditions and aspects of duality theory; applications of nonlinear optimization in data analytics and machine learning.

IE:6750 Stochastic Optimization 3 s.h.

General tools and approaches used in decision making under uncertainties; modeling of uncertainties and risk, changes that uncertainties bring to the decision process, difficulties of incorporating uncertainties into optimization models, common techniques for solving stochastic problems.

IE:6760 Pattern Recognition for Financial Data 3 s.h.

Modeling and harvesting useful information and patterns for financial data; topics include basic concepts of financial data, financial data visualization, modeling and forecasting of financial time series, seasonal models, volatility models, value at risk, principal component analysis, and factor models.

IE:6780 Financial Engineering and Optimization 3 s.h.

Quantitative methods of modeling various financial instruments (i.e., stocks, options, futures) and tools for measurement and control of risks inherent to financial markets; fundamentals of interest rates; options and futures contract valuation, including weather and energy derivatives; risk management and portfolio optimization; emphasis on modeling and solution techniques based on optimization and simulation approaches traditional to industrial engineering and operations research. Recommendations: basic knowledge of probability and statistics, numerical methods, and optimization.

IE:6790 Reliability Theory and Applications 3 s.h.

Fundamental topics in reliability engineering, including system reliability modeling, statistical inference of lifetime data, basic preventive maintenance models; statistics and random process models, and online monitoring and change detection techniques. Prerequisites: MATH:2550 and STAT:2020.

IE:6810 Advanced Topics on Additive Manufacturing**3 s.h.**

Review of critical challenges facing 3-D printing; emphasis on techniques and practical experience in developing novel additive manufacturing processes and applications; topics include 3-D content creation and preparation, CAD systems for additive manufacturing, additive manufacturing processes, fabrication speed and improvements, rapid tooling and indirective processes. Same as ME:6810.

IE:7995 Advanced Topics: Industrial Engineering **arr.**

Discussion of current literature in industrial engineering.

IE:7998 Special Topics in Industrial Engineering **arr.****IE:7999 Research: Industrial Engineering Ph.D.****Dissertation****arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in industrial engineering.

Industrial Engineering, B.S.E.

The educational objectives of the Bachelor of Science in Engineering (B.S.E.) program in industrial engineering are to produce graduates who, within a few years of graduation:

- will have successful careers in engineering and beyond and will have assumed professional roles of increasing responsibility and impact;
- will have acquired new knowledge and expertise through professional development opportunities or advanced education; and
- will be engaged in workplace, professional, or civic communities.

Visit Industrial Engineering Program Educational Objectives on the Department of Industrial and Systems Engineering website to learn more.

Requirements

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The major in industrial engineering requires a strong foundation of courses in engineering science, mathematics, design, manufacturing, social science, and humanities.

Advanced work includes specialty courses in human factors and ergonomics, management, information systems, manufacturing, quality control, and operations research. Design is an integral part of the undergraduate program; all students complete a comprehensive design experience.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric, ENGR:1100 Introduction to Engineering Problem Solving, ENGR:1300 Introduction to Engineering Computing, and courses in chemistry, engineering mathematics and fundamentals, and physics.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component. For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

Students must select elective focus area courses according to guidelines established by the Department of Industrial and Systems Engineering. See "Elective Focus Area" below.

Elective Focus Area

The industrial engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests. For more detailed information about elective focus areas, see the Bachelor of Science in Engineering [p. 1311] in the Catalog. For a list of standard industrial engineering elective focus area options and guidelines for tailored elective focus areas, see the undergraduate Industrial and Systems Engineering Program page on the Department of Industrial and Systems Engineering website.

Combined Programs

B.S.E./M.S.

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science program for industrial engineering undergraduate students who intend to earn a M.S. in industrial engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work, attend the program's graduate seminar, and work with a faculty member on a master's thesis project while they are still undergraduates. They may count 6 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the combined program, students must have completed at least 80 s.h., have a cumulative g.p.a. of at least 3.25, and they must submit a letter of application to the chair of the Department of Industrial and Systems Engineering.

Some students in undergraduate majors other than industrial engineering may be admitted to the combined program; they must meet the same admission requirements as industrial engineering majors. In some cases, they may be required to take additional course work to meet the prerequisite requirements for upper-level courses.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Industrial Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4
ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
		Hours
		16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering Be Creative ^c		3
		Hours
		16

Second Year**Fall**

MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	3
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
PSY:1001	Elementary Psychology	3
IE:2000	Industrial Engineering Sophomore Seminar	0

Hours 17

Spring

IE:2500	Engineering Economy	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ENGR:2720	Materials Science	3
IE:3500	Information Systems Design	3
Elective Focus Area: #1		3

Hours 15

Third Year**Fall**

IE:3610	Stochastic Modeling	3
ENGR:2760	Design for Manufacturing	3
IE:3400	Human Factors	3
IE:3700	Operations Research	3
GE: Approved Course Subjects ^d		3

Hours 15

Spring

IE:3300	Manufacturing Systems	3
IE:3450	Ergonomics	3
IE:3760	Applied Linear Regression	3
IE:3750	Digital Systems Simulation	3
Elective Focus Area: #2		3
GE: Approved Course Subjects ^d		3
IE:3000	Professional Seminar: Industrial Engineering	0

Hours 18

Fourth Year**Fall**

IE:3350	Process Engineering	4
IE:3600	Quality Control	3
Elective Focus Area: #3		3
Elective Focus Area: #4		3
GE: Approved Course Subjects ^d		3

Hours 16

Spring

IE:4600	Industrial Engineering Design Project	4
Systems Elective		3
Math/Science Elective Focus Area #5		3
Elective Focus Area: #6		3
Elective Focus Area: #7		3

IE:3000	Professional Seminar: Industrial Engineering	0
Hours		16
Total Hours		129

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.
- d A full list of approved course subjects can be found on the College of Engineering General Education Component website.

Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers hold positions as advisors to management or may participate directly in management decisions. Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager. Industrial and systems engineers are employed by manufacturing and energy firms, wind turbine manufacturers, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies.

Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Industrial Engineering, M.S.

Research and Study

Graduate study in industrial engineering is tailored individually. Programs of study for all students are based on their background and career objectives and are designed according to sound academic practice. The curriculum is highly flexible; the goal is academic excellence.

The program offers six principal academic focus areas: design and manufacturing, human factors engineering and ergonomics, engineering management, reliability and production systems, operations research and applied statistics, and information systems. Graduate students participate in research in their academic concentration areas.

Engineering Management

Current research in engineering management consists of entrepreneurship, parametric cash flow analysis, strategic management, and economic risk analysis. Engineering management studies concentrate on engineering administration, engineering economics, and information systems. This area is covered by courses in the 50 series.

Human Factors and Ergonomics

Current research in human factors and ergonomics includes investigation of the effects of visual and auditory displays on human information processing and development of computer systems that ease the challenges of controlling complex medical and robotic systems. This work examines how engineers should shape information technology to enhance productivity, safety, and customer satisfaction. Industrial engineering faculty members and students work to improve the effectiveness of robot systems for exploration of Mars and the Moon, to improve driving safety, and to design new cockpit interfaces. The department has several medical, flight, and driving simulators. It also conducts research in other facilities, including the National Advanced Driving Simulator, the most advanced simulation facility in the world.

Human factors and ergonomics studies concentrate on designing systems compatible with human capabilities and limitations. Human factors engineering integrates components from the fields of psychology, cognitive sciences, physiology, statistics, and technical sciences to address issues of human-interface design and human-systems design. Specific considerations include human cognitive abilities and limitations, visual performance, error reduction, workload assessment and mitigation, design of jobs in the industrial environment, information acquisition and processing, choice of action, operator performance measurement, and economic concerns. This area is covered by courses in the 40 series.

Information Systems

Studies in information systems concentrate on system design. Design problems involve devising information systems that meet a diverse set of requirements. Contemporary topics include network-based systems, client/server systems, internet systems, and medical informatics.

Manufacturing

Ongoing manufacturing research consists of flexible manufacturing systems, optimum control of processes, and

reliability assessment. Manufacturing courses, denoted by the 30 series, delve into selecting appropriate manufacturing methods, planning processing operations, devising control strategies, and designing products and manufacturing systems. Contemporary topics include computer-aided process planning, computer-aided design, computer-controlled manufacturing, concurrent engineering, and applications of artificial intelligence in manufacturing.

Operations Research and Applied Statistics

Ongoing research in operations research and applied statistics deals with the application of optimization techniques for informed decision making in the public and private sectors. The primary focus of this work is modeling, simulating, and optimizing the design and operation of systems such as logistics, communications, health care, and manufacturing. Studies in operations research and applied statistics concentrate on mathematical programming, statistical, and computer sciences for modeling, analyzing, and optimizing systems. Various methodologies in this area include mathematical programming, heuristic optimization, statistical analysis, and digital systems simulation. This area is covered by courses in the 70 series.

Quality Control and Production Systems

Current research in quality control and production systems focuses on measures for corporate quality and reliability, computer-aided layout and scheduling, just-in-time production, inspection, and online expert systems in process control. Studies of quality control and production systems focus on reliability engineering, quality control, and production systems. This area is covered by courses in the 60 series.

Related Certificate Informatics

The Informatics Program offers the Certificate in Informatics with a health informatics subtrack. The subtrack emphasizes the organization, management, and use of health care information; health care research, education, and practice; and information technology developments in the socioeconomic context of health care. Industrial engineering students working toward the certificate complete IE:5860 Health Informatics I and approved electives. To learn more, see the Certificate in Informatics [p. 1471] (Graduate College) in the Catalog.

Requirements

The Master of Science program in industrial engineering requires a minimum of 30 s.h. of graduate credit with thesis, and a minimum of 36 s.h. of graduate credit without thesis. Students who intend to pursue a Ph.D. should select the thesis option; those who hold research or teaching assistantships may be required to select the thesis option. The M.S. concentration in wind power management is open to students in either option. Students must maintain a g.p.a. of at least 3.00 on all graduate work at the University of Iowa.

All students must earn 21 s.h. in graduate-level industrial engineering courses. They earn a minimum of 9 s.h. in 5000-level industrial engineering courses and complete at least one 3000- or 5000-level course from each of three focus

areas: human factors, operations research, and reliability and systems design. Thesis students who plan to pursue a Ph.D. may choose to take two 5000-level courses in each of the three focus areas in order to complete their Ph.D. breadth requirement before entering the doctoral program. Students select other courses in consultation with their advisors; choices are documented in a student's plan of study.

Thesis students may count a maximum of 6 s.h. of research credit toward the degree and may include that credit in the required 21 s.h. of graduate-level industrial engineering courses. The thesis option does not include research credit.

All graduate students must register for IE:5000 Graduate Seminar: Industrial Engineering (1 s.h.) each semester of enrollment. They may not substitute seminar credit for regular course work or research credit.

Entering students must have strong verbal and written skills in English and a background in computer programming (e.g., C++, C, VB), probability, statistics, and mathematics equivalent to that required by accredited undergraduate engineering programs. Students with insufficient academic background must remedy deficiencies by taking appropriate courses beyond those normally required for the study plan. All students are advised by the department chair or by a designated faculty advisor. The department chair or the graduate program coordinator assigns an advisor to students during their first regular semester in residence.

During that semester, each student and the advisor prepare a study plan, which they submit to the department chair for approval. Once the plan is approved, it is filed with a student's record. It is a student's responsibility to assure that the study plan is submitted to the department chair.

Students must pass a final comprehensive examination, as specified by their examination committees. Examination committees consist of at least three Graduate College faculty members and must be approved by the department chair. The comprehensive examination may consist of both oral and written parts. Its purpose is to assess the adequacy of a student's defense of thesis and/or course preparation. The final study plan, approved by the Graduate College dean, is prerequisite to the exam. A student should consult with the advisor on the composition of the advisory/examination committee and the time and place for the exam.

It is a student's responsibility to submit a degree application by the college's deadline.

For more detailed information about M.S. program requirements, including a list of focus area courses, see the Industrial Engineering Graduate Handbook or link to industrial engineering graduate programs on the Department of Industrial and Systems Engineering website.

M.S. Concentration in Wind Power Management

M.S. students in industrial engineering may elect to concentrate in wind power management. They must meet all regular requirements for the M.S. in industrial engineering. In addition, thesis option students must take three courses (9 s.h.) from the list of recommended courses. Nonthesis option students must take four courses (12 s.h.) from the list of recommended courses and one course (3 s.h.) from the list of electives. Students' course selections must be approved by their advisors.

Wind Power Management Recommended Courses

Code	Title	Hours
IE:3350	Process Engineering	4
IE:3600	Quality Control	3
IE:3610	Stochastic Modeling	3
IE:3700	Operations Research	3
IE:3750	Digital Systems Simulation	3
CEE:4107	Sustainable Systems	3
CEE:4317	Remote Sensing	3
CEE:6151	Environmental Systems Modeling	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5195	Contemporary Topics in Mechanical Engineering	3
ME:6255	Multiscale Modeling	3
ME:7268	Turbulent Flows	3

Wind Power Management Electives

Code	Title	Hours
IE:3760	Applied Linear Regression	3
CS:4400	Database Systems	3
EES:1290	Energy and the Environment	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3
MSCI:9200	Business Programming	3
OEH:5410	Occupational Safety	3

Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations of the Graduate College.

Reference letters, student research interests, grade-point average for previous graduate study, and factors such as faculty availability are considered in admission decisions.

M.S. applicants may be admitted from an ABET-accredited baccalaureate curriculum in any engineering discipline, or in the mathematical sciences, the physical sciences, or the computer sciences with a g.p.a. of at least 3.00 and an acceptable score on the Graduate Record Examination (GRE) General Test. Applicants from institutions outside the United States must meet equivalent conditions for regular admission. Students with lesser qualifications may be considered for conditional admission.

Students from business or social science programs who have mathematical preparation similar to that of engineering students are considered for regular or conditional admission. Students on conditional status must achieve regular status within two sessions of their first registration by attaining an acceptable grade-point average and gaining regular acceptance by the industrial and systems engineering program faculty; otherwise, they are dismissed. Admissions may be limited by available resources.

Financial Support

A number of one-quarter-time and one-half-time teaching and research assistantships are available for graduate students. Awards are based on students' academic records and assessment of their potential contribution to the research and teaching goals of the program. Advanced graduate students also may qualify for appointments as graduate teaching fellows. Contact the chair of the Department of Industrial and Systems Engineering for details.

Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers hold positions as advisors to management or may participate directly in management decisions. Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager. Industrial and systems engineers are employed by manufacturing and energy firms, wind turbine manufacturers, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

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Industrial Engineering, Ph.D.

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Requirements

The Doctor of Philosophy program in industrial engineering requires a minimum of 72 s.h. It is granted upon demonstration of comprehensive knowledge and scholarly work at the highest level. A maximum of 36 s.h. earned toward the M.S. may be counted toward the 72 s.h. required for the Ph.D. Students must spend at least two semesters in residence at the University of Iowa. They also must maintain a g.p.a. of at least 3.25 on all graduate work at the University.

Students without a Master of Science in industrial engineering or a closely allied area must satisfy all requirements for the M.S. in industrial engineering before they may be admitted to the Ph.D. program.

Entering students are advised by the department chair or by a designated faculty advisor. During a student's first regular semester in residence, an advisor is assigned by the department chair or the graduate program coordinator. Students are expected to identify an industrial engineering faculty member willing to serve as their advisor by the end of their first regular semester in the program.

Once a student is assigned an advisor, the student works with the advisor to prepare a study plan, which is submitted to the department chair for approval. When the plan is approved by the department chair, it is filed with a student's record. At the beginning of each academic year, the industrial and systems engineering faculty reviews the study plan and gives a student feedback regarding progress toward the degree objective. It is the student's responsibility to assure that the study plan is submitted to the program chair.

The degree requires broad academic background with considerable depth in at least one area of specialization that clearly demonstrates a student's capability to do high-level research. Students must complete a series of written and oral examinations and a written dissertation based upon the results of an original investigation.

Admission to degree candidacy requires a g.p.a. of at least 3.25 on all graduate work taken at the University of Iowa, demonstration of capacity for individual research achievement (typically a dissertation research proposal), and successful completion of the comprehensive examination given by the examining committee.

For more detailed information about program requirements, see the Industrial Engineering Graduate Handbook or view industrial engineering graduate programs on the Department of Industrial and Systems Engineering website.

All Ph.D. students with a major in industrial engineering must satisfy the following requirements.

Students must register for IE:5000 Graduate Seminar: Industrial Engineering (1 s.h.) each semester of enrollment. They may not substitute seminar credit for regular course work or research credit.

Breadth Requirement

Each student must pass at least two 5000-level industrial engineering courses in each of three focus areas: human factors, operations research, and reliability and systems design. Students who have earned an M.S. in the program may already have satisfied this requirement.

Qualifying Exam

Each student must satisfy the qualifying exam requirement in two of the three focus areas. The requirement for a focus area can be satisfied by passing a written qualifying exam in the focus area or by earning a grade of A-minus or higher in each of two 5000-level industrial engineering courses in the focus area.

Focus Area

Students select one of the three focus areas and take additional course work in that area. They fulfill the minimum requirement of the focus area, completing at least two additional 5000-level industrial engineering courses in the area.

Comprehensive Examination

The comprehensive examination is scheduled with approval of a student's advisor and the industrial engineering program coordinator or the graduate coordinator once a student's study plan is essentially completed. The examining committee, made up of at least five industrial engineering and Graduate College faculty members, determines the composition of the exam, including written and oral parts, and determines whether a student is ready to begin dissertation research.

Each student must demonstrate ability to carry out creative individual research by completing and defending the dissertation research proposal. The exam is scheduled after the qualifying examination requirement has been satisfied. The examining committee determines whether a student is ready to begin dissertation research. Once a student has completed the comprehensive examination satisfactorily, the student is accepted as a candidate for the Ph.D.

Final Examination (Thesis Defense)

Each student must defend the completed dissertation in the final examination, which is conducted by the examining committee.

Concentration in Wind Power Management

Ph.D. students who concentrate in wind power management must meet all regular requirements for the doctoral degree. In addition, they must gain sufficient breadth and depth of domain knowledge in their study area by taking energy-related courses.

Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations of the Graduate College.

Reference letters, student research interests, grade-point average for previous graduate study, and factors such as faculty availability are considered in admission decisions.

Ph.D. applicants may be admitted from an ABET-accredited baccalaureate curriculum or a postbaccalaureate curriculum in any engineering discipline or in the mathematical sciences, computer science, or physical sciences with a g.p.a. of at least 3.25 and an acceptable score on the Graduate Record Examination (GRE) General Test. Applicants from institutions outside the United States must meet equivalent conditions for regular admission as determined by the University of Iowa. Students also may be admitted from business or social science programs as determined individually.

Applicants who intend to pursue a Ph.D. and who have a B.S. or an M.S. without thesis usually are admitted first to the M.S. program. All admissions to the Ph.D. program are reviewed by the graduate studies committee.

Financial Support

A number of one-quarter-time and one-half-time teaching and research assistantships are available for graduate students. Awards are based on students' academic records

and assessment of their potential contribution to the research and teaching goals of the program. Advanced graduate students also may qualify for appointments as graduate teaching fellows. Contact the chair of the Department of Industrial and Systems Engineering for details.

Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers hold positions as advisors to management or may participate directly in management decisions. Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager. Industrial and systems engineers are employed by manufacturing and energy firms, wind turbine manufacturers, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Mechanical Engineering

Chair

- Ching-Long Lin

Undergraduate major: mechanical engineering (B.S.E.)

Graduate degrees: M.S. in mechanical engineering; Ph.D. in mechanical engineering

Faculty: <https://me.engineering.uiowa.edu/people>

Website: <https://me.engineering.uiowa.edu>

The Department of Mechanical Engineering offers distinct undergraduate and graduate degrees and research programs in mechanical engineering. It also is the administrative home of the undergraduate certificates in Wind Energy [p. 1414] and Naval Hydrodynamics [p. 1408].

Mechanical engineering is broadly concerned with energy, manufacturing, and design of machines. Mechanical engineers conceive, plan, design, and direct the manufacture, distribution, and operation of a wide variety of devices, machines, and systems—including complex human-machine systems—for energy conversion, biofuel production, environmental control, materials processing, transportation, materials handling, and other purposes. Major subspecialties of mechanical engineering include thermal-fluids engineering and mechanical systems engineering.

Thermal-fluid phenomena occur in many engineering systems and devices such as aircraft; automobiles; off-road vehicles; ships; gas turbines; heat exchangers; material processes; heating, ventilating, air-conditioning, and refrigerating systems; hydraulic and wind turbines; airbag inflators; fuel cells; biofuel processes; environmental control devices; and biomedical systems.

Machines and mechanical systems are the foundations of human technology. Mechanical systems are found in mechanical engineering systems and devices such as manufacturing equipment, medical equipment, ground vehicles, heavy equipment, farm equipment, aircraft, ships, home appliances, packaging machinery, wind turbine blades and gearboxes, robots, and biomedical systems.

Mechanical engineers find a wide variety of career opportunities in industry, government, and education. Mechanical engineers form an integral part of most industries, including aerospace firms, energy companies, automobile manufacturers, health care providers, food- and metal-processing industries, petroleum refineries, electronic and computer manufacturers, heavy construction and agricultural vehicle manufacturers, wind turbine manufacturers, thermal comfort equipment firms, farm equipment firms, and consulting companies.

Certificates

Naval Hydrodynamics

The Department of Mechanical Engineering offers the undergraduate certificate program in Naval Hydrodynamics; see the Certificate in Naval Hydrodynamics [p. 1409] in the Catalog.

Wind Energy

The Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering (College of Engineering), and Geographical and Sustainability Sciences (College of Liberal Arts and Sciences) offer the undergraduate certificate program in wind energy. The

Department of Mechanical Engineering administers the certificate; see the Certificate in Wind Energy [p. 1415] in the Catalog.

Related Certificate: Transportation Studies

The Transportation Studies Program offers the Certificate in Transportation Studies. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), and the School of Urban and Regional Planning (Graduate College) participate in the program.

The certificate is coordinated by the School of Urban and Regional Planning; see the Certificate in Transportation Studies [p. 1491] in the Catalog.

Programs

Undergraduate Program of Study Major

- Major in Mechanical Engineering (Bachelor of Science in Engineering) [p. 1402]

Graduate Programs of Study Majors

- Master of Science in Mechanical Engineering [p. 1404]
- Doctor of Philosophy in Mechanical Engineering [p. 1406]

Facilities

Undergraduate Instruction Engineering Core

The laboratories for fluid flows and transport processes contain a wind tunnel; a water flume; a water table; four water channels with porous media; three air-jet tables; various air, water, and oil flow devices; and facilities for numerous small-scale experiments to demonstrate the principles of mass, momentum, and energy transfer.

For information about laboratories affiliated with core courses coordinated by other College of Engineering departments, see the departments' Catalog sections.

Computational Fluids Laboratory

The Computational Fluids Laboratory is equipped with 20 computers running ANSYS Fluent software used in fluid mechanics courses.

Design Project Laboratory

The Design Project Laboratory supports all senior design project courses. It is equipped with eight mid-level workstations as well as a high-end workstation, which enables students to manipulate full design models and interactive WebEx sessions with companies using the analysis software during the session. Research versions of ANSYS Fluent and

ProE, standard computers, and videoconferencing facilities also are available.

Experimental Fluid Mechanics Laboratory

The Experimental Fluid Mechanics Laboratory acquaints students with ongoing research in fluid mechanics and hydraulics. The lab focuses on literature, experiments, numerical simulations, audio-video aids, and links to educational and scientific internet sites. Students using the lab develop an understanding of basic flow mechanisms and become familiar with the latest developments in experimental techniques and instrumentation.

Ralph and Barbara Stephens Experimental Engineering Laboratory

The Ralph and Barbara Stephens Experimental Engineering Laboratory supports the required undergraduate courses ME:3351 Engineering Instrumentation and ME:4080 Experimental Engineering. The lab is equipped with varied instruments and test rigs that help students learn basic measurement principles and laboratory procedures. It also offers sensors for measurement of displacement, mass, temperature, pressure, velocity and flow rate, heat flux, force, torque, and so forth.

Solidification Laboratory

The Solidification Laboratory supports research in fundamental aspects of solidification and their application in casting of metals. Research in the lab ranges from basic experimental and computational studies of microstructure evolution to modeling and simulation of a wide variety of industrial metal casting processes. Collaboration with the casting industry has resulted in custom-made software for process control, new capabilities in commercially available casting simulation software, and strategies for yield improvement and defect prevention. Facilities include numerous state-of-the-art computer workstations and experimental test setups.

Thermal and Heat Transfer Laboratory

The Thermal and Heat Transfer Laboratory is equipped with data acquisition systems to process data online. It also provides facilities for experiments in heat transfer measurements.

Graduate Facilities

Fluid Mechanics

The program in fluid mechanics is conducted in close collaboration with IIHR—Hydroscience & Engineering. The equipment available to graduate students includes several wind tunnels and hydraulic flumes, an environmental flow facility, a towing tank, two special low-temperature flow facilities for investigation of ice phenomena, hot-wire and laser anemometer systems, particle-image velocimetry systems, and computer-based data acquisition systems.

Facilities available in the department include a flow visualization and imaging system with CCD (charge-coupled devices) camera, and a low-speed wind tunnel. IIHR and College of Engineering shops provide the necessary support. In addition to using in-house workstations and computers, the department's faculty members and students make extensive use of supercomputers at national centers.

Mechanical Systems

Computer-based simulation research activities in the mechanical systems area are carried out mainly in the Center for Computer-Aided Design (CCAD). CCAD maintains a variety of high-performance computer systems in support of its technology research and development efforts. General computing services are supported by a number of LINUX and Windows applications servers connected to centralized file servers. CAD/CAE, software development, virtual prototyping, and virtual environment development applications are hosted on numerous high-performance workstations. Standard desktop, multimedia, and office productivity applications are hosted on a network of more than 40 workstations.

Thermal Sciences

Facilities for research in the thermal sciences and systems consist of a low-pressure combustion chamber, a high-pressure continuous flow combustion chamber, a high-pressure chamber for atomization study, a test rig for heat transfer to near supercritical fluids, a diffusion flame test rig, an enclosed laminar flame test rig, an air atomization spray apparatus, test stands for melting and solidification studies, various optical measurement systems, and two fuel cell test rigs. Laser-based diagnostics (e.g., laser-induced fluorescence, imaging, and laser Doppler anemometry) are available for solidification, turbulent flow, heat transfer, and combustion studies. Flow visualization and imaging by CCD camera are available for the study of complex fluid motion and heat convection, and combustion flows.

Shared Laboratory

Design for Manufacturing Laboratory

The Design for Manufacturing Laboratory is used by students in mechanical engineering and in industrial and systems engineering. The laboratory provides students with experience in CAD/CAM systems. It is equipped with 4-axis CNC mills (Haas and Tormach), CNC router (Techno-CNC), CNC metal lathe (Haas and Techno-CNC), drill press, plastic injection molder, thermoforming machine, band saw, disc sander, bench grinder, polishing wheel, hand drill, sandblasting cabinet, press, foot shear, and welding station. The lab has the latest software technology, such as Pro/ENGINEER and Rhinoceros.

Courses

Mechanical Engineering Courses

ME:0000 Mechanical Engineering Internship/Co-op0 s.h.

Mechanical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to the Cooperative Education Program.

ME:1000 First-Year Seminar

0-1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

ME:2020 Mechanical Engineering Sophomore Seminar**0 s.h.**

Introduction to the mechanical engineering profession and curriculum; ethics and professionalism in classroom and workplace; mentorship program and professional societies; visits to laboratories and local companies. Requirements: sophomore or transfer standing.

ME:2200 Introduction to Mechanical Engineering Design**2 s.h.**

Solid modeling, assemblies, drawings, and Geometric Dimensioning and Tolerancing (GD&T); basic engineering design process; introduction to engineering standards, product liability, and ethics. Prerequisites: ENGR:1100.

ME:2300 Manufacturing Processes**3 s.h.**

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes including casting, welding, machining, and forming; laboratory exercises and projects. Corequisites: ENGR:2720 and (ME:2200 or BME:2710).

ME:3040 Thermodynamics II**3 s.h.**

Power and refrigeration cycles; mixtures of gases, psychrometric mixtures; availability; thermodynamics of combustion and chemical equilibrium. Prerequisites: ENGR:2130.

ME:3045 Heat Transfer**3 s.h.**

Principles of heat transfer by conduction, convection, radiation; analytical and numerical methods of solution; applications to engineering problems. Prerequisites: MATH:3550 and ENGR:2510. Corequisites: ENGR:2730.

ME:3052 Mechanical Systems**4 s.h.**

Topics in mechanical behavior and failure of materials; materials selection in design; stress and deflection analysis; static failure theories; fatigue and durability in design; fracture, statistical, and reliability considerations; introduction to finite element analysis using commercial software packages; standards, product liability, engineering ethics. Prerequisites: ENGR:2750. Corequisites: ENGR:2720 and ENGR:2760 and STAT:2020.

ME:3091 Professional Seminar: Mechanical Engineering**0 s.h.**

Professional aspects of mechanical engineering: presentations, student/faculty interaction, professional society involvement, panel discussions, plant trip. Requirements: junior standing.

ME:3351 Engineering Instrumentation**2 s.h.**

Basic elements of measuring circuits (bridges, voltage dividers, shunts, transformers); laboratory instrumentation (oscilloscopes, multimeters, power supplies, signal generators); amplifiers; frequency response principles; sensors; data acquisition, signal processing, filtering using Labview. Prerequisites: PHYS:1612 and ENGR:2120.

ME:3600 Control of Mechanical Engineering Systems**3 s.h.**

Introduction to fundamental control theory and robot manipulators. Prerequisites: MATH:2560 and ENGR:2710.

ME:4024 Mechanical Engineering Design and Parametric Modeling**3 s.h.**

Design principles and methods to develop 3-D part models and assemblies; emphasis on use of mechanical engineering design principles and functional requirements through the complete design process using PTC Creo Parametric; for students with a basic knowledge of computer-aided design (CAD). Prerequisites: ENGR:2760. Corequisites: ENGR:2750 ME:3045.

ME:4048 Energy Systems Design**4 s.h.**

Principles and design of energy conversion systems, including solar, wind, and geothermal power systems; design of thermal-fluid system components, modeling and simulation of systems, optimization techniques; design projects. Prerequisites: ME:3045 and ME:3040.

ME:4055 Mechanical Systems Design**3 s.h.**

Kinematics of mechanisms, dynamics and vibration of machines, cam and gear, machine elements, computer-aided analysis of machines. Prerequisites: ENGR:2710 and ME:3052.

ME:4080 Experimental Engineering**4 s.h.**

Principles of physical measurements; standards calibration, estimation of error; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. Prerequisites: ME:3351. Corequisites: ME:3045 and ME:3052.

ME:4086 Mechanical Engineering Design Project 2-3 s.h.

Application of mechanical, thermal, fluid systems design; student or team design projects initiated at various levels in the design process and carried through to higher levels; emphasis on synthesis, written and oral communication. Corequisites: ME:4048 or ME:4055.

ME:4098 Individual Investigations: Mechanical Engineering**arr.**

Individual projects for mechanical engineering undergraduate students; laboratory study; engineering design project; analysis, synthesis, simulation of an engineering system; computer software development, research.

ME:4110 Computer-Aided Engineering**3 s.h.**

Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: ME:3052 and ENGR:2750. Same as CEE:4515.

ME:4111 Numerical Calculations**3 s.h.**

Development of algorithms for functional approximations, numerical differentiation and integration; solution of algebraic and differential equations, with emphasis on digital computations; initial and boundary value problems. Prerequisites: MATH:2560. Same as CEE:4511.

ME:4112 Engineering Design Optimization**3 s.h.**

Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: ENGR:2110 and MATH:2550. Requirements: junior standing. Same as CEE:4512.

ME:4113 Control of Mechanical Engineering Systems 3 s.h.

How to model simple engineering systems, apply time and frequency domain analysis techniques, and design control systems; application of these techniques using MATLAB; writing differential equations describing engineering systems and determine time domain response to a wide range of inputs; use of state-variable equations to model engineering systems and determine their time response to a wide range of inputs; describe advantages of feedback control; analyze performance of control systems; determine stability of control systems using Root-Locus, Bode, and Nyquist methods; design feedback control systems using frequency domain and state-variable methods. Prerequisites: MATH:2550 and MATH:2560 and ENGR:2710. Same as IE:4113.

ME:4115 Finite Element I 3 s.h.

One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: ENGR:2750. Same as CEE:4533, IGPI:4115.

ME:4116 Manufacturing Processes Simulations and Automation 3 s.h.

Material processing, metal cutting theories, forming, micro/nano fabrication, programmable logic controller, computer numerical controllers, discrete control system, DC and AC servo motors, Command generation. Prerequisites: ENGR:2760. Same as IE:4116.

ME:4117 Finite Element Analysis arr.

Trusses and frames; Rayleigh-Ritz methods; 2-D and 3-D elasticity problems; heat transfer, thermo-mechanical coupling; transient problems; use of commercial software for applications in analysis and design of mechanical engineering systems. Prerequisites: ENGR:2750.

ME:4120 State-Space Methods for Linear Control Systems arr.

Overview of system modelling and classical control design tools and methods, and bridges those with state-space approach for analysis and control of linear systems in the time domain; topics include linearization, root locus, Bode diagrams, Nyquist criteria, robustness margins, lead-lag compensators, observability and controllability, state-space realizations, internal stability and input-output stability, pole-placement, observers and reduced order observers, separation principle, performance limitations, linear quadratic regulator and its guaranteed margins, and optimal estimation. Prerequisites: MATH:2550 and MATH:2560 and ENGR:2710.

ME:4125 Biomimetic Fluid Dynamics 3 s.h.

Study and development of engineered systems that mimic the structure and function of biological systems; overview of the fluid dynamic principles that govern locomotion by swimming or flapping flight; equations of motion, fundamentals of aerodynamics; analytical models of force generation for swimming and flight; parameters governing effective locomotion; experimental and numerical studies to understand the present state of the art, challenges, and important questions. Prerequisites: ENGR:2510.

ME:4131 Manufacturing Systems 3 s.h.

Manufacturing and logistics systems, supply chain management, MRP/ERP systems, lean manufacturing, concurrent engineering, value stream mapping and six sigma. Offered spring semesters. Prerequisites: IE:3700 and ENGR:2760. Same as IE:3300.

ME:4140 Modern Robotics and Automation 3 s.h.

Introduction to basics of robotics and automation; mechanical design development and manufacturing of smart and automated devices, components, and systems; principles of robotic motion and kinematics; introduction to process automation through system requirement identification, equipment integration, sensors, actuation, and logical control; fundamentals of design, analysis, and manufacturing to meet functionality requirements of products, devices, and systems using the principles of mechatronics to develop smart and automated products. Prerequisites: ENGR:2710.

ME:4142 Wind Turbine Aerodynamics 3 s.h.

Fluid mechanics of wind turbines and wind farms; engineering methodologies to design wind turbine blades; evaluation of rotor wakes; interaction between machines; effects of topography on wind turbine and wind farm performance. Prerequisites: ENGR:2510.

ME:4153 Fundamentals of Vibrations 3 s.h.

Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: ENGR:2750. Same as CEE:4532.

ME:4164 Fundamentals of Wind Turbines arr.

Application of fundamental principles of thermodynamics, fluid mechanics, and mechanical systems to wind turbine engineering; fundamentals of horizontal-axis wind turbines, wind energy conversion to useful work; wind turbine aerodynamics, performance, design of components; overview of wind resource and historical development of wind turbines; introduction to wind turbine installation and wind farm operation.

ME:4175 Computational Naval Hydrodynamics 3 s.h.

Simulations based on relevant vessels and propellers will be used to introduce the use of computational fluid dynamics for the analysis of surface and underwater marine craft performance, while also introducing naval hydrodynamics concepts related to resistance, propulsion, maneuvering, and seakeeping; an educational version of the naval hydrodynamics code REX will be freely distributed and used in the class. Prerequisites: ENGR:2510.

ME:4176 Experimental Naval Hydrodynamics 3 s.h.

Introduction to experimental methods for measurement of propeller thrust performance and resistance of surface vessels and underwater marine craft; present and expand on fundamental concepts related to fluid mechanics, measurement methods, and uncertainty analysis in a context that focuses on naval science and technology challenges; students work with models of relevant vessels and propellers in a dedicated towing tank facility. Prerequisites: ENGR:2510.

ME:4186 Enhanced Design Experience 2-3 s.h.

Experience working in teams on industry-sponsored design and product development projects scheduled for production; emphasis on practical experience with the complete design process, from conceptualization through prototyping, evaluation, testing, and production; written and oral communication. Prerequisites: ME:4086.

ME:4200 Modern Engineering Materials for Mechanical Design arr.

Overview of design approaches for different engineering materials (i.e., metals, polymers, ceramics); topics include manufacturing processes, smart and advanced functionalities for applications in emerging engineering fields, theoretical models describing mechanical behavior, failure mechanisms, and design criteria; introduction to composite materials; computer lab activities focus on finite element method (FEM) simulations of materials with different mechanical properties. Prerequisites: ME:3052.

ME:4650 Mechatronics Engineering for Smart Device Design 3 s.h.

Introduction to basic mechatronics system components and design principles using mechatronics to meet functionality requirements of products, processes, and systems; lab-oriented assignments and team-based projects presented with innovative case studies in diverse application domains; labs require students to use a micro-controller kit to finish hardware development assignments; for students who plan to have a career in areas such as product development, robotics, design and manufacturing automation, technology management and innovations. Prerequisites: ENGR:2120 and ENGR:2760. Same as IE:4650.

ME:5113 Mathematical Methods in Engineering 3 s.h.

Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CBE:5140, CEE:5513.

ME:5114 Nonlinear Control in Robotic Systems 3 s.h.

Nonlinear analysis and control systems theory; focus on Lyapunov-based analysis methods and associated design techniques; introduction to definitions of stability for autonomous and nonautonomous systems leading to a Lyapunov framework, and based on the developed Lyapunov-based analysis tools, basic and advanced design tools for contemporary engineering problems are presented, including state-of-the-art techniques. Prerequisites: MATH:2560.

ME:5120 Vehicle System Dynamics 3 s.h.

Introduction to principles and basic procedures used in analysis of vehicle system dynamics and design; topics include tire mechanics, longitudinal and cornering tire force characteristics, steady-state and transient vehicle cornering responses, vehicle stability control, ride comfort, suspension design, off-road vehicle mobility, tire-soil interaction, and vehicle performance evaluations. Prerequisites: ENGR:2710.

ME:5143 Computational Fluid and Thermal Engineering 3 s.h.

Governing equations of fluid flow and heat transfer; basic numerical techniques for solution of the governing equations; estimation of accuracy and stability of the approximations; boundary conditions; grid generation; applications to flows and heat transfer in engineering systems; familiarity with software for analysis and design of thermo-fluids systems. Prerequisites: ME:3045.

ME:5145 Intermediate Heat Transfer 3 s.h.

Steady and unsteady conduction; forced and natural convection; surface and gaseous radiation; condensation and evaporation; analytical and numerical methods and applications. Prerequisites: ME:3045.

ME:5146 Modeling of Materials Processing 3 s.h.

Manufacturing processes for metals, polymers, semiconductors; processing by casting, solidification, crystal growth, polymer molding and extrusion, welding, heat treating, application of optical (laser) and electromagnetic energy; processes that use momentum, heat, mass transfer principles; measurement and instrumentation for materials processing; current topics in materials processing. Corequisites: ME:3045.

ME:5149 Propulsion Engineering 3 s.h.

Opportunity to develop basic understanding and knowledge of rocket and airbreathing propulsion systems, relevant terminology and analysis techniques, parameteric cycle analysis for ideal engines, off-design analysis methods, problem-solving methodology. Prerequisites: ME:3040. Requirements: graduate standing.

ME:5150 Intermediate Mechanics of Deformable Bodies 3 s.h.

Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: ENGR:2750. Same as BME:5660, CEE:5540.

ME:5154 Intermediate Kinematics and Dynamics 3 s.h.

Kinematic and dynamic analysis of mechanical systems; computational kinematics, Lagrangian dynamics, principle of virtual work in dynamics, constrained dynamics, spatial dynamics. Prerequisites: ENGR:2710.

ME:5159 Fracture Mechanics 3 s.h.

3-D stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: BME:4910 or ME:4055 or ME:5150. Same as CEE:5549.

ME:5160 Intermediate Mechanics of Fluids 3 s.h.

Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: ENGR:2510. Same as CEE:5369.

ME:5162 Experimental Methods in Fluid Mechanics and Heat Transfer 3 s.h.

Hands-on experience in methodology of conducting experiments in fluid mechanics and heat transfer from design to data acquisition and processing; essential theoretical elements, experimental methodologies, data acquisition systems, uncertainty analysis; wide variety of instruments for fundamental and applied experimentation; work in small groups; design, implement, test, and report an experiment in area of interest. Same as CEE:5372.

ME:5167 Composite Materials 3 s.h.

Mechanical behavior of composite materials and their engineering applications; composite constituents (fibers, particles, matrices) and their properties and behavior; macromechanical behavior of composite laminae; micromechanical predictions of composite overall properties; classical lamination theory; composite beams and plates. Prerequisites: ENGR:2750. Same as CEE:5137.

ME:5179 Continuum Mechanics**arr.**

Mechanics of continuous media; kinematics of deformation, concepts of stress and strain; conservation laws of mass, momentum and energy; constitutive theories; boundary and initial value problems. Prerequisites: ENGR:2750 or ENGR:2510. Same as CEE:5179.

ME:5195 Contemporary Topics in Mechanical Engineering**arr.**

New topics in fluid and thermal sciences and mechanical systems not covered in other courses; topic and coverage determined by student/faculty interest. Requirements: junior standing.

ME:5210 Intermediate Thermodynamics**3 s.h.**

Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: CBE:3105 or ME:3040 or graduate standing. Same as CBE:5110.

ME:5236 Optimization of Structural Systems**3 s.h.**

Advanced topics; optimization of structural topology, shape, and material; finite dimensional dynamic response optimization, sensitivity analysis, distributed parameter systems; projects. Same as BME:5720, CEE:5236.

ME:5360 Control Theory**3 s.h.**

State space approach; controllability, observability, canonical forms, Luenberger observers, feedback control via pole placement, stability, minimal realization and optimal control. Prerequisites: ECE:3600. Same as ECE:5600.

ME:5362 Computer-Based Control Systems**3 s.h.**

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: ECE:5600. Same as ECE:5640, IGPI:5641.

ME:6191 Graduate Seminar: Mechanical Engineering**1 s.h.**

Presentation and discussion of recent advances and research in mechanical engineering by guest lecturers, faculty, students.

ME:6198 Individual Investigations: Mechanical Engineering**arr.**

Individual project in mechanical engineering, for department graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

ME:6199 Research: Mechanical Engineering M.S. Thesis**arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in mechanical engineering.

ME:6214 Analytical Methods in Mechanical Systems**3 s.h.**

Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: ME:5113. Same as CEE:6310.

ME:6215 Finite Element II**3 s.h.**

Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as CEE:6532, IGPI:6216.

ME:6216 Laser Materials Processing**3 s.h.**

Proficient engineering background involved in laser processing and manufacturing; fundamentals and operation principles for various types of laser systems, laser optics, principles of laser-matter interactions, laser-induced thermal and thermo-mechanical effects; emerging areas of laser applications (e.g., microscale and nanoscale laser processing, ultrafast laser processing) and related energy transport analyses; video demonstrations. Prerequisites: ME:3045 and MATH:3550.

ME:6217 Advanced Modeling and Simulation for Manufacturing**3 s.h.**

How materials often behave in a complicated manner involving deeply coupled effects among stress/strain, temperature, and microstructure during a manufacturing process; modeling and prediction of material processes based on a metallo-thermomechanical coupled analysis; focus on heat transfer modeling in material processes, fundamental mechanics aspects required for material processing analysis, and microstructural evolution modeling in material processes. Prerequisites: CEE:4533 and ME:3045.

ME:6245 Diffusive Transport**3 s.h.**

Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: ME:5145. Same as CBE:6145.

ME:6246 Advanced Numerical Methods for Mechanical Systems**3 s.h.**

Introduction to meshfree particle methods, extended finite element method, material stability analysis, thermal-mechanical coupling, and coupling of finite element/meshfree methods. Requirements: ME:4115 or ME:5143 or background in computational mechanics, computational chemistry, or computational physics.

ME:6247 Contact Mechanics**3 s.h.**

Varied aspects of contact mechanics and engineering applications, including stationary contacts, sliding, rolling, impact, and fretting fatigue; emphasis on theoretical basis of solutions of contact mechanics problems; mathematical methods of solving contact problems using Green's function method; complex potentials and integral transform methods. Prerequisites: ME:5113 and ME:5150.

ME:6255 Multiscale Modeling**3 s.h.**

Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: ME:5143 or CEE:4533. Same as CEE:7549.

ME:6258 Computational Ship Hydrodynamics**3 s.h.**

Introduction to computation of problems in three main areas of ship hydrodynamics: resistance and propulsion, seakeeping, and maneuvering; focus on issues of simulating operating ships, modeling methods, and numerical techniques used to approach ship hydrodynamics. Prerequisites: ME:5160. Corequisites: ME:5143.

ME:6260 Viscous Flow**3 s.h.**

Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers—equations, solution methods, applications; stability theory and transition; incompressible turbulent flow—mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: for ME:6260—ME:5160; for CEE:6376—CEE:5369. Same as CEE:6376.

ME:6261 Multibody System Dynamics 3 s.h.

Introduction to principles of analytical and computational dynamics for rigid and flexible multibody systems; spatial kinematics and dynamics of rigid body systems, numerical solution procedures for multibody dynamics analysis, and flexible multibody dynamics. Prerequisites: ME:5154.

ME:6262 Inviscid Flow 3 s.h.

Derivation of governing equations for fluid flow; general theorems for motion of inviscid, incompressible flows; solution techniques for two- and three-dimensional irrotational flows; forces and moments acting on immersed bodies; vortex kinematics and dynamics; steady and unsteady aerodynamic theory. Prerequisites: ME:5160.

ME:6263 Compressible Flow arr.

Compressible flow behavior; 1-D unsteady flow and appropriate use of x-t diagrams; 2-D flows and use of the method of characteristics; Burgers' Equation and its properties.

ME:6275 Advanced Heat Transfer 3 s.h.

Conservation laws, forced and natural convection; surface and gaseous radiation; analytical and numerical methods; applications. Prerequisites: ME:5145.

ME:6278 Nonlinear Elasticity 3 s.h.

Nonlinear elasticity theory; modern applications in biomechanics; vectors and tensors, constitutive theory of elastic material, some exact solutions of boundary value problems, inverse deformation relations, stability of elastic material, theories of tissue adaptive response. Prerequisites: ME:5150. Requirements: elementary linear elasticity.

ME:6534 Applied Optimal Design 3 s.h.

Optimal design problem formulation; optimality conditions; linear, quadratic, convex, and nonlinear programming; Lagrangian duality; numerical algorithms for unconstrained and constrained design problems, design sensitivity analysis, engineering applications. Prerequisites: CEE:5513. Same as CEE:6534.

ME:6810 Advanced Topics on Additive Manufacturing 3 s.h.

Review of critical challenges facing 3-D printing; emphasis on techniques and practical experience in developing novel additive manufacturing processes and applications; topics include 3-D content creation and preparation, CAD systems for additive manufacturing, additive manufacturing processes, fabrication speed and improvements, rapid tooling and indirect processes. Same as IE:6810.

ME:7248 Combustion Theory 3 s.h.

Laminar flame theory; turbulent combustion; spray combustion; thermal ignition; pollutant formation, oxidation; combustion diagnostics. Prerequisites: ME:5145 and ME:5160.

ME:7250 Advanced Fracture Mechanics 3 s.h.

Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: ME:5113 and (ME:5159 or CEE:4533). Same as CEE:7250.

ME:7256 Computational Solid Mechanics 3 s.h.

Advanced computational methods for nonlinear and dynamic analysis of solids, structures; new space- and time-discretization methods for problems, including highly nonlinearities, large deformation, contact/impact conditions. Prerequisites: ME:5113 and CEE:4533.

ME:7257 Probabilistic Mechanics and Reliability 3 s.h.

Stochastic and reliability analysis of mechanical systems; computational methods for structural reliability; random eigenvalue problem; random field and stochastic finite element methods. Prerequisites: CEE:4533 and ME:5113.

ME:7259 Mechanical Design in Structures 3 s.h.

Discrete and continuum variational equilibrium equations, discrete design sensitivity analysis for static responses and eigenvalues, interactive design workstation, continuum sizing design sensitivity analysis for static responses and eigenvalues, design sensitivity analysis of structural dynamics, differentiability theory, shape optimal design, shape design sensitivity analysis, design sensitivity of nonlinear structural systems. Prerequisites: CEE:4533 and ME:5113 and ME:5150.

ME:7266 Interfacial Flows and Transport Processes 3 s.h.

Physics of fluid interfaces and numerical techniques to simulate interface dynamics; interfacial flow coupled with thermal-fluid transport, from molecular interactions to continuum approximations; development of computer code segments to track and represent interface-flow interactions. Prerequisites: ME:5145 and ME:5160.

ME:7267 Multiphase Flow and Transport 3 s.h.

Thermodynamic and mechanical aspects of interfacial phenomena and phase transitions; nucleation, phase-change, species transport, particulate flows, liquid-vapor systems, solidification, porous media. Prerequisites: ME:5145 and ME:5160.

ME:7268 Turbulent Flows 3 s.h.

Origin; need for modeling, averages, Reynolds equations, statistical description; experimental methods and analysis; turbulence modeling; free shear layers and boundary layers; complex shearflows; development of computational strategies; recent literature on theory and applications, chaos phenomena. Prerequisites: ME:5160.

ME:7269 Computational Fluid Dynamics and Heat Transfer 3 s.h.

Development of numerical and algebraic approximations for elliptic, parabolic, hyperbolic partial differential equations; finite-volume, spectral, pseudo-spectral, Galerkin techniques; stability of numerical methods; CFL condition; stiff problems; adaptive grid generation and boundary-fitted coordinates; numerical solutions for one- and two-dimensional compressible and incompressible fluid flow and heat transfer problems. Prerequisites: ME:4111 and ME:5160.

ME:7295 Advanced Topics in Mechanical Systems 3 s.h.

Advanced contemporary topics in mechanical systems engineering not covered in other courses and determined by student/faculty interest.

ME:7299 Research: Mechanical Engineering Ph.D. Dissertation arr.

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in mechanical engineering.

Mechanical Engineering, B.S.E.

The educational objectives of the Bachelor of Science in Engineering (B.S.E.) program in mechanical engineering are to produce graduates who, within a few years of graduation:

- will have successful careers in engineering and beyond and will have assumed professional roles of increasing responsibility and impact;
- will have acquired new knowledge and expertise through professional development opportunities or advanced education; and
- will be engaged in workplace, professional, or civic communities.

Visit Mechanical Engineering Program Educational Objectives on the Department of Mechanical Engineering website to learn more.

Requirements

The Bachelor of Science in Engineering requires a minimum of 128 s.h. The major in mechanical engineering lays a foundation in the basic disciplines of mathematics, physics, and chemistry and in the engineering sciences of statics, dynamics, thermodynamics, mechanics of deformable bodies, mechanics of fluids and transfer processes, materials science, and electrical sciences. An understanding of these sciences enables mechanical engineers to design parts of systems and understand whole systems, plan the production and use of energy, plan and operate industrial manufacturing facilities, and design automatic control systems for machines and other mechanical systems.

Mechanical engineering students develop an awareness of social and humanistic issues relating to business, environment, government, history, language, religion, and international relations. They also acquire an appreciation of professional and ethical responsibilities.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric, ENGR:1100 Introduction to Engineering Problem Solving, ENGR:1300 Introduction to Engineering Computing, and courses in chemistry, engineering mathematics and fundamentals, and physics.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the general education component. For information about the curriculum stems, see the Bachelor of Science in Engineering [p. 1311] in the Catalog.

Upper-level students work on team projects in a senior capstone design course, ME:4086 Mechanical Engineering Design Project. Some students may arrange to participate in established research projects.

Students must select elective focus area courses according to guidelines established by the Department of Mechanical Engineering. See "Elective Focus Area" below.

Elective Focus Area

The mechanical engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible

focus areas tailored to individual student interests. For more detailed information about elective focus areas, see the Bachelor of Science in Engineering [p. 1311] in the Catalog. For a list of standard mechanical engineering elective focus area options and guidelines for tailored elective focus areas, see the undergraduate Mechanical Engineering Program page on the Department of Mechanical Engineering website.

Combined Programs

B.S.E./M.S.

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science program for mechanical engineering undergraduate students who intend to earn a M.S. in mechanical engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level course work, attend the program's graduate seminar, and participate in master's research while they are still undergraduates. They may count 6 s.h. of graduate course work toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the combined degree program, students must have completed at least 80 s.h., have a cumulative g.p.a. of at least 3.25, and they must submit a letter of application to the chair of the Department of Mechanical Engineering.

B.S.E./M.S. in Civil and Environmental Engineering

Bachelor of Science in Engineering students majoring in mechanical engineering who are interested in earning a Master of Science in civil and environmental engineering may apply to the combined B.S.E./M.S. program offered by the College of Engineering. The combined program enables undergraduate students to begin work on the M.S. degree while completing their B.S.E. degree. Students admitted to the program may count 9 s.h. of course work toward both the B.S.E. and the M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. For more information, see the M.S. in Civil and Environmental Engineering [p. 1358] in the Catalog.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Mechanical Engineering, B.S.E.

Course	Title	Hours
First Year		
Fall		
MATH:1550	Engineering Mathematics I: Single Variable Calculus ^a	4
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I ^b	4
RHET:1030	Rhetoric	4

ENGR:1000	Engineering Success for First-Year Students	1
CSI:1600	Success at Iowa	0
	Hours	16
Spring		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
ENGR:1300	Introduction to Engineering Computing	3
PHYS:1611	Introductory Physics I	4
MATH:2550	Engineering Mathematics III: Matrix Algebra	2
GE: Engineering Be Creative ^c		3
	Hours	16
Second Year		
Fall		
MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1612	Introductory Physics II	3
ENGR:2110	Engineering Fundamentals I: Statics	2
ENGR:2120	Engineering Fundamentals II: Electrical Circuits	3
ENGR:2130	Engineering Fundamentals III: Thermodynamics	3
GE: CLAS General Education Component ^d		3
ME:2020	Mechanical Engineering Sophomore Seminar	0
	Hours	17
Spring		
ENGR:2720	Materials Science	3
ENGR:2750	Mechanics of Deformable Bodies	3
ENGR:2760	Design for Manufacturing	3
ENGR:2710	Dynamics	3
Elective Focus Area: #1		3
	Hours	15
Third Year		
Fall		
MATH:3550	Engineering Mathematics V: Vector Calculus	3
ENGR:2510	Fluid Mechanics	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
ENGR:2730	Computers in Engineering	2
ME:3351	Engineering Instrumentation	2
Elective Focus Area: #2		3
ME:3091	Professional Seminar: Mechanical Engineering	0
	Hours	17
Spring		
ME:3040	Thermodynamics II	3
ME:3045	Heat Transfer	3
ME:3052	Mechanical Systems	4
Elective Focus Area: #3		3
GE: Approved Course Subjects ^e		3
	Hours	16

Fourth Year**Fall**

ME:4048	Energy Systems Design	4
ME:4055	Mechanical Systems Design	3
Elective Focus Area: #4		3
Elective Focus Area: #5		3
GE: Approved Course Subjects ^e		3
ME:3091	Professional Seminar: Mechanical Engineering	0
	Hours	16

Spring

ME:4086	Mechanical Engineering Design Project	3
ME:4080	Experimental Engineering	4
Elective Focus Area: #6		3
Elective Focus Area: #7		3
GE: Approved Course Subjects ^e		3
	Hours	16
	Total Hours	129

- a Enrollment in math courses requires completion of a placement exam.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Courses with prerequisites; students should complete a prerequisite waiver form.
- d Students may select a course from all GE CLAS Core categories except Rhetoric, Quantitative or Formal Reasoning, and Natural Sciences.
- e A full list of approved course subjects can be found on the College of Engineering General Education Component website.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Mechanical Engineering, M.S.

Research and Study

The graduate programs in mechanical engineering educate students in more depth and breadth than is possible at the baccalaureate level. This prepares the graduate to use contemporary methods at advanced levels in professional careers in engineering design, development, teaching, and research. Plans of study for all students are based on their background and career objectives, and are designed according to sound academic practice. Faculty members in the program have teaching and research expertise in energy and power conversion, fluid and thermal sciences, solid mechanics, mechanical systems, and related areas.

Students may develop programs emphasizing fluid mechanics, thermodynamics, heat transfer, fatigue and fracture mechanics, and mechanical systems. Some may pursue more general programs that combine emphases. Others may specialize in interdisciplinary areas (e.g., energy engineering, materials engineering, automatic control, chemical processes), which involve a combination of mechanical engineering departmental courses and appropriate electives from other departments in the College of Engineering and across the University.

The mechanical engineering program offers the following research and study areas.

Fluid Mechanics

The graduate program in fluid mechanics provides a rigorous and broad foundation in theoretical, numerical, and experimental aspects of the subject. It is especially suitable for those seeking careers in teaching and/or research in academic and industrial organizations. The program focuses on fundamental principles and techniques of solving problems in the varied fields of fluids engineering. It emphasizes computer use, both in mathematical modeling of flow phenomena and in acquisition and processing of experimental data.

Although most of the relevant courses are offered by the Department of Mechanical Engineering, students are strongly encouraged to take applied mathematics and classical mechanics courses offered by the Departments of Mathematics [p. 718] and Physics and Astronomy [p. 807] in the College of Liberal Arts and Sciences and by other College of Engineering departments.

Current research projects include computational modeling of viscous and turbulent flows; vortex dynamics; unsteady flows; pulmonary flow; flow separation and control; atmospheric flows; environmental flows; ship hydrodynamics; viscous flow around ships; propulsor flow and propulsor-body interactions; free-surface effects; nonlinear wave theory; biomimetic fluid mechanics; hydraulic turbines; quantitative flow visualization and image processing; computational fluid dynamics; LDV and thermal anemometry for flow analysis; and uncertainty analysis.

Mechanical Systems

The graduate program in mechanical systems is designed to provide students with a broad, strong background in theoretical, computational, experimental, and applied aspects of the subject. It prepares future graduates

for careers in industry, teaching, and government. The program emphasizes fundamental principles, computational techniques, multiscale modeling and simulation, and experimentation used to analyze and design mechanical systems. Areas of concentration include reliability-based design and optimization, nanotechnology, tissue mechanics, machine and vehicle dynamics, optimal design, structural sensitivity analysis and optimization, computational solid mechanics, probabilistic mechanics, mechanics of composite materials, reliability, and fatigue and fracture mechanics.

Although most courses relevant to the specialization areas are offered by the Department of Mechanical Engineering, students are encouraged to consider appropriate course work from other areas, including courses offered by other College of Engineering departments and in disciplines such as mathematics [p. 718], statistics [p. 991], and physics [p. 807].

Current research projects include computational mechanics, tissue mechanics, multiphysics, and multiple-scale problems; mechanics of multifunctional composites and nanocomposites, electromagnetic and thermal effects in composites, micromechanical modeling of multiphase composites and nanocomposites, impact and failure of composites, contact mechanics problems with friction and adhesion; stochastic meshfree and finite element methods; design sensitivity analysis of nonlinear structural systems; reliability-based design optimization; surrogate modeling for reliability-based design optimization; shape optimal design of elastoplastic materials; optimal design of metal stamping process; probabilistic and elastic-plastic fracture mechanics; damage tolerant design; fatigue behavior and life prediction under constant and variable amplitude loading; design sensitivity analysis of rigid and flexible mechanical systems; multibody system dynamics, tire dynamics, wheel and rail contact dynamics; wind turbine drivetrain dynamics; and vehicle system dynamics.

Thermal Sciences

The graduate program in thermal sciences and systems is designed to provide students with a rigorous and broad foundation in theoretical and experimental aspects of the subject. It prepares future graduates for careers in industry, teaching, and government. The program emphasizes fundamentals of thermodynamics and heat transfer, and associated analytical, numerical, and experimental methods used in energy systems. Areas of concentration include fluid mechanics, thermodynamics, heat transfer, phase-change, combustion, and fuel cells.

Most courses relevant to the specialization areas are offered by the Department of Mechanical Engineering. Students are encouraged to balance their programs by supplementing these with appropriate course work from other areas, including courses offered by other College of Engineering departments and in disciplines such as mathematics [p. 718] and physics [p. 807].

Current research projects include biomass gasification; turbulent flames; combustion of biomass; alternative and renewable fuels; combustion instability; spray atomization and combustion; transport modeling of fuel cells; transport phenomena in materials processing, melting, and solidification; and optical-based diagnostics of complex thermal processes.

Requirements

The Master of Science program in mechanical engineering requires a minimum of 30 s.h., with or without thesis. Thesis students may count 6-9 s.h. earned for thesis research and writing toward the degree. Students must maintain a g.p.a. of at least 3.00 in graduate work used to satisfy their degree requirements.

Each student determines a study plan in consultation with an advisor and submits the plan to the department chair for approval. All M.S. students must register for ME:6191 Graduate Seminar: Mechanical Engineering each semester.

Students must be successful in their final examination. The examination is administered by a student's committee, which consists of at least three faculty members, including at least one with a primary appointment in the Department of Mechanical Engineering.

The requirements for the M.S. may be completed within one calendar year. However, students with assistantship duties or other constraints may take up to two calendar years to complete the degree.

Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations of the Graduate College.

Applicants who have earned a baccalaureate or master's degree in engineering curriculum or in the mathematical or physical sciences are eligible to be considered for admission to graduate study in mechanical engineering. In order to be considered for regular admission, applicants must have a g.p.a. of at least 3.00 on a 4.00 scale on all previous college-level work and Graduate Record Examination (GRE) General Test scores of at least 500 verbal, 750 quantitative, and 4.5 in analytical writing. Students whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign language (TOEFL).

Applicants with a lower grade-point average and/or GRE or TOEFL test scores may be considered for conditional admission, under exceptional circumstances. Applicants admitted conditionally must achieve regular standing within one semester (excluding summer sessions) after admission by attaining a g.p.a. of at least 3.00 on their first 9 s.h. at the University of Iowa. The Graduate College cancels registration for the subsequent semester for students who have not submitted their GRE and/or TOEFL scores by the end of the first semester after admission.

Financial Support

Financial support is available to M.S. students, primarily through graduate assistantships in teaching or research from the Department of Mechanical Engineering, the Center for Computer-Aided Design, IIHR—Hydroscience and Engineering, and the National Advanced Driving Simulator. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill their assistantship responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new assistantship awards. All applications

for financial support should be submitted directly to the department chair.

Students with assistantship appointments of one-quarter-time or more are required to register for a minimum of 9 s.h. during fall and spring semesters until they have completed 30 s.h. of course and research work beyond the baccalaureate degree.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Mechanical Engineering, Ph.D.

Research and Study

The graduate programs in mechanical engineering educate students in more depth and breadth than is possible at the baccalaureate level. This prepares the graduate to use contemporary methods at advanced levels in professional careers in engineering design, development, teaching, and research. Plans of study for all students are based on their background and career objectives, and are designed according to sound academic practice. Faculty members in the program have teaching and research expertise in energy and power conversion, fluid and thermal sciences, solid mechanics, mechanical systems, and related areas.

Students may develop programs emphasizing fluid mechanics, thermodynamics, heat transfer, fatigue and fracture mechanics, and mechanical systems. Some may pursue more general programs that combine emphases. Others may specialize in interdisciplinary areas (e.g., energy engineering, materials engineering, automatic control, chemical processes), which involve a combination of mechanical engineering departmental courses and appropriate electives from other departments in the College of Engineering and across the University. Doctor of Philosophy programs may center on any one of these areas through choice of appropriate course work and research topic.

The mechanical engineering program offers the following research and study areas.

Fluid Mechanics

The graduate program in fluid mechanics provides a rigorous and broad foundation in theoretical, numerical, and experimental aspects of the subject. It is especially suitable for those seeking careers in teaching and/or research in academic and industrial organizations. The program focuses on fundamental principles and techniques of solving problems in the varied fields of fluids engineering. It emphasizes computer use, both in mathematical modeling of flow phenomena and in acquisition and processing of experimental data.

Although most of the relevant courses are offered by the Department of Mechanical Engineering, students are strongly encouraged to take applied mathematics and classical mechanics courses offered by the Departments of Mathematics [p. 718] and Physics and Astronomy [p. 807] in the College of Liberal Arts and Sciences and by other College of Engineering departments.

Current research projects include computational modeling of viscous and turbulent flows; vortex dynamics; unsteady flows; pulmonary flow; flow separation and control; atmospheric flows; environmental flows; ship hydrodynamics; viscous flow around ships; propulsor flow and propulsor-body interactions; free-surface effects; nonlinear wave theory; biomimetic fluid mechanics; hydraulic turbines; quantitative flow visualization and image processing; computational fluid dynamics; LDV and thermal anemometry for flow analysis; and uncertainty analysis.

Mechanical Systems

The graduate program in mechanical systems is designed to provide students with a broad, strong background in

theoretical, computational, experimental, and applied aspects of the subject. It prepares future graduates for careers in industry, teaching, and government. The program emphasizes fundamental principles, computational techniques, multiscale modeling and simulation, and experimentation used to analyze and design mechanical systems. Areas of concentration include reliability-based design and optimization, nanotechnology, tissue mechanics, machine and vehicle dynamics, optimal design, structural sensitivity analysis and optimization, computational solid mechanics, probabilistic mechanics, mechanics of composite materials, reliability, and fatigue and fracture mechanics.

Although most courses relevant to the specialization areas are offered by the Department of Mechanical Engineering, students are encouraged to consider appropriate course work from other areas, including courses offered by other College of Engineering departments and in disciplines such as mathematics [p. 718], statistics [p. 991], and physics [p. 807].

Current research projects include computational mechanics, tissue mechanics, multiphysics, and multiple-scale problems; mechanics of multifunctional composites and nanocomposites, electromagnetic and thermal effects in composites, micromechanical modeling of multiphase composites and nanocomposites, impact and failure of composites, contact mechanics problems with friction and adhesion; stochastic meshfree and finite element methods; design sensitivity analysis of nonlinear structural systems; reliability-based design optimization; surrogate modeling for reliability-based design optimization; shape optimal design of elastoplastic materials; optimal design of metal stamping process; probabilistic and elastic-plastic fracture mechanics; damage tolerant design; fatigue behavior and life prediction under constant and variable amplitude loading; design sensitivity analysis of rigid and flexible mechanical systems; multibody system dynamics, tire dynamics, wheel and rail contact dynamics; wind turbine drivetrain dynamics; and vehicle system dynamics.

Thermal Sciences

The graduate program in thermal sciences and systems is designed to provide students with a rigorous and broad foundation in theoretical and experimental aspects of the subject. It prepares future graduates for careers in industry, teaching, and government. The program emphasizes fundamentals of thermodynamics and heat transfer, and associated analytical, numerical, and experimental methods used in energy systems. Areas of concentration include fluid mechanics, thermodynamics, heat transfer, phase-change, combustion, and fuel cells.

Most courses relevant to the specialization areas are offered by the Department of Mechanical Engineering. Students are encouraged to balance their programs by supplementing these with appropriate course work from other areas, including courses offered by other College of Engineering departments and in disciplines such as mathematics [p. 718] and physics [p. 807].

Current research projects include biomass gasification; turbulent flames; combustion of biomass; alternative and renewable fuels; combustion instability; spray atomization and combustion; transport modeling of fuel cells; transport phenomena in materials processing, melting, and solidification; and optical-based diagnostics of complex thermal processes.

Requirements

The Doctor of Philosophy program in mechanical engineering requires 72 s.h. of graduate credit, including at least 54 s.h. in course work (excluding thesis research) and at least 12 s.h. earned for Ph.D. thesis research. Students must pass the qualifying examination administered by the program to be formally admitted to the doctoral program.

Each student takes the comprehensive examination after passing the qualifying examination and when the course work specified in the study plan is nearly completed; in any case, the comprehensive examination should be taken no later than 28 months after the first registration in the Ph.D. program. To be admitted to the comprehensive examination, a student must be in good academic standing and must be recommended by the advisor. The exam is administered by the student's committee. Admission to Ph.D. candidacy is recognized upon successful completion of the comprehensive examination.

Having satisfactorily completed the exam, a student usually has only to complete and defend the dissertation at the final examination.

Requirements for the Ph.D. usually can be completed in three to four years beyond the M.S.

Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations of the Graduate College.

Applicants who have earned a baccalaureate or master's degree in engineering curriculum or in the mathematical or physical sciences are eligible to be considered for admission to graduate study in mechanical engineering. In order to be considered for regular admission, applicants must have a g.p.a. of at least 3.00 on a 4.00 scale on all previous college-level work and Graduate Record Examination (GRE) General Test scores of at least 500 verbal, 750 quantitative, and 4.5 in analytical writing. Students whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Applicants with a lower grade-point average and/or GRE or TOEFL test scores may be considered for conditional admission, under exceptional circumstances. Applicants admitted conditionally must achieve regular standing within one semester (excluding summer sessions) after admission by attaining a g.p.a. of at least 3.00 on their first 9 s.h. at the University of Iowa. The Graduate College cancels registration for the subsequent semester for students who have not submitted their GRE and/or TOEFL scores by the end of the first semester after admission.

Financial Support

Financial support is available to Ph.D. students, primarily through graduate assistantships in teaching or research from the Department of Mechanical Engineering, the Center for Computer-Aided Design, IHHR—Hydroscience and Engineering, and the National Advanced Driving Simulator. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill

their assistantship responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new assistantship awards. All applications for financial support should be submitted directly to the department chair.

Students with assistantship appointments of one-quarter-time or more must register for a minimum of 9 s.h. during fall and spring semesters until they have completed 72 s.h. of course and research work beyond the baccalaureate degree. Once they meet these minimums, students must register for a graduate seminar each semester until they have successfully completed their final examination or thesis defense. All registrations should accurately reflect the amount and type of work undertaken, the use of University facilities, and the amount of consultation with the faculty.

Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting.

Engineering Professional Development (EPD) develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

EPD also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

Naval Hydrodynamics

Chair, Department of Mechanical Engineering

- Ching-Long Lin

Coordinators

- James H.J. Buchholz (Mechanical Engineering), Pablo Carrica (Mechanical Engineering)

Undergraduate certificate: naval hydrodynamics

Website: <https://me.engineering.uiowa.edu/undergraduate/certificate-naval-hydrodynamics>

Science and technology challenges related to national defense in maritime environments demand a workforce with a strong foundation in the engineering sciences related to fluid flow, computational and experimental methods, dynamical systems, and control. The Certificate in Naval Hydrodynamics introduces students to the basic principles of naval hydrodynamics including propulsion, resistance, maneuvering, and seakeeping.

Students completing the certificate will work in a unique learning community where they will have an opportunity to contribute to projects of interest to the Navy and its supporting industry, and learn about potential career paths.

The Certificate in Naval Hydrodynamics is administered by the Department of Mechanical Engineering [p. 1395].

Programs

Undergraduate Program of Study Certificate

- Certificate in Naval Hydrodynamics [p. 1409]

Naval Hydrodynamics, Certificate

The undergraduate Certificate in Naval Hydrodynamics requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

All of the certificate courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course. Prerequisites do not count toward the 18 s.h. required for the certificate. Prerequisites for certificate courses are listed on the Certificate in Naval Hydrodynamics web page.

Mechanical engineering students may use the certificate as a tailored engineering focus area by adding an additional eligible course. In addition, mechanical engineering students may earn the Certificate in Naval Hydrodynamics while they complete the design elective focus area for their major.

College of Engineering students earning the certificate are advised by the Department of Mechanical Engineering [p. 1395].

The Certificate in Naval Hydrodynamics requires the following course work.

Required Courses

Code	Title	Hours
All of these:		
ME:4175	Computational Naval Hydrodynamics	3
ME:4176	Experimental Naval Hydrodynamics	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3

Numerical Methods Foundational Course

Code	Title	Hours
One of these:		
ME:4111/CEE:4511	Numerical Calculations	3
MATH:3800/ CS:3700	Elementary Numerical Analysis	3

Capstone Course

Students must complete either a naval hydrodynamics design project or an independent investigation involving research or testing of a system related to naval hydrodynamics. If a student chooses, both courses may be completed for credit toward the certificate.

Code	Title	Hours
One or both of these:		
ME:4098	Individual Investigations: Mechanical Engineering	arr.
ME:4186	Enhanced Design Experience	3

Electives

Students select the remainder of the 18 s.h. required for the certificate from the following.

Code	Title	Hours
ME:4125	Biomimetic Fluid Dynamics	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5154	Intermediate Kinematics and Dynamics	3
ME:5179/CEE:5179	Continuum Mechanics	3
ECE:2400	Linear Systems I	3
ECE:3600	Control Systems	3
ECE:5600/ME:5360	Control Theory	3

Sustainable Water Development

Chair, Department of Civil and Environmental Engineering

- Michelle M. Scherer

Coordinator, Sustainable Water Development

- Blake Rupe (Interdisciplinary Programs)

Graduate certificate: sustainable water development

Website: <https://cee.engineering.uiowa.edu/graduate-program/sustainable-water-development-graduate-certificate>

The Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) graduate students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. The certificate leverages a unique learning environment focused on water sustainability that extends beyond any one discipline, department, or college.

The Certificate in Sustainable Water Development is administered by the Department of Civil and Environmental Engineering [p. 1343].

Programs

Graduate Program of Study Certificate

- Certificate in Sustainable Water Development [p. 1411]

Sustainable Water Development, Graduate Certificate

For more information, contact the Sustainable Water Development Program coordinator.

The graduate Certificate in Sustainable Water Development requires 15 s.h. of credit, including at least 9 s.h. earned at the University of Iowa. The 5000-level courses required for the certificate must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. The certificate is open to graduate students currently enrolled at the University of Iowa who are completing a degree program.

Students may count a maximum of 6 s.h. completed for a major, minor, or another certificate toward the Certificate in Sustainable Water Development.

The Certificate in Sustainable Water Development requires the following course work.

Code	Title	Hours
CEE:5096	Water, Energy, and Food Nexus Seminar (taken for two semesters)	0
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5993	Community-Centered Problem Solving and Design	3
Two courses numbered 3000 or above from approved list of path electives; consult primary thesis advisor and certificate program coordinator		6

Students can view the path elective courses on the Civil and Environmental Engineering website.

Admission

Students must:

- be in a relevant science, technology, engineering, or mathematics (STEM) field;
- submit their University of Iowa transcript;
- have a graduate g.p.a. greater than 3.00 if in doctoral program or a g.p.a. greater than 2.75 if in master's program;
- submit their résumé or curriculum vitae;
- provide a statement of purpose of 500 words or less about their core research and training program, and why the certificate program will benefit their training and goals for career placement; and
- provide a letter of endorsement from their advisor.

Admission to the certificate program is competitive. Applications are accepted on a rolling basis and are reviewed by the Sustainable Water Development Program; applications can be submitted online along with pertinent materials. Students will receive an email after an admission decision has been made.

Technological Entrepreneurship

Undergraduate certificate: technological entrepreneurship

Website: <https://www.engineering.uiowa.edu/current-students/academic-information/certificates-and-minors/technological-entrepreneurship>

The College of Engineering partners with the John Pappajohn Entrepreneurial Center in the Tippie College of Business to offer the Certificate in Technological Entrepreneurship.

The program is intended for students who would like to develop an understanding of how to manage innovation in business environments as well as those who plan to start and operate their own businesses.

Students who complete the certificate program are able to:

- gain exposure to understanding sound business thinking;
- employ a more innovative and creative mindset in problem solving;
- learn how to create a business plan as skillfully as solving difficult engineering equations;
- understand the entrepreneurial approach to acquiring and managing resources;
- acquire team-building skills critical in both small and large companies;
- get insights in how to bridge engineering and business problems; and
- obtain valuable contacts and network opportunities with successful, thriving businesses and industries.

The Certificate in Technological Entrepreneurship is administered by the College of Engineering [p. 1294].

Programs

Undergraduate Program of Study Certificate

- Certificate in Technological Entrepreneurship [p. 1413]

Technological Entrepreneurship, Certificate

The undergraduate Certificate in Technological Entrepreneurship requires a minimum of 18 s.h. of credit. Students must complete at least 12 s.h. of the 18 s.h. required for the certificate at the University of Iowa or in approved study abroad courses.

The certificate program is open to Bachelor of Science in Engineering students who have earned at least 45 s.h. of credit toward the B.S.E. and have a University of Iowa g.p.a. of at least 2.75. They must maintain a g.p.a. of at least 2.00 in work toward the certificate. Students must be granted the B.S.E. and complete all certificate requirements in order to receive the certificate.

Students must declare their intention to pursue the certificate on MyUI and must apply for admission; visit the Technological Entrepreneurship Certificate web page for more information.

Certificate students study how the entrepreneurial process relates to technology-based businesses. The program is intended for students who would like to develop an understanding of how to manage innovation in business environments as well as those who plan to start and operate their own businesses.

The Certificate in Technological Entrepreneurship requires the following course work.

Foundation Course

Code	Title	Hours
This course:		
IE:2500	Engineering Economy	3

Entrepreneurship Core

Code	Title	Hours
Both of these:		
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3

Entrepreneurship Course in the Major

Code	Title	Hours
One of these, depending on a student's engineering major:		
BME:4910	Biomedical Engineering Senior Design I (biomedical engineering majors)	4
CBE:4109	Chemical Engineering Process Design I (chemical engineering majors)	2
CEE:4850	Project Design and Management in Civil Engineering (civil engineering majors)	3

ECE:4890	Senior Electrical and Computer Engineering Design (electrical engineering majors)	3
IE:4600	Industrial Engineering Design Project (industrial engineering majors)	4
ME:4086	Mechanical Engineering Design Project (mechanical engineering majors)	3

Entrepreneurship Electives

Students customize their programs with their choice of electives. They must earn sufficient elective credit to complete the 18 s.h. required for the certificate.

Code	Title	Hours
BME:4920	Biomedical Engineering Senior Design II	4
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3300	Legal Aspects of Entrepreneurship	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3595	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4000	Topics in Entrepreneurship	3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4450	Professional Sports Management	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510	Arts Leadership Seminar	3
ENTR:4900	Academic Internship	1-9
ENTR:9000	Developing Professional Service Business	3

Any entrepreneurship course (prefix ENTR), with certificate advisor's approval

Wind Energy

Chair, Department of Mechanical Engineering

- Ching-Long Lin

Undergraduate certificate: wind energy

Website: <https://me.engineering.uiowa.edu/undergraduate/certificate-wind-energy>

Wind energy has become a major source of clean energy and is expected to grow over the coming decades. That growth will create new jobs and a need for professionals who have diverse backgrounds and knowledge of wind energy fundamentals.

The Certificate in Wind Energy program is interdisciplinary, integrating course work and faculty expertise from the Departments of Civil and Environmental Engineering, Electrical and Computer Engineering, Mechanical Engineering (College of Engineering), and the Department of Geographical and Sustainability Sciences (College of Liberal Arts and Sciences). The Certificate in Wind Energy is administered by the Department of Mechanical Engineering [p. 1395].

Programs

Undergraduate Program of Study Certificate

- Certificate in Wind Energy [p. 1415]

Wind Energy, Certificate

The undergraduate Certificate in Wind Energy requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Work for the certificate focuses on energy, environment, and information science and includes core courses and electives. Mechanical engineering students may use the certificate as a tailored engineering focus area by adding an approved math/science elective.

Several certificate courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course. Prerequisites do not count toward the 18 s.h. required for the certificate. Prerequisites for certificate courses are listed on the Certificate in Wind Energy website.

College of Engineering students earning the certificate are advised by the Department of Mechanical Engineering [p. 1395] or the Department of Electrical and Computer Engineering [p. 1362]; College of Liberal Arts and Sciences students are advised by the Department of Geographical and Sustainability Sciences [p. 496]. Students interested in completing the Certificate in Wind Energy should contact one of the advisors listed on the Certificate in Wind Energy website.

The Certificate in Wind Energy requires the following course work.

Core Courses

Students take at least two courses from the following.

Code	Title	Hours
ECE:5630	Sustainable Energy Conversion	3
GEOG:3560	Spatial Analyses of Wind Energy	3
IE:4550	Wind Power Management	3
ME:4142	Wind Turbine Aerodynamics	3
ME:4164	Fundamentals of Wind Turbines	arr.

Electives

Students select courses from the following list that are not required for their major to complete the 18 s.h. for the certificate.

Code	Title	Hours
CBE:2030	Energy and Society	3
CBE:3160	Engineering Analysis of Alternative Energy Systems	3
CEE:3998	Individual Investigations: Civil Engineering (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	arr.
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:6223	Environmental Boundary Layers	4
ECE:2400	Linear Systems I	3

ECE:3600	Control Systems	3
ECE:3998	Individual Investigations: Electrical Engineering (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	arr.
ECE:5430	Electric Drive Systems	3
ECE:5600/ME:5360	Control Theory	3
ECE:5620	Electric Power Systems	3
ECE:5640/IGPI:5641/ME:5362	Computer-Based Control Systems	3
EES:1290	Energy and the Environment	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2310/EES:2310	Introduction to Climatology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3500/IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/IGPI:3520	GIS for Environmental Studies (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:3780/GHS:3780/HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:3992	Undergraduate Research (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	arr.
GEOG:4030	Senior Project Seminar (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	3
ME:4098	Individual Investigations: Mechanical Engineering (students consult certificate advisor in their department for approval; topic must be of relevance to wind energy)	arr.
ME:4113/IE:4113	Control of Mechanical Engineering Systems	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3

Graduate College

Dean

- John C. Keller

Associate Dean

- Michelle L. Campo

Assistant Deans

- Heidi Arbisi-Kelm, Jennifer Teitle

Website: <https://www.grad.uiowa.edu/>

The University of Iowa has been a leading center of advanced study for more than a century. Presently, the Graduate College accounts for nearly one-fifth of the University's total enrollment. This high ratio reflects the breadth of the University's graduate programs and resources, the strength of a graduate faculty with a long tradition of personal and professional concern for students, and the opportunities afforded graduate students for involvement, recognition, and support.

The Graduate College is responsible for the review and approval of proposals for new graduate programs and for the periodic survey and evaluation of existing programs. Through its administration of scholarship, fellowship, and research assistantship funds, the college encourages research and strengthening of departments. Additionally, the college works with the other colleges and departments of the University to formulate policies concerning selection, supervision, and support of graduate students.

The faculty of the Graduate College is made up of all University tenure-track faculty members at the ranks of assistant professor, associate professor, and professor. A 17-member Graduate Council, elected from and by the graduate faculty and the Graduate Student Senate, is the executive committee of the graduate faculty and is advisory to the dean of the Graduate College.

Manual of Rules and Regulations of the Graduate College

The current edition of the Manual of Rules and Regulations of the Graduate College is available on the Graduate College website.

Office of Graduate Inclusion

The Office of Graduate Inclusion (OGI) is dedicated to providing academic assistance to graduate students from underrepresented populations across graduate programs; to helping build a sustainable practice of inclusion that nourishes and attracts underrepresented graduate students campuswide; and to helping build community through individual and group activities focused on successful academic progress.

Graduate Student Success

The Graduate College takes a holistic approach to graduate student and postdoctoral scholar preparation. Whether a student's goal is a career in academe, industry, government or elsewhere, professional development can expand one's options and make a student more marketable to employers. The Graduate Student Success Office (GSS) can help graduate students in the realms of:

- communication
- research and publication
- diversity
- funding
- teaching
- leadership
- careers
- wellness

Research Resources

Many of the University's diverse research activities are centrally administered by the Office of Research and Economic Development, which has a cooperative relationship with the Graduate College.

Graduate Student Senate

The Graduate Student Senate is the University graduate student body representative organization. Representatives are elected annually from each University department that has a graduate degree program. The senate's primary purpose is to serve the interests of the graduate student body in matters affecting its welfare. The senate advises the dean of the Graduate College on matters pertaining to the college.

Programs

Degrees Offered

The Graduate College confers the Master of Arts (M.A.), Master of Science (M.S.), Master of Accountancy (M.Ac.), Master of Arts in Teaching (M.A.T.), Master of Computer Science (M.C.S.), Master of Fine Arts (M.F.A.), Master of Health Administration (M.H.A.), Master of Public Health (M.P.H.), Educational Specialist (Ed.S.), Master of Science in Nursing (M.S.N.), Master of Social Work (M.S.W.), Doctor of Philosophy (Ph.D.), Doctor of Musical Arts (D.M.A.), Doctor of Nursing Practice (D.N.P.), Doctor of Physical Therapy (D.P.T.), and Doctor of Audiology (Au.D.) degrees.

The college currently confers degrees in the following major fields.

Accounting: M.Ac.²
 Actuarial Science: M.S.
 African American World Studies: M.A.¹
 American Studies: M.A.¹, Ph.D.
 Anatomy and Cell Biology: M.S.³, Ph.D.³ (see Biomedical Science)
 Anthropology: M.A.¹, Ph.D.
 Applied Mathematical and Computational Sciences: Ph.D.
 Art: M.A.¹, M.F.A.
 Art History: M.A.¹, Ph.D.¹
 Asian Civilizations: M.A.¹
 Astronomy: M.S.¹
 Athletic Training: M.S.¹
 Biochemistry: M.S.³, Ph.D.³ (see Biomedical Science)
 Biology: M.S.³, Ph.D.³ (see Integrated Biology)
 Biomedical Engineering: M.S.¹, Ph.D.
 Biomedical Science: M.S.¹, Ph.D.
 Biostatistics: M.S.¹, Ph.D.
 Book Arts: M.F.A.
 Business Administration: M.A.¹, Ph.D.
 Business Analytics: M.S.
 Chemical and Biochemical Engineering: M.S.¹, Ph.D.
 Chemistry: M.S.¹, Ph.D.
 Civil and Environmental Engineering: M.S.¹, Ph.D.

Classics: M.A.¹, Ph.D.
 Clinical Investigation: M.S.¹
 Communication Studies: M.A.¹, Ph.D.
 Community and Behavioral Health: M.S., Ph.D.
 Comparative Literature—Translation: M.F.A.
 Computer Science: M.S.¹, M.C.S.², Ph.D.
 Dance: M.F.A.
 Dental Public Health: M.S.
 Economics: M.A.¹, Ph.D.
 Education: M.A.¹, M.A.T.², Ed.S.², Ph.D.
 Educational Policy and Leadership Studies: M.A.¹, Ed.S.², Ph.D.
 Electrical and Computer Engineering: M.S.¹, Ph.D.
 Elementary Education: M.A., Ph.D.
 English: M.A.¹, M.F.A., Ph.D.
 Epidemiology: M.S.¹, Ph.D.
 Exercise Science: M.S.³, Ph.D.³
 Film and Video Production: M.A.¹, M.F.A.
 Film Studies: M.A.¹, Ph.D.
 Free Radical and Radiation Biology: M.S.³, Ph.D.³ (see Biomedical Science)
 French and Francophone World Studies: M.A.¹, Ph.D.
 Genetics: Ph.D.
 Geography: M.A.¹, Ph.D.
 Geoscience: M.S.¹, Ph.D.
 German: M.A.¹, Ph.D.³
 Greek: M.A.¹
 Health and Human Physiology: M.S.¹, Ph.D.
 Health and Sport Studies: M.A.³, Ph.D.³
 Health Management and Policy: M.H.A.², Ph.D.³
 Health Policy, M.S.
 Health Services and Policy: Ph.D.
 History: M.A.¹, Ph.D.
 Human Toxicology: M.S., Ph.D.
 Immunology: Ph.D.³ (see Biomedical Science)
 Industrial Engineering: M.S.¹, Ph.D.
 Informatics: M.S.¹, Ph.D.
 Integrated Biology: M.S.¹, Ph.D.
 Integrative Physiology: Ph.D.³ (see Health and Human Physiology)
 Interdisciplinary Studies: M.A.¹, M.F.A., M.S.¹, Ph.D.
 International Studies: M.A.¹
 Journalism: M.A.¹
 Latin: M.A.¹
 Leisure Studies: M.A.¹
 Library and Information Science: M.A.¹
 Linguistics: M.A.¹, Ph.D.
 Mass Communications: Ph.D.
 Mathematics: M.S.¹, Ph.D.
 Mechanical Engineering: M.S.¹, Ph.D.
 Microbiology: M.S.³, Ph.D.³ (see Biomedical Science)
 Molecular and Cellular Biology: Ph.D.³ (see Biomedical Science)
 Molecular Biology: Ph.D.³ (see Biomedical Science)
 Molecular Physiology and Biophysics: M.S.³, Ph.D.³ (see Biomedical Science)
 Music: M.A.¹, M.F.A., D.M.A., Ph.D.
 Neuroscience: Ph.D.
 Nursing: M.S.N.¹, D.N.P., Ph.D.
 Occupational and Environmental Health: M.S.¹, Ph.D.
 Operative Dentistry: M.S.³
 Oral Science: M.S., Ph.D.
 Orthodontics: M.S.
 Pathology: M.S.
 Pharmacology: M.S.³, Ph.D.³ (see Biomedical Science)
 Pharmacy: M.S.¹, Ph.D.
 Philosophy: M.A.¹, Ph.D.
 Physical Rehabilitation Science: M.A.¹, Ph.D.

Physical Therapy: D.P.T.
 Physics: M.S.¹, Ph.D.
 Political Science: M.A.¹, Ph.D.
 Psychological and Quantitative Foundations: M.A.¹, Ed.S.², Ph.D.
 Psychology: M.A.¹, Ph.D.
 Public Health: M.P.H.²
 Rehabilitation and Counselor Education: M.A.¹, Ph.D.
 Religious Studies: M.A.¹, Ph.D.
 Science Education: M.S.¹, M.A.T.², Ph.D.
 Second Language Acquisition: Ph.D.
 Secondary Education: M.A., M.A.T., Ph.D.
 Social Work: M.S.W.¹, Ph.D.
 Sociology: M.A.¹, Ph.D.
 Spanish: M.A.¹, Ph.D.
 Spanish Creative Writing: M.F.A.
 Special Education: M.A.¹, Ph.D.
 Speech and Hearing Science: Ph.D.
 Speech Pathology and Audiology: M.A.¹, Au.D.
 Statistical Genetics: Ph.D.³
 Statistics: M.S.¹, Ph.D.
 Stomatology: M.S.³
 Strategic Communication: M.A.²
 Teaching and Learning: M.A.¹, M.A.T.², Ph.D.
 Theatre Arts: M.F.A.
 Translational Biomedicine: M.S.², Ph.D.³
 Urban and Regional Planning: M.A.¹, M.S.¹
 Women's Studies: Ph.D.³

¹ Degree offered with or without thesis

² Nonthesis degree

³ Student entry suspended

Interdisciplinary Degree Programs

The Graduate College participates in a number of University of Iowa interdisciplinary degree programs. Detailed information about the following master's and doctoral degree programs is provided later in these Graduate College sections of the Catalog: Applied Mathematical and Computational Sciences [p. 1426], Genetics [p. 1456], Human Toxicology [p. 1459], Immunology [p. 1462], Informatics [p. 1463], Molecular Medicine [p. 1481], Neuroscience [p. 1482], and Translational Biomedicine [p. 1486].

In addition to the degree programs listed above, the graduate faculty has authorized the awarding of interdisciplinary master's and doctoral degrees. Students seeking approval for interdisciplinary master's and doctoral programs must previously have been admitted to and enrolled in a departmental program in the Graduate College. See sections X.A. and XII.D. in the Manual of Rules and Regulations of the Graduate College on the college's website.

Combined Programs

Combined Programs Offered Through the Graduate College

Various combined programs have been developed whereby students work simultaneously toward two degrees. Consult the appropriate Catalog sections for more information. Established combined graduate programs include:

book arts/library and information science;
 health management and policy/business administration;

occupational and environmental health/urban and regional planning;
 professional M.B.A./business analytics;
 professional M.B.A./social work;
 public health/law;
 public health/medicine;
 public health/pharmacy;
 public health/veterinary medicine; and
 social work/urban and regional planning.

B.S. in Biochemistry/Ph.D. in Biomedical Science (Biochemistry Subprogram)

The combined B.S. in biochemistry/Ph.D. program in biomedical science with a biochemistry subprogram enables Bachelor of Science students majoring in biochemistry to begin work toward the Ph.D. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, the Graduate College, and the Carver College of Medicine; see the B.S. in biochemistry [p. 1547] and the Ph.D. in biomedical Science [p. 1431] (biochemistry subprogram) in the Catalog.

B.A. in Biology/M.P.H. (Epidemiology Subprogram) or M.S. in Epidemiology

The combined B.A. in biology/M.P.H. with an epidemiology subprogram and the combined B.A. in biology/M.S. in epidemiology enable Bachelor of Arts students majoring in biology to begin work toward the M.P.H. or M.S. while completing the bachelor's degree. Students admitted to either program may count 12 s.h. of credit toward both the B.A. and the M.P.H. or M.S. degree requirements; they also may maximize their selection of upper-level classes for advanced training in epidemiology. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Public Health; see the B.A. in biology [p. 152], Master of Public Health [p. 1732], and M.S. in epidemiology [p. 1763] in the Catalog.

B.B.A./M.S. in Finance

The combined B.B.A./M.S. program in finance allows undergraduate students majoring in business administration to begin work toward the M.S. while completing the Bachelor of Business Administration degree. The program provides students with the opportunity to complete both degrees in five years instead of six. Offered by the Graduate College and the Tippie College of Business; see the M.S. in finance [p. 1089] in the Catalog.

B.S.E./M.S. in Biomedical Engineering

The combined B.S.E./M.S. program in biomedical engineering enables undergraduate students majoring in biomedical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.S.E. and M.S. degree requirements. They also may attend and participate in the departmental graduate seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Biomedical Engineering [p. 1316] in the Catalog.

B.S.E. in Biomedical Engineering/M.S. in Occupational and Environmental Health

The combined B.S.E. in biomedical engineering/M.S. in occupational and environmental health enables undergraduate students majoring in biomedical engineering to begin work toward the M.S. in occupational and environmental health while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.S.E. and M.S. degree requirements. Offered by the Graduate College, the College of Engineering, and the College of Public Health; see the B.S.E. in biomedical engineering [p. 1323] and the M.S. in occupational and environmental health [p. 1781] in the Catalog.

B.S.E. in Chemical Engineering/M.S. in Chemical and Biochemical Engineering

The combined B.S.E. in chemical engineering/M.S. in chemical and biochemical engineering enables undergraduate students majoring in chemical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of course work, typically advanced chemistry sequences and electives, toward both the B.S.E. and M.S. degree requirements. Offered by the Graduate College and the College of Engineering; see Chemical and Biochemical Engineering [p. 1328] in the Catalog.

B.S.E. in Chemical Engineering/M.S. in Civil and Environmental Engineering

The combined B.S.E. in chemical engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in chemical engineering to begin work toward the M.S. in civil and environmental engineering while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of course work toward both the B.S.E. and M.S. degree requirements. Offered by the Graduate College and the College of Engineering; see the B.S.E. in chemical and biochemical engineering [p. 1334] and the M.S. in civil and environmental engineering [p. 1358] in the Catalog.

B.S.E. in Civil Engineering/M.S. in Civil and Environmental Engineering

The combined B.S.E. in civil engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in civil engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.S.E. and M.S. degree requirements. They also may attend and participate in the departmental graduate seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Civil and Environmental Engineering [p. 1343] in the Catalog.

B.S.E. in Civil Engineering/M.A. or M.S. in Urban and Regional Planning

The combined B.S.E. in civil engineering/M.S. in urban and regional planning enables undergraduate students majoring in civil engineering to begin work toward the M.A. or M.S. while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.S.E. and M.A. or M.S. degree requirements. They also may attend and participate in the departmental graduate

seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the B.S.E. in civil and environmental engineering [p. 1353] and Urban and Regional Planning [p. 1492] in the Catalog.

B.A. or B.S. in Computer Science/M.C.S.

The combined B.A. or B.S. in computer science/M.C.S. program enables undergraduate students majoring in computer science to begin work toward the M.C.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of course work, typically advanced technical courses and electives, toward both the bachelor's and the M.C.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Computer Science [p. 274] in the Catalog.

B.S.E. in Electrical Engineering/M.S. in Electrical and Computer Engineering

The combined B.S.E. in electrical engineering/M.S. in electrical and computer engineering enables undergraduate students majoring in electrical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 9 s.h. toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements and engage in thesis-level research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Electrical and Computer Engineering [p. 1362] in the Catalog.

B.A. or B.S. in Environmental Policy and Planning/M.A. or M.S. in Urban and Regional Planning

The combined B.A. or B.S. in environmental policy and planning/M.A. or M.S. in urban and regional planning enables undergraduate students majoring in environmental policy and planning to begin work toward the M.A. or M.S. while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.A. or B.S. and M.A. or M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Environmental Policy and Planning [p. 401] and Urban and Regional Planning [p. 1492] in the Catalog.

B.A. or B.S. in Geography/M.S. in Informatics

The combined B.A. in geography (geographic information science subprogram) or B.S. in geography/M.S. in informatics enables undergraduate students majoring in geography to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count a limited amount of credit toward both the B.A. or B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Geographical and Sustainability Sciences [p. 496] and Informatics [p. 1463] in the Catalog.

B.A./M.A. in German

The combined B.A./M.A. program in German enables undergraduate students majoring in German to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. and M.A. degree requirements. They also have the opportunity for early entrance into advanced

courses in German. Offered by the Graduate College and the College of Liberal Arts and Sciences; see German [p. 523] in the Catalog.

B.S.E./M.S. in Industrial Engineering

The combined B.S.E./M.S. program in industrial engineering enables undergraduate students majoring in industrial engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 6 s.h. toward both the B.S.E. and M.S. degree requirements. They also may count an additional 6 s.h. toward the M.S. degree requirements, attend one of the department's graduate seminars, and work on master's thesis research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Industrial and Systems Engineering [p. 1381] in the Catalog.

Combined Law and Graduate Degrees

The College of Law and several Graduate College programs and schools have developed combined programs in which students pursue the Juris Doctor (J.D.) degree and a graduate degree concurrently. Offered by the Graduate College and the College of Law; see Juris Doctor [p. 1518] in the Catalog.

M.A. in Library and Information Science/M.F.A. in Book Arts

The combined M.A. in library and information science/M.F.A. in book arts allows graduate students with strong interests in the physical book to acquire training in the book arts, book history, and material book studies. The earned expertise in the production and legacy of the book as a physical artifact combined with expertise in library and information science can be an asset for those focused on careers in special collections libraries and archives. Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately. Offered by the Graduate College; see the M.A. in library and information science [p. 1477] and the M.F.A. in book arts [p. 1449] in the Catalog.

M.A. in Library and Information Science/Certificate in Book Studies/Book Arts and Technologies

The combined M.A. in library and information science and Certificate in Book Studies/Book Arts and Technologies prepares students for careers in special collections librarianship. Students admitted to the program receive training in the management of varied types of special collections, such as rare books, manuscripts, archives, graphics, music, and ephemera. Offered by the Graduate College; see the M.A. in library and information science [p. 1477] and the Certificate in Book Studies/Book Arts and Technologies [p. 1450] in the Catalog.

B.A./M.A. in Linguistics (TESL Subprogram)

The combined B.A./M.A. program in linguistics with a TESL (Teaching English as a Second Language) subprogram enables students majoring in linguistics to begin work toward the M.A. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of advanced course work toward both the B.A. and M.A. degree requirements and may take selected graduate-level courses before they have been awarded the B.A. degree. They also may gain experience teaching ESL at the college level early in their graduate

careers. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Linguistics [p. 698] in the Catalog.

B.A. in Mathematics/M.A.T. (Mathematics Education Subprogram)

The combined B.A./M.A.T. program with a mathematics education subprogram enables Bachelor of Arts students majoring in mathematics to begin work toward the M.A.T. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.A. and M.A.T. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Education; see the B.A. in mathematics [p. 725] and the Master of Arts in Teaching [p. 1274] in the Catalog.

B.S.E./M.S. in Mechanical Engineering

The combined B.S.E./M.S. program in mechanical engineering enables undergraduates majoring in mechanical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 6 s.h. toward both the B.S.E. and M.S. degree requirements. They also may count an additional 6 s.h. toward the M.S. degree requirements, attend a graduate seminar, and participate in master's thesis research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Mechanical Engineering [p. 1395] in the Catalog.

B.S.E. in Mechanical Engineering/M.S. in Civil and Environmental Engineering

The combined B.S.E. in mechanical engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in mechanical engineering to begin work toward the M.S. in civil and environmental engineering while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of course work toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the B.S.E. in mechanical engineering [p. 1402] and the M.S. in civil and environmental engineering [p. 1358] in the Catalog.

M.D./Ph.D. (Medical Scientist Training Program)

The combined Doctor of Medicine/Doctor of Philosophy program prepares students for careers in academic medicine, with emphasis on basic and clinical research. Offered by the Graduate College and the Carver College of Medicine; see Medical Scientist Training [p. 1574] Program in the Catalog.

B.S. in Microbiology/Ph.D. in Biomedical Science (Microbiology Subprogram)

The combined B.S. in microbiology/Ph.D. program in biomedical science with a microbiology subprogram enables undergraduate students majoring in microbiology to begin work toward the Ph.D. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, the Graduate College, and the Carver College of Medicine; see the B.S. in microbiology [p. 1580] and the Ph.D.

in biomedical science [p. 1431] (microbiology subprogram) in the Catalog.

B.A. in Psychology/M.P.H. (Community and Behavioral Health Subprogram)

The combined B.A. in psychology/M.P.H. program with a community and behavioral health subprogram enables Bachelor of Arts students majoring in psychology to begin work toward the M.P.H. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. and M.P.H. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Public Health; see the B.A. in psychology [p. 863] and the Master of Public Health [p. 1732] in the Catalog.

Combined Bachelor's and Public Health Graduate Degrees

The College of Public Health and various undergraduate programs have developed combined programs in which students pursue the bachelor's degree, either a B.A. or a B.S., and a public health graduate degree, M.A., M.P.H. or M.S., in five years instead of six. Offered by all undergraduate colleges, the Graduate College, and the College of Public Health; see College of Public Health [p. 1713] in the Catalog.

B.A. in Biology, Chemistry, Environmental Sciences, Physics/M.A.T. (Science Education Subprogram)

The combined B.A./M.A.T. program with a science education subprogram enables Bachelor of Arts students majoring in biology, chemistry, environmental sciences, or physics to begin work toward the M.A.T. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.A. and M.A.T. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Education; see Biology [p. 147], Chemistry [p. 176], Environmental Sciences [p. 413], or Physics and Astronomy [p. 807] and the Master of Arts in Teaching [p. 1277] (science education subprogram) in the Catalog.

Au.D./Ph.D. in Speech and Hearing Science

The combined Au.D./Ph.D. program in speech and hearing science is designed for students who would like to practice audiology and hold a faculty position at a university. Students admitted to the program work concurrently toward the Doctor of Audiology and the Doctor of Philosophy; they may count 30 s.h. toward the requirements of both degrees. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Communication Sciences and Disorders [p. 231] in the Catalog.

B.S. in Statistics/M.P.H. (Quantitative Methods Subprogram)

The combined B.S. in statistics/M.P.H. program with a quantitative methods subprogram enables Bachelor of Science students majoring in statistics to begin work toward the M.P.H. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and M.P.H. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences,

and the College of Public Health; see B.S. in statistics [p. 997] and the Master of Public Health [p. 1732] in the Catalog.

B.S./M.S. in Statistics

The combined B.S./M.S. program in statistics enables undergraduate students majoring in statistics to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Statistics and Actuarial Science [p. 991] in the Catalog.

B.S. in Therapeutic Recreation/M.S. in Health and Human Physiology (Child Life Subprogram)

The combined B.S. in therapeutic recreation/M.S. in health and human physiology with a child life subprogram enables undergraduate students majoring in therapeutic recreation to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count a limited number of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Health and Human Physiology [p. 552] in the Catalog.

Certificates

The Graduate College also participates with other University of Iowa colleges in offering the following graduate certificates.

Adult Gerontology Acute Care Nurse Practitioner

The Certificate in Adult Gerontology Acute Care Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Adult Gerontology Acute Care Nurse Practitioner [p. 1684] in the Catalog.

Adult Gerontology Primary Care Nurse Practitioner

The Certificate in Adult Gerontology Primary Care Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Adult Gerontology Primary Care Nurse Practitioner [p. 1685] in the Catalog.

African American Studies

The Certificate in African American Studies is a program that increases intellectual knowledge and understanding of African American culture and experience. See the Certificate in African American Studies [p. 31] in the Catalog.

Aging and Longevity Studies

The Aging and Longevity Studies Program is a multidisciplinary certificate program administered by the College of Liberal Arts and Sciences in cooperation with other University of Iowa colleges. The program is designed to complement graduate degree programs or to serve as a stand-alone nondegree program for students with academic, professional, research, or service career interests in aging. See the Certificate in Aging and Longevity Studies [p. 36] in the Catalog.

Agricultural Safety and Health

The Certificate in Agricultural Safety and Health is a postbaccalaureate program for practicing health care professionals serving rural areas and for health professions students who intend to practice in rural areas. The program is designed to help rural health professionals address safety and health issues in farm settings. See the Certificate in Agricultural Safety and Health [p. 1741] in the Catalog.

Biostatistics

The Certificate in Biostatistics is open to students in University of Iowa graduate degree programs outside biostatistics and to individuals admitted to the Graduate College as nondegree students. The certificate program enables students to add a formal biostatistics emphasis to their degree programs. Students who complete the certificate in conjunction with a graduate degree may count a maximum of 6 s.h. of certificate credit toward their graduate degree. See the Certificate in Biostatistics [p. 1749] in the Catalog.

Book Studies/Book Arts and Technologies

The Certificate in Book Studies/Book Arts and Technologies requires 18 s.h. of graduate credit and is designed to be completed in one year. The program is open to students who are enrolled in a graduate degree program at the University of Iowa as well as to students enrolled in the Graduate College with nondegree status. See the Certificate in Book Studies/Book Arts and Technologies [p. 1450] in the Catalog.

Business Analytics

The Certificate in Business Analytics is open to students in University of Iowa graduate degree programs and to individuals admitted to the Graduate College as nondegree students. The certificate program is designed for working professionals and addresses a growing need to manage and analyze the rapidly increasing amount of data that is available to support business decision making. See the Certificate in Business Analytics [p. 1121] in the Catalog.

Cognitive Science of Language

The Certificate in Cognitive Science of Language requires a minimum of 12-15 s.h. of graduate credit. Designed to complement doctoral study, the certificate program is open to University of Iowa Ph.D. students in linguistics, neuroscience, psychology, and speech and hearing science. Ph.D. students in other disciplines may petition to be permitted to earn the certificate. Students must complete a formal application to enter the certificate program; they should contact the program's coordinator before they apply. See the Certificate in Cognitive Science of Language [p. 1452] in the Catalog.

College Teaching

The Certificate in College Teaching complements discipline-oriented graduate programs and prepares students for careers in postsecondary education. The program is open to graduate students working toward a Ph.D. or other terminal graduate degree. See the Certificate in College Teaching [p. 1455] in the Catalog.

Dietetic Internship Program

The Certificate in Dietetic Internship Program requires at least 9 s.h. of credit. Students complete a didactic program

in dietetics that has approval of the Academy of Nutrition and Dietetics (AND) Accreditation Council for Education in Nutrition and Dietetics (ACEND). See the Certificate in Dietetic Internship Program [p. 1554] in the Catalog.

Emerging Infectious Disease Epidemiology

The Certificate in Emerging Infectious Disease Epidemiology is a postbaccalaureate program designed to meet the training needs in emerging infectious disease of international public health professionals as well as University of Iowa graduate students. Applicants to the program must hold a bachelor's degree. See the Certificate in Emerging Infectious Disease Epidemiology [p. 1756] in the Catalog.

Family Nurse Practitioner

The Certificate in Family Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Family Nurse Practitioner [p. 1686] in the Catalog.

Gender, Women's, and Sexuality Studies

The Certificate in Gender, Women's, and Sexuality Studies is open to students enrolled in graduate degree programs. See the Certificate in Gender, Women's, and Sexuality Studies [p. 495] in the Catalog.

Global Health Studies

The Certificate in Global Health Studies is open to graduate and professional students, except for those in the College of Pharmacy, who have earned the Pharm.D. degree; they are awarded the undergraduate certificate. Students must maintain a g.p.a. of at least 3.00 in work for the 18 s.h. certificate. See the Certificate in Global Health Studies [p. 551] in the Catalog.

Health Systems

The Certificate in Health Systems is built on the foundational courses from the Doctor of Nursing Practice (D.N.P.) with a health systems subprogram. The certificate requires 19 s.h. of credit. The certificate is available to post-master's degree students seeking additional preparation in the area of health systems/administration. See the Certificate in Health Systems [p. 1687] in the Catalog.

Healthcare Management

The Certificate in Healthcare Management provides foundational business and leadership skills to physicians, nurses, and other clinicians, and managers. See the Certificate in Healthcare Management [p. 1776] in the Catalog.

Informatics

The Certificate in Informatics requires a minimum of 18-21 s.h. of graduate credit, depending on the student's choice of subprogram: the subprograms in bioinformatics and computational biology, health informatics, and information science require a minimum of 18 s.h.; the geoinformatics subprogram requires a minimum of 21 s.h. The certificate program is designed for students enrolled in University of Iowa graduate degree programs who wish to study informatics as

a complement to their degree program and for nondegree students who are interested in increasing their knowledge of informatics. See the Certificate in Informatics [p. 1471] in the Catalog.

Literary Translation

The Certificate in Literary Translation includes course work in translation practice and techniques. Translation workshops and course work in translation theory also are central to the certificate program as they are essential to the training of literary translators. See the Certificate in Literary Translation [p. 710] in the Catalog.

Multicultural Education and Culturally Competent Practice

The Certificate in Multicultural Education and Culturally Competent Practice is open to graduate students enrolled in graduate degree programs and to postbaccalaureate, nondegree graduate students. The curriculum, which consists of five courses (15 s.h.), begins with an introductory course and ends with a capstone course. See the Certificate in Multicultural Education and Culturally Competent Practice [p. 1210] in the Catalog.

Native American and Indigenous Studies

The Native American and Indigenous Studies (NAIS) offers an interdisciplinary certificate program focusing on the histories, cultures, languages, arts, religious traditions, political and social organizations, economies, geographies, literatures, and contemporary legal and political concerns of Native Americans of the United States as well as other indigenous peoples of the Western Hemisphere. See the Certificate in Native American and Indigenous Studies [p. 789] in the Catalog.

Online Teaching

The Certificate in Online Teaching is designed to prepare students for the realities of online teaching and to help them expand their career options. The certificate is open to students in University of Iowa graduate degree programs and to individuals admitted to the Graduate College as nondegree students. See the Certificate in Online Teaching [p. 1212] in the Catalog.

Pediatric Nurse Practitioner—Acute Care

The Certificate in Pediatric Nurse Practitioner—Acute Care is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Pediatric Nurse Practitioner—Acute Care [p. 1688] in the Catalog.

Pediatric Nurse Practitioner—Primary Care

The Certificate in Pediatric Nurse Practitioner—Primary Care is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Pediatric Nurse Practitioner—Primary Care [p. 1689] in the Catalog.

Psychiatric/Mental Health Nurse Practitioner

The Certificate in Psychiatric/Mental Health Nurse Practitioner is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Psychiatric/Mental Health Nurse Practitioner [p. 1690] in the Catalog.

Public Digital Humanities

The Certificate in Public Digital Humanities requires 15 s.h. of graduate credit. The program is open to all University of Iowa graduate students in good academic standing. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. See the Certificate in Public Digital Humanities [p. 1485] in the Catalog.

Public Health

The College of Public Health offers the Certificate in Public Health for undergraduate and graduate students. The certificate program is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. It is intended primarily for individuals in public health practice, those in the workforce, and those interested in strengthening their knowledge and skills in basic public health competencies. See the graduate Certificate in Public Health [p. 1739] in the Catalog.

Sacred Music

The Certificate in Sacred Music is an interdisciplinary program with courses in sacred music, choral conducting and literature, keyboard, voice, religion, and art and art history. The program is open to students enrolled in a graduate degree program and to nondegree students who have been admitted to the Graduate College and who have consent of the certificate's faculty advisor. See the Certificate in Sacred Music [p. 784] in the Catalog.

Sustainable Water Development

The Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) graduate students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. See the Certificate in Sustainable Water Development [p. 1410] in the Catalog.

Translational and Clinical Investigation

The Certificate in Translational and Clinical Investigation is designed for clinicians who seek advanced training in clinical methodology and applied patient-oriented research skills. Students in the certificate program must be practicing academic clinicians who have completed doctoral training. See the Certificate in Translational and Clinical Investigation [p. 1788] in the Catalog.

Transportation Studies

The Certificate in Transportation Studies requires 18 s.h. of graduate credit. Students may earn the certificate in conjunction with an M.S. or Ph.D. in civil and environmental engineering or with an M.A. or M.S. in urban and regional planning.

Individuals working toward degrees in other transportation-related disciplines are encouraged to apply to the Transportation Studies Program. Depending on a student's background, additional course work in statistics, computer programming, simulation, mathematics, and operations research may be required for the certificate. Credit earned in these courses may not be applicable to the student's degree program. See the Certificate in Transportation Studies [p. 1491] in the Catalog.

Financial Support

Approximately half of the University's graduate students receive some form of University-administered financial assistance. For eligibility requirements and application procedures, see "Section VII. Graduate Appointments" in the Manual of Rules and Regulations of the Graduate College. The following are the primary sources of assistance.

Teaching and Research Assistantships

Teaching and research assistantships are available in most departments. Assistantship stipends are awarded for half-time academic-year appointments and half-time fiscal-year appointments; assistants also are eligible for tuition scholarships. Assistants (one-quarter-time or more) pay resident tuition rates for fee purposes.

Iowa Arts Fellowships

Iowa Arts Fellowships are for University of Iowa graduate students entering M.F.A. programs. Typical stipends are for the academic year, with all tuition and a percentage of mandatory fees paid, plus a health insurance allowance, for one year (the remaining years of support must be provided by the appointing program). There are no departmental service obligations while holding the first-year fellowship.

Iowa Performance Fellowships

Iowa Performance Fellowships are for first-year D.M.A. candidates in a performance area of music. Recipients are nominated by the School of Music. Awards include academic-year fellowships, summer fellowships, and tuition and a percentage of mandatory fees paid (fellow is responsible for the remainder of fees). The School of Music provides a one-quarter-time research assistantship in years two and three.

Graduate College Iowa Recruitment Fellowships

Iowa Recruitment Fellowships program enhances departmental recruitment packages by offering the most accomplished new doctoral students a stipend supplement for up to five years and fellowship support for up to four summer terms. Tuition scholarships are to be paid during the academic years (fall, spring) by the appointing unit, while the Graduate College provides up to 2 s.h. of tuition and benefits for the summer terms. Recipients are nominated by their department.

Graduate College Summer Fellowships

Graduate College Summer Fellowships are for advanced doctoral students who have completed their comprehensive exams, are working to complete their dissertations, and do

not otherwise have funding for the summer session. Awards provide a summer stipend and provide up to 2 s.h. of tuition. Awardees must enroll for the six-week, eight-week, or twelve-week summer session. Students enrolled in the four-week summer session are not eligible to receive the fellowship.

T. Anne Cleary International Research Fellowships

The T. Anne Cleary International Research Fellowships are for doctoral students who have completed all predissertation requirements, including the comprehensive examination, and who will use the fellowship for dissertation research outside North America. The awards may vary and are meant to supplement other research funds. Doctoral students in any discipline may apply. Past recipients of the Cleary fellowship and Doctor of Musical Arts students who choose the D.M.A. essay option are not eligible.

Ballard and Seashore Dissertation-Year Fellowships

Ballard and Seashore Dissertation Fellowships are one semester fellowships for doctoral candidates who have completed all doctoral degree requirements except their dissertation. Recipients are nominated by their departments. Fellowships provide monetary amounts for the semester plus tuition and a percentage of mandatory fees paid for up to 2 s.h. and a health insurance allowance.

Post-Comprehensive Research Awards

The Post-Comprehensive Research Awards program provides an opportunity for advanced doctoral students to benefit from protected and supported time to pursue their scholarly research activities. The award is intended to recognize students with distinguished academic achievement during their early graduate training. These achievements should be evident from a combination of outstanding academic performance in course work, as well as early scholarly research activities. Students who have held teaching assistantships in the previous two semesters will have priority. Awardees will receive a stipend. The Graduate College also supports up to 2 s.h. of tuition, a percentage of the mandatory fees, and a health insurance allowance. Recipients are nominated by their department.

Scholarships

Scholarships provide up to full tuition.

Graduate Student Travel Awards

Graduate student travel awards provide reimbursement for travel by students who present research and scholarship results to professional conferences. Awards are competitive across disciplines and vary. Funds are administered by the Graduate Student Senate and the Graduate College.

Other Sources

For other sources of financial support, contact the Office of Student Financial Aid.

Many departments offer additional support through traineeships, part-time employment in research, or part-time teaching appointments. The Office of Research and Economic

Development maintains a library of information on public and private agencies that provide funds for research and graduate study. Much material has been collected concerning awards for overseas study.

Courses

Most Graduate College courses are offered by the college's programs and schools. They are listed and described in the corresponding Catalog sections.

The college also offers the following nondepartmental courses.

Graduate College Courses

GRAD:0006 SROP Scholars Program	0 s.h.
GRAD:6000 Ph.D. Postcomprehensive Registration	1 s.h.
GRAD:6001 Master's Final Registration Requirements: master's degree candidate.	1 s.h.
GRAD:6002 Doctoral Continuous Registration Requirements: doctoral degree candidate who has passed comprehensive examinations.	1 s.h.
GRAD:6003 Doctoral Final Registration Requirements: doctoral degree candidate in final session of enrollment.	1 s.h.
GRAD:6140 Introduction to Multicultural Education and Culturally Competent Practice Introduction to foundations of multicultural education and cultural competence; numerous equal access movements that impact professional practice in education, social work, counseling, and the allied helping professions mobilized in the U.S. during the 20th century; issues of diversity and equity that continue to fuel current policy debates and impact professional practice; roots of equal access movements from <i>Brown v. Board of Education</i> to the present; social, political, and/or economic contexts for equal access policies concerning race/ethnicity, class, language, gender, ability, and sexual orientation.	3 s.h.
GRAD:6217 Seminar in College Teaching Preparation for college teaching; for graduate students planning to teach. Same as PSQF:6217.	1-3 s.h.
GRAD:6300 Writing for Learned Journals Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as RHET:6330.	1-4 s.h.
GRAD:6313 Studio Summer Fellowship Investigation of and reflection on digital scholarly collaboration, production, and promotion. Same as ULIB:6313.	1 s.h.
GRAD:6590 Digital Humanities Capstone Application and practice of classroom experience to a specific project under guidance from a faculty member and project team leader. Requirements: admission to public digital humanities certificate program, an approved certificate plan of study on file, completion of 12 s.h. of approved course work, and good standing in all required certificate course work. Same as SLIS:6590.	3 s.h.
GRAD:6800 CIC Scholar	arr.
GRAD:6801 Regents Exchange Program	arr.

GRAD:6997 Graduate/Professional Transfer arr.

GRAD:6998 Undergraduate Transfer arr.

GRAD:6999 Resident/Fellow/Post-Doctoral 0 s.h.

**GRAD:7280 Obermann Center for Advanced Studies
Special Topics Seminars** 1-3 s.h.

Active participation and engagement in a major program, such as the annual Humanities Symposium; readings on interdisciplinary histories, contexts, and theoretical perspectives that frame featured events; work of artists, scholars, and researchers participating in the program. Requirements: admission to Graduate College.

**GRAD:7285 Obermann Center Professional
Development Seminar** 1 s.h.

Active participation and engagement in a series of classes dedicated to connecting public engagement, research, and teaching; readings and media viewings that frame course topics; production of a short film, marketing materials, grant, and syllabi relevant to public engagement project. Requirements: admission to Graduate College and completion of Obermann Graduate Institute on Engagement and the Academy.

**GRAD:7290 Digital Humanities Theory and
Practice** 3 s.h.

Overview of theories and use of technology to preserve, deploy, visualize, map, and analyze concepts; discussions with practicing digital public scholars; assignments consist of a digital portfolio tailored to student research; introductory course in public digital humanities certificate. Same as SLIS:7290.

**GRAD:7385 Teaching and Learning in Higher
Education** 3 s.h.

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as EDTL:7385, EPLS:7385, PSQF:7385, RCE:7385.

GRAD:7400 Practicum in College Teaching arr.

Supervised college teaching experience; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations. Requirements: admission to the graduate certificate in college teaching program.

GRAD:7601 Postdoctoral Research Scholar 0 s.h.
Requirements: postdoctoral standing.

GRAD:7602 Postdoctoral Research Fellow 0 s.h.
Requirements: postdoctoral standing.

Applied Mathematical and Computational Sciences

Chair

- Weimin Han (Mathematics)

Graduate degree: Ph.D. in applied mathematical and computational sciences

Faculty: <https://www.amcs.uiowa.edu/faculty>

Website: <https://www.amcs.uiowa.edu>

Applied mathematical scientists formulate scientific concepts and problems in mathematical terms; solve the resulting mathematical problems using analytical and computational methods; and discuss, interpret, and evaluate the solutions. They explore areas of mathematical application and develop mathematical theories in new areas.

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Applied Mathematical and Computational Sciences [p. 1427]

Courses

Applied Mathematical and Computational Sciences Courses

AMCS:5900 Seminar: Applied Mathematical and Computational Sciences arr.

Current research by faculty, students, guests.

AMCS:7990 Reading and Research arr.

Applied Mathematical and Computational Sciences, Ph.D.

Requirements

The Doctor of Philosophy program in applied mathematical and computational sciences requires a minimum of 72 s.h. of graduate credit. The Ph.D. program is autonomous, broadly based, and interdisciplinary. It is designed to help students achieve a command of theoretical and applied mathematics and obtain basic knowledge in another area (engineering, medicine, or one of the behavioral, biological, physical, or social sciences).

The program is flexible; students can concentrate on applied mathematics, such as differential equations and numerical analysis, or on other applicable techniques in mathematics. Scientific computing is an important part of applied mathematics, so it is often a part of student training and dissertation research.

Prospective students should have a desire to apply a mathematical science (mathematics or statistics) to relevant problems in another area.

Course of Study

Faculty members help each student plan a course of study that is consistent with the student's background, interests, and goals.

These individual programs are designed to help students develop expertise in methods of applied mathematics and build a good foundation in related topics of theoretical mathematics. The individual programs also provide sufficient knowledge in an outside area to enable students to use mathematical techniques in that area.

Students can arrange their study plans to earn a master's degree from another department after they complete part of their plan. Students find suitable thesis problems and supervisors with the help of the faculty.

Qualifying and Comprehensive Examinations

Students take a qualifying examination over three of the four core course sequences required for the Ph.D. (analysis, differential equations, numerical analysis, and topology). They also take a comprehensive examination related to their intended research area.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. To be prepared for graduate-level course work in mathematics and an additional area, applicants should have a bachelor's or master's degree with a strong mathematics component and some background in the additional area.

Applications for fall admission are due on January 15. For application forms and more information about the academic

program, contact the chair of the Applied Mathematical and Computational Sciences Program.

Financial Support

Financial support is provided to every student admitted. Fellowships and research and teaching assistantships are available to qualified applicants and fellowship support is available during summer sessions.

Career Advancement

Career opportunities for applied mathematicians include positions in colleges, universities, governmental laboratories, business, industry, and consulting firms.

Biomedical Science

Director

- Daniel Thomas Tranel

Graduate degrees: M.S. in biomedical science; Ph.D. in biomedical science

Website: <https://medicine.uiowa.edu/biomed/>

The Biomedical Science Program offers over 300 faculty laboratories under the diversity of a large umbrella program. Students conduct groundbreaking research on a campus that ranks among the top public institutions in the country in research activity, federal funding, graduate education, and core facility support. Ph.D. students benefit from the extensive scope of the program and the support of a cohesive academic campus.

Students select from one of nine subprograms:

- biochemistry [p. 1431]
- cancer biology [p. 1432]
- cell and developmental biology [p. 1434]
- free radical and radiation biology [p. 1436]
- immunology [p. 1437]
- microbiology [p. 1439]
- molecular medicine [p. 1440]
- molecular physiology and biophysics [p. 1442]
- pharmacology [p. 1443]

Successful completion culminates with a Ph.D. in biomedical science and affiliation with a respective subprogram. Three closely related Ph.D. programs—genetics, human toxicology, and neuroscience—complete the complement of biomedical programs on campus. Visit the Biomedical Science Program website for more information.

Programs

Graduate Programs of Study

Majors

- Master of Science in Biomedical Science [p. 1430]
- Doctor of Philosophy in Biomedical Science [p. 1431]

Admission

The Biomedical Science Program is sufficiently flexible to accommodate students with a relatively wide range of backgrounds. Students with a bachelor's degree in any of the biological, biochemical, engineering, or physical sciences who have a strong desire to pursue a research-oriented career are encouraged to apply. Students must have:

- a bachelor's degree from a regionally accredited American college or university or an equivalent degree from another country as determined by the Office of Admissions; and
- a minimum g.p.a. of 3.00 or higher or the equivalent from another country as determined by the Office of Admissions.

Facilities

Biomedical science researchers benefit from state-of-the-art core research facilities and research support facilities. Much of the research is interdisciplinary, with collaborations

coordinated through major research centers, institutes, and programs.

Financial Support

Students receive a stipend and tuition support. Continued support beyond the first year is guaranteed, provided that satisfactory progress toward degree completion is accomplished. Sources of support include departmental funds, training grants, research grants, and individual fellowships.

Career Advancement

The Biomedical Science Program prepares students for successful careers as researchers, educators, and future leaders in the international biomedical workforce.

Courses

- Biomedical Science Courses [p. 1428]
- Cancer Biology Courses [p. 1428]

Biomedical Science Courses

BMED:5205 Practical Bioinformatics **1 s.h.**

Formal instruction on the use and application of bioinformatics for bench scientists; bioinformatics, resources, genome annotations, sequence analysis, comparative genomics, expression analysis, and systems biology. Requirements: biostatistics.

BMED:5207 Principles of Molecular and Cellular Biology **3 s.h.**

Structure of DNA, RNA, and Protein; DNA replication, genetic and epigenetic regulation; RNA production and processing; protein production and post-translation modification; cellular membranes and trafficking; cytoskeleton and regulation of cell junctions and migration; signal transduction and regulation of cell cycle and apoptosis; didactic lectures and group discussion of primary research publications.

BMED:7270 Scholarly Integrity/Responsible Conduct of Research I **0 s.h.**

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects). Requirements: successful completion of CITI online training (greater than 80 percent score for each module) and enrollment in Graduate College degree-seeking program. Recommendations: minimum first-year graduate standing (Ph.D., M.S./M.A.), and involvement in mentored research activities (extramurally or intramurally funded).

BMED:7271 Scholarly Integrity/Responsible Conduct of Research II 0 s.h.

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects). Requirements: successful completion of CITI online training (greater than 80 percent score for each module) and enrollment in Graduate College degree-seeking program. Recommendations: minimum of first-year graduate standing (Ph.D., M.S./M.A.) and involvement in mentored research activities (extramurally or intramurally funded).

BMED:7604 Scholarly Integrity/Responsible Conduct of Research I 0 s.h.

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects); meets responsible conduct of research training obligation for postdocs and faculty holding an NIH K award. Requirements: successful completion of CITI online training (greater than 80 percent score for each module).

BMED:7605 Scholarly Integrity/Responsible Conduct of Research II 0 s.h.

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects); meets responsible conduct of research training obligation for postdocs and faculty holding an NIH K award. Requirements: successful completion of CITI online training (greater than 80 percent score for each module).

Cancer Biology Courses

CBIO:5000 Experimental Methodologies 6 s.h.

Practical experience in common laboratory methods including polymerase chain reaction (PCR), western blotting, immunostaining, cell culture, and bioinformatics. Requirements: admission to cancer biology graduate program.

CBIO:5500 Topics in Cancer Biology 1 s.h.

Discussion and presentation of new scientific literature in cancer biology fields; how to evaluate and critically interpret scientific literature, data, and conclusions; journal club format. Requirements: admission to cancer biology graduate program.

CBIO:6000 Seminar: Cancer Research 1 s.h.

Attendance at seminar presentations of cutting-edge science in the field of cancer biology; presentations by experts in the field and trainees. Requirements: admission to cancer biology graduate program.

CBIO:6500 Research in Cancer Biology arr.

Research experience through research rotations and conduction of dissertation research in cancer research laboratories. Requirements: admission to cancer biology graduate program.

CBIO:7000 Clinical Connections 1 s.h.

Shadowing experiences arranged with clinicians who are treating cancer patients at University of Iowa Hospitals and Clinics. Requirements: admission to cancer biology graduate program.

CBIO:7500 Crafting a Scientific Proposal 1 s.h.

Training in areas of scientific writing and development of a scientific proposal; students develop a proposal related to, but not identical to, the proposal for the comprehensive exam. Requirements: admission to cancer biology program.

Biomedical Science, M.S.

There is no direct admission to the M.S. program in biomedical science. Students interested in biomedical science are considered for Ph.D. admission only. Visit Doctor of Philosophy [p. 1431] in this section of the Catalog for information about the Ph.D. degree program.

Biomedical Science, Ph.D.

Students interested in the Ph.D. with a major in biomedical sciences should apply to the subprogram area they choose to pursue.

Biochemistry

The Doctor of Philosophy in biomedical science with a biochemistry subprogram requires a minimum of 72 s.h. of graduate credit (34 s.h. of course work and 38 s.h. of research). Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. Qualified students interested in earning the Doctor of Medicine along with the Ph.D. may apply to the Medical Scientist Training [p. 1574] Program, which offers a combined M.D./Ph.D. program.

Students have the opportunity to tailor their curriculum with courses that enhance their educational goals. They take a combination of graduate-level courses that include a first-year laboratory research rotation course, and seminar courses.

The Ph.D. in biomedical science with a biochemistry subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BIOC:5282	Seminar	0-2
BIOC:5261	Research Techniques (first- year laboratory rotation)	1-6
Biophysical chemistry course work (typically biochemistry students take 6 s.h.)		3-6
Four molecular medicine courses (typically biochemistry students take 6-8 s.h.)		6-8

Additional courses offered by the Department of Biochemistry and other departments, as appropriate for student

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BIOC:5241	Biophysical Chemistry I	3
BIOC:5261	Research Techniques	4
BIOC:5282	Seminar (discussion section A01)	2

First Year, Spring

Code	Title	Hours
BIOC:5242	Biophysical Chemistry II	3
BIOC:5282	Seminar (discussion section A01)	2
BIOC:5261	Research Techniques	4
MMED:6215	Transcription and Multifunctional Regulation by RNA	1

MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1

Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BIOC:5282	Seminar (discussion section A02)	1
BIOC:7292	Research Biochemistry Electives	arr.

Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
BIOC:7292	Research Biochemistry Electives	arr.

Examples of Elective Course Work

Code	Title	Hours
BMED:5205	Practical Bioinformatics	1
BMED:5207	Principles of Molecular and Cellular Biology	3
BME:4310/ BIOC:4310	Computational Biochemistry	3
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
MMED:6240	Inflammatory Cell Signaling and Targeted Cancer Therapy	1
PCOL:5204	Basic Biostatistics and Experimental Design	1

Additional Requirements

Laboratory Rotations

Students rotate through at least three different laboratories during their first academic year; they enroll in BIOC:5261 Research Techniques. The laboratory rotations are approximately ten weeks each. At the conclusion of each rotation, a student meets with an advisory committee of three faculty members. The student is required to present the research and training completed during that rotation. The advisory committee writes a short evaluation of the student's performance and assigns a grade for the laboratory work.

The evaluation and grade becomes part of the student's departmental record.

Teaching

Students participate in the formal teaching programs of the department for at least one semester. First-year students as well as students who are within a year of receiving their Ph.D. degree are usually not asked to teach. Teaching may take a variety of forms, including tutoring, leading discussions and laboratory groups, correcting examinations, preparing teaching materials, and lecturing.

Thesis Research Proposal

During the fall semester of the second year, a student in collaboration with the thesis advisor prepares a detailed thesis proposal that describes the proposed research to be conducted for the dissertation as part of BIOC:5282 Seminar.

The Fifth Semester Seminar

In the fall semester of the third year (the fifth semester), a student updates and revises the written Ph.D. thesis proposal prepared during the fall semester of the second year (prior to the comprehensive examination), and presents a seminar on the thesis research to the department at one of the weekly biochemistry workshops.

Comprehensive Examination

The comprehensive examination must be taken before June 30 of the second year.

Written Examination

Students receive their topic by March 1 and their written examination is submitted to their committee by April 22. The written proposal should have a cover page followed by no more than 20 pages. For more information, a detailed guide is located in the Biochemistry Graduate Student Manual.

Oral Examination

Questions during the oral examination may come from the examination proposal, the Ph.D. thesis proposal, or other general areas of biochemistry. To pass the oral comprehensive examination, a student must perform satisfactorily both in defense of the examination proposal and in answering general biochemistry questions that are germane to the proposal or that are important for a full understanding of the proposed experiments and their interpretation.

Final Examination

The five-member Ph.D. thesis committee serves as an advisory body for preparation of the thesis. This committee meets with the student to review the material that is expected to be incorporated in the thesis. Although meetings of the candidate with the committee should be yearly, the candidate, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the final examination. The final examination takes the form of a seminar presented to the department. This presentation is announced according to the Graduate College policy. Questions, comments, and discussion will follow. After the seminar, the candidate meets with the committee for the final thesis defense. The Ph.D. degree is not awarded until the thesis is signed. In some cases revisions may be required.

Cancer Biology

The Doctor of Philosophy in biomedical science with a cancer biology subprogram requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The subprogram provides training in many areas of research—cell biology, genetics, immunology, and cell metabolism, among others—that are necessary to understand the complexities of cancer etiology and treatment. The cancer biology subprogram does not offer a master's degree. Cancer biology is affiliated with the Holden Comprehensive Cancer Center, which was founded in 1980 and has been designed as a National Cancer Institute NCI-designated cancer center since 2000.

The curriculum is a sequence of required and elective courses that provides students with advanced knowledge in current concepts related to molecular, cellular, and genetic processes that contribute to the development and treatment of cancer. It also provides specialized training in experimental methodology used to study cancer in a laboratory setting. Cancer biology prepares students for a variety of career paths in academic, clinical, and industry environments that deal with the study and/or treatment of cancer.

Students have flexibility in their research rotations and can adapt their studies to permit specialization, as well as gaining clinical exposure by shadowing oncologists.

Entering students are expected to have a solid background in chemistry, mathematics, and the biological sciences. They should have completed undergraduate course work in introductory biology and chemistry, biochemistry, genetics, organic chemistry, physical chemistry, and calculus; and previous course work in cancer biology is desirable. Deficiencies in a particular area, as determined by the Graduate Studies Committee, can be remedied by completion of appropriate courses during the first year of graduate study.

Selection of a Ph.D. mentor (thesis advisor) is normally finalized near the end of the spring semester of a student's first year of study. The deadline for selection is determined by the biomedical science program.

Students are required to complete the core courses listed below prior to their comprehensive examination. Students who wish to take the comprehensive examination should first make arrangements in consultation with their mentor, the program director, and the Student Advisory Committee. The exam is typically completed during the second summer of study.

The Ph.D. in biomedical science with a cancer biology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
CBIO:5000	Experimental Methodologies	6
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1

CBIO:6500	Research in Cancer Biology	arr.
CBIO:7000	Clinical Connections	1
CBIO:7500	Crafting a Scientific Proposal	1
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
PCOL:5204	Basic Biostatistics and Experimental Design	1

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
CBIO:5000	Experimental Methodologies	6
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
PCOL:5204	Basic Biostatistics and Experimental Design	1

First Year, Spring

Code	Title	Hours
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	arr.
Elective		

Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	arr.
CBIO:7000	Clinical Connections	1
CBIO:7500	Crafting a Scientific Proposal	1
Elective		

Second Year, Spring

Code	Title	Hours
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	arr.
Elective		

Electives

The following are possible elective choices. Students should consult the Cancer Biology Graduate Program Handbook for more elective choices, and also consult their advisor or the program director.

Code	Title	Hours
BIOC:7251	Introduction to Protein Structures	1

BIOC:7256	Molecular Biology	1
BIOS:4120	Introduction to Biostatistics	3
FRRB:7000	Redox Biology and Medicine	4
GENE:4213/ BIOL:4213/ IGPI:4213	Bioinformatics	4
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:7191	Human Molecular Genetics	3
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
PATH:5260	Translational Histopathology	3
PCOL:6208	G Proteins and G Protein- Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1

Additional Requirements

Laboratory Rotations

In order to gain more widespread experience in cancer biology research and to aid in selecting a laboratory home and thesis project, students perform three to seven laboratory rotations prior to selection of a thesis advisor. Laboratory rotations are normally carried out in research laboratories of the cancer biology faculty. A rotation can be completed with a faculty member outside the cancer biology program with permission of the program director.

Rotations begin in the spring semester of the first year. The length of a laboratory rotation is flexible and can vary from a minimum of two to five weeks. Two laboratory rotations may be completed in the same lab with the approval of the program director. The goal of the rotations is to gain a comprehensive view of the mentor's research program, to gain exposure to experimental methods used in the mentor's lab, and to learn about the mentoring styles of faculty members.

Teaching

The cancer biology program does not require teaching. Students with an interest in teaching experience are encouraged to discuss their career plans with their mentor and/or the program director.

Publication Requirements

Students are required to have a minimum of one first-author publication in a peer-reviewed journal prior to graduation. The article must be formally accepted and be in-press status or published prior to graduation. A co-first-authored, peer-reviewed publication will count toward this requirement.

Comprehensive Examination

Students are eligible to take the comprehensive examination when they are in good academic standing as defined by the Graduate College—the student has completed all program core courses with a grade of at least B or have a non-letter grade of pass.

Written Examination

The comprehensive exam is on-topic, meaning the subject should be a student's current research being conducted in the mentor's lab. Students normally take the comprehensive exam during the second spring or summer of their enrollment in the program. They submit a written exam, if that is acceptable to the comprehensive examination committee, and then prepare for an oral examination.

Oral Examination

The purpose of the oral examination is to determine whether the student's written submission adequately represents the student's knowledge. A student may be queried on issues beyond the scope of the written proposal to allow the committee to determine the student's general depth of knowledge.

Final Examination

The thesis committee is selected by each student after the successful completion of the comprehensive examination. Students are eligible for their oral thesis defense after completing 72 s.h. of course work, publication of at least one primary author manuscript or be in-press status, and with consent of the thesis committee. The procedures are the same as for the comprehensive examination.

Cell and Developmental Biology

The Doctor of Philosophy in biomedical science with a cell and developmental biology subprogram requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. They gain admission to graduate training laboratories in the Department of Anatomy and Cell Biology, Interdisciplinary Graduate Programs, or through direct admission into a specific laboratory.

The Ph.D. in biomedical science with a cell and developmental biology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
All of these:		
ACB:6220/ MMED:6220/ MPB:6220	Mechanisms of Cellular Organization	3
ACB:6237	Critical Thinking in Biochemistry and Molecular Biology	1
ACB:6238	Critical Thinking in Genetics	1
ACB:6239	Critical Thinking in Cell Biology	1
ACB:6249	Critical Thinking in Cellular Physiology	1
ACB:6248	Critical Thinking in Development	1
BMED:5207	Principles of Molecular and Cellular Biology	3
GENE:6150	Genetic Analysis of Biological Systems	3
PCOL:5204	Basic Biostatistics and Experimental Design	1
Three of these:		

MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1

Typical Curriculum

First Year, Fall

Code	Title	Hours
All of these:		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
GENE:6150	Genetic Analysis of Biological Systems	3
MMED:6280	Critical Thinking in Molecular Medicine	1
PCOL:5204	Basic Biostatistics and Experimental Design	1

First Year, Spring

Code	Title	Hours
Three of the following (on recommendation of the student advisory committee and the graduate program director):		
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
All of these:		
MMED:6280	Critical Thinking in Molecular Medicine (literature review)	1
Elective (optional)		

Second Year, Fall

Code	Title	Hours
All of these:		
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
ACB:6220/ MMED:6220/ MPB:6220	Mechanisms of Cellular Organization	3
ACB:6237	Critical Thinking in Biochemistry and Molecular Biology	1
ACB:6238	Critical Thinking in Genetics	1
ACB:6239	Critical Thinking in Cell Biology	1
Elective (optional)		

Second Year, Spring

Code	Title	Hours
All of these:		
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
ACB:6248	Critical Thinking in Development	1
ACB:6249	Critical Thinking in Cellular Physiology	1
Elective (optional)		

Electives

The following are possible elective choices.

Code	Title	Hours
ACB:5218/ BIOL:5218/ MICR:5218	Microscopy for Biomedical Research	arr.
BIOC:5241	Biophysical Chemistry I	3
BIOC:5242	Biophysical Chemistry II	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	4
NSCI:5753/ BIOL:5753	Developmental Neuroscience	1
PCOL:5135	Principles of Pharmacology	1
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PCOL:6208	G Proteins and G Protein- Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1
PHAR:5521	High Throughput Screening for Pharmaceutical and Biomedical Sciences	1

Additional Requirements

Laboratory Rotations

Students rotate through at least three different laboratories during their first academic year. The rotations are approximately 10 weeks each. At the conclusion of each rotation, students give a 12-minute presentation.

Teaching

Students are required to complete a 3 s.h. teaching requirement. They may teach in a combination of 1 or 2 s.h. courses, or one 3 s.h. course. Teaching requirements must be met prior to the final thesis defense and graduation. Most students meet the requirement in the third year after completion of the comprehensive exam. A student must earn a satisfactory report from the course director in order to receive credit for the teaching requirement.

Publication Requirements

It is expected that a student will have contributed as an author to at least one research publication. The publication must demonstrate primary authorship and be at the accepted phase of the publication process. The number of publications and their quality, content, and impact is established by the thesis committee.

Seminar Presentations

Students present their thesis research annually in the cell and developmental biology seminar series in a 30-minute presentation. Evaluation critique by faculty and students is provided.

Comprehensive Examination

The comprehensive examination must be taken before the fall semester of a student's third year.

Written Examination

A written proposal follows the form of a standard National Institutes of Health (NIH) R01 research grant and covers the area of the research proposed for the student's anticipated thesis dissertation. One aim area should be completely of the student's own design, with no input from the thesis advisor.

Oral Examination

The oral examination of the student's research proposal lasts approximately two to three hours. The exam begins with a brief student presentation on the proposed research project. Questions during the examination may come from the proposal, the thesis research, or other general areas of cell and developmental biology.

Thesis Defense

The five-member thesis committee serves as an advisory body for the preparation of the thesis. The candidate and the committee should meet yearly; however, the candidate, the thesis advisor, or the committee can request a meeting at any time. In the subultimate committee meeting, committee members review the material that is expected to be incorporated into the thesis. The final draft of the thesis is due to the committee two weeks before the final examination. The final examination takes the form of a seminar presented to the program, with questions, comments, and discussion following. After the seminar, the candidate meets with the committee for the final thesis defense.

Free Radical and Radiation Biology

The Doctor of Philosophy in biomedical science with a free radical and radiation biology subprogram is interdisciplinary and requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The possibility exists for a major emphasis in radiation biology or redox biology with a focus on cancer or degenerative diseases associated with aging. Although students with diverse academic backgrounds may enter the program, each student should have a science background which includes at least two years of chemistry, including organic chemistry; one year of physics; two years of biology; and mathematics, including at least one semester of calculus.

The Ph.D. in biomedical science with a free radical and radiation biology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
FRRB:5000	Radiation Biology	4
FRRB:6000	Seminar: Free Radical and Radiation Biology	1
FRRB:6004	Research: Free Radical and Radiation Biology	arr.
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1
FRRB:7000	Redox Biology and Medicine	4
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
FRRB:5000	Radiation Biology (odd years)	4
FRRB:6004	Research: Free Radical and Radiation Biology	arr.

First Year, Spring

Code	Title	Hours
FRRB:6004	Research: Free Radical and Radiation Biology	arr.
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1
FRRB:7000	Redox Biology and Medicine (even years)	4

Electives

Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I (both courses must be taken, but in any order)	0
FRRB:6000	Seminar: Free Radical and Radiation Biology	1
FRRB:6004	Research: Free Radical and Radiation Biology	arr.
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
Electives		

Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II (both courses must be taken, but in any order)	0
FRRB:6000	Seminar: Free Radical and Radiation Biology	1
FRRB:6004	Research: Free Radical and Radiation Biology	arr.
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1

Electives

Required Courses

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BIOC:3120	Biochemistry and Molecular Biology I	3
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
PCOL:5204	Basic Biostatistics and Experimental Design	1

Recommended Electives

These electives are recommended to supplement required course work.

Code	Title	Hours
ACB:4156/ CBE:4156/EES:4156	Scanning Electron Microscopy and X-Ray Microanalysis	arr.
ACB:5218/ BIOL:5218/ MICR:5218	Microscopy for Biomedical Research	arr.
BIOC:3130	Biochemistry and Molecular Biology II	3

BIOC:3140	Experimental Biochemistry	2
BIOL:3713	Molecular Genetics	4
MICR:3147	Immunology and Human Disease	3
MICR:6201/ IMMU:6201	Graduate Immunology	3
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
OEH:6710	Environmental Toxicology	3
PATH:5270/ IGPI:5270	Pathogenesis of Major Human Diseases	3
PATH:8133/ PTRS:8133	Introduction to Human Pathology for Graduate Students	4
PSQF:6217/ GRAD:6217	Seminar in College Teaching	1-3

Additional Requirements

Laboratory Rotations

Graduate students rotate through at least three free radical and radiation biology different laboratories during their first academic year with primary and secondary faculty.

Seminar and Journal Clubs

Students must enroll in one seminar for credit once a year for three years as well as a thesis defense seminar. Students should not register for the seminar during their first academic year.

Students enrolled for research credit are required to submit a research report to their advisor on the last day of class each semester. The report is evaluated and graded by the advisor. The report, written in a form that is appropriate for a peer-reviewed publication, should define the goals, aims, and objectives for the specific semester, and describe the progress made by the student toward completion of the research objectives.

Topics in Free Radical Biology and Medicine (FRRB:6006) and Topics in Radiation and Cancer Biology (FRRB:6008) must be taken at least two times.

Publication Requirements

Students must submit at least one first-author manuscript or be ready to submit to a peer-reviewed journal prior to the thesis defense. All Ph.D. students are expected to have peer-reviewed publications prior to graduation and these publications should include first authorship.

Grant Writing Opportunities

National Institutes of Health (NIH) research grant proposals (i.e., F30, F31) and/or equivalent grant submissions are encouraged based on a student's work. The free radical and radiation biology program will provide resources and critiques of the application prior to submission. Students should review the instructions provided in the NIH publication, PHS-398, available from the National Institutes of Health website.

Qualifying Exam

To qualify for entry into the Ph.D. program, a student must satisfactorily complete a written qualifying examination. The student will typically take the exam after successfully completing the major required course work, but no later than the beginning of the fifth semester after entering the program. The exam is offered after the close of spring semester classes, typically Monday and Tuesday of the first week of the regular summer session.

A student is allowed two attempts to satisfactorily complete the exam. Guidelines state that a score greater than 70 percent on any section constitutes a Ph.D. pass in that section, between 60 percent and 70 percent is an M.S. pass, and below 60 percent is a failing grade. A student who passes (Ph.D. pass) some sections on the first attempt are not be required to repeat an exam for that section. New questions are written for the exam sections to be repeated and students are expected to clear a 70 percent pass within eight weeks of their first attempt. An overall average of 70 percent or greater on the repeated exam sections constitutes a Ph.D. pass. An average equal to or greater than 70 percent constitutes a Ph.D. pass and progress toward completion of the Ph.D. degree requirements.

Comprehensive Exam

Students must successfully pass the comprehensive examination. This exam may be taken at any time after successfully completing the qualifying exam but no later than the first February after successfully completing the qualifying exam. This exam should be written in a National Institutes of Health R01 format and be on the topic of the student's dissertation research. Members of the exam committee should approve of the hypothesis plus a student's aims page. The members then can have no further input into the preparation of the document. If the student fails to satisfactorily complete the comprehensive exam, the student is allowed one additional attempt to satisfactorily complete the exam. The second attempt can be undertaken no sooner than June (at least four months after the first attempt) and no later than August of that same year.

For the Ph.D. comprehensive examination, the student must develop a proposal, present a written copy of the proposal to each member of the examining committee, then orally defend the proposal two to four weeks later. The written proposal shall be prepared using a word processor, be no more than fifty (50) double-spaced pages, and follow the general guidelines for National Institutes of Health (NIH) R01 research grant proposals (minus administrative pages) (See instructions that are provided in the NIH publication PHS-398, available from the NIH website).

Final Examination

The final examination is a defense of the thesis and explanation of the scientific principles involved, given in a public seminar and closed door oral exam, with committee members. The student's research must be summarized in the format required by the Graduate College.

Immunology

The Doctor of Philosophy in biomedical science with an immunology subprogram provides interdisciplinary training in the concepts and methodologies of basic and applied immunology. The degree requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to

earn the degree. They complete course work in immunology and related disciplines, and are directly involved in laboratory research throughout their study. Immunology graduate courses are offered not only to teach students the current concepts and paradigms within the field, but to emphasize the scientific approaches and methods used to attain this understanding. Immunology faculty members are involved in a variety of research projects dealing with the immune system at all levels—structural, functional, cellular, biochemical, and molecular.

The Ph.D. in biomedical science with an immunology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270- BMED:7271	Scholarly Integrity/ Responsible Conduct of Research I-II	0
IMMU:6201/ MICR:6201	Graduate Immunology	3
IMMU:6211	Immunology Seminar	1
IMMU:6247/ MICR:6247	Graduate Immunology and Human Disease	4
PCOL:5204	Basic Biostatistics and Experimental Design	1
Elective		3

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
IMMU:6211	Immunology Seminar	1
IMMU:6247/ MICR:6247	Graduate Immunology and Human Disease	4
PCOL:5204	Basic Biostatistics and Experimental Design	1

First Year, Spring

Code	Title	Hours
IMMU:6201/ MICR:6201	Graduate Immunology	3
IMMU:6211	Immunology Seminar	1
Elective (optional)		1-3

Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
IMMU:6211	Immunology Seminar	1
IMMU:6241	Writing a Scientific Proposal	1
IMMU:7221/ MICR:7207	Advanced Topics in Immunology	3
Elective (optional)		1-3

Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
IMMU:6211	Immunology Seminar	1
Elective (optional)		1-3

Electives

The following are possible elective choices.

Code	Title	Hours
ACB:5218/ BIOL:5218/ MICR:5218	Microscopy for Biomedical Research	3
ACB:8121	General Histology for Dental Students	4
BIOC:7251	Introduction to Protein Structures	1
BIOC:7252	Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics	1
BIOC:7253	Metabolism I	1
BIOC:7254	Metabolism II	1
BIOC:7255	Metabolism III and Biosignaling	1
BIOC:7256	Molecular Biology	1
BIOS:4120	Introduction to Biostatistics	3
MICR:6259	Graduate Bacteria and Human Disease	3
MICR:6260	Graduate Molecular Microbiology	3
MICR:6267	Graduate Viruses and Human Disease	4
MICR:6268	Biology and Pathogenesis of Viruses	2
MICR:6270	Graduate Microbial Genetics	3
MICR:7217/ IMMU:7217	Integrated Topics in Infectious Diseases	1
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
MMED:6240	Inflammatory Cell Signaling and Targeted Cancer Therapy	1
PATH:5260	Translational Histopathology	3
PATH:5270/ IGPI:5270	Pathogenesis of Major Human Diseases	3
PCOL:6207	Ion Channel Pharmacology	1

PCOL:6208	G Proteins and G Protein-Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1

Additional Requirements

Laboratory Rotations

Prior to selecting a laboratory for dissertation work, students are expected to perform three laboratory rotations, with each rotation lasting approximately 12 weeks in duration. During the first semester, students should become acquainted with the research interests of the faculty members in the immunology program. This learning process is facilitated by faculty presentations in IMMU:6211 Immunology Seminar during the fall semester. Students also are encouraged to meet with specific faculty to discuss their research programs. This enables students to make an informed decision about their laboratory rotations, with the guidance and approval of their advisor and the graduate studies committee.

At the latest, students should begin their first rotation within the first week of graduate study. Medical Science Training Program (MSTP) students and students with M.S. degrees that included a research-based dissertation may be excused from one rotation. Students having difficulty choosing a laboratory for dissertation work may perform a fourth rotation.

The rotations are graded either satisfactory or unsatisfactory. This grade is based upon a number of criteria including attendance and work habits. When not in classes or seminars, students are expected to spend the remaining portion of the day in the laboratory. Without a strong commitment to the rotation project, it is difficult to fulfill the purpose and aims of the rotation. A satisfactory grade is required in each of the laboratory rotations. If a satisfactory grade is not received in one of the rotations, an additional rotation is assigned. Failure to receive a satisfactory grade in the extra rotation results in the student being placed on academic probation. Following each rotation, an evaluation is given to each student by the faculty member and submitted to the graduate studies committee.

Teaching

Students complete a teaching requirement lasting one semester. A variety of courses are available in several departments, and the program leadership place students in courses based upon interest, expertise, and scheduling.

Publication Requirements

It is expected that the dissertation project be of sufficient breadth, depth, and novelty to result in first-author research publications in high quality peer-reviewed journals. A minimum of one peer-reviewed paper must be published or in press prior to the completion of the Ph.D. degree. In addition, a second publication, in which the student is a coauthor on a peer-reviewed article, a review, or book chapter must be published or in press prior to the completion of the degree. Students are not permitted to schedule a dissertation defense until it has been demonstrated that both of these requirements have been met.

Comprehensive Examination

The comprehensive examination is generally taken in the spring semester of the second year of study. MSTP students or students entering the program with a M.S. degree may choose

to take the examination in the fall semester of their second year.

Students taking the comprehensive examination prepare a single abstract of an original research proposal. The examination committee determines if the abstract topic is appropriate as non-overlapping, and if the abstract is scientifically sound to potentially serve as the basis for a defensible research proposal. After the abstract is accepted, students are given four weeks to complete and submit the written comprehensive examination proposal. The oral defense is scheduled 10-14 days after the exam is submitted, depending on availability of the committee members. The comprehensive exam is written in the form of a NIH-style pilot grant proposal based on the abstract and instructions from the comprehensive examination. A detailed student manual is located under "Program Information" on the Immunology Program website.

Final Examination

The five members of the thesis committee serve as an advisory body for preparation of the thesis. The committee meets with each student to review the material that they expect to be incorporated into the thesis. Although meetings with the committee should be yearly, the candidate, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the final examination.

The final examination takes the form of a seminar presented to the program. This presentation is announced according to Graduate College policy. Questions, comments, and discussion follow. After the seminar, the candidate meets with the committee for the final thesis defense. In some cases revisions may be required. The degree is not awarded until the thesis is signed.

Microbiology

The Doctor of Philosophy in biomedical science with a microbiology subprogram requires a minimum of 72 s.h. of graduate credit (18 s.h. of course work and 54 s.h. of research). Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. Qualified students interested in earning the Doctor of Medicine along with the Ph.D. may apply to the Medical Scientist Training Program, which offers a combined M.D./Ph.D. program.

Students have the opportunity to tailor their curriculum with courses that enhance their educational goals. They take a combination of graduate-level courses that include seminar courses.

The Ph.D. in biomedical science with a microbiology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MICR:7263	Graduate Student Research Seminar	1

Additional courses offered by the Department of Microbiology and Immunology and other departments, as appropriate for each student

Typical Two-Year Curriculum

First Three Semesters

Students enroll for 12 s.h. in the first three semesters and select courses from the following.

First Year, Fall

Code	Title	Hours
MICR:6247/ IMMU:6247	Graduate Immunology and Human Disease	4
MICR:6267	Graduate Viruses and Human Disease	4
MICR:6270	Graduate Microbial Genetics	3
MICR:7221	Advanced Topics in Prokaryotic Biology Module 1	1-2

First Year, Spring

Code	Title	Hours
MICR:6201/ IMMU:6201	Graduate Immunology	3
MICR:6259	Graduate Bacteria and Human Disease	3
MICR:6260	Graduate Molecular Microbiology	3
MICR:6268	Biology and Pathogenesis of Viruses	2
MICR:7265	Topics in Virology Literature	1

Examples of Elective Course Work

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	4
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
BIOL:5320/ BME:5330/ ECE:5220/ GENE:5173/ IGPI:5330	Computational Genomics	3

Additional Requirements

Laboratory Rotations

Graduate students rotate through two to three different laboratories during their first academic year. The laboratory rotations are approximately ten weeks each. At the conclusion of each rotation, a student meets with the rotation mentor for an exit interview and an evaluation of the student's performance. This evaluation becomes part of the student's departmental record. The student also is required to present the research completed during the rotation in the graduate seminar course.

Teaching

Graduate students participate in the formal teaching activities of the department for at least two semesters. First-year students as well as students who are within a

year of receiving the Ph.D. degree typically are not asked to teach. Teaching may take a variety of forms, including tutoring, leading discussions and laboratory groups, correcting examinations, preparing teaching materials, and lecturing.

Comprehensive Examination

The comprehensive examination is designed to measure a student's ability to write and defend a research proposal. The format of this proposal follows guidelines for research proposals outlined by major external funding agencies (i.e., National Institutes of Health (NIH), National Science Foundation (NSF), and U.S. Department of Agriculture (USDA)). Guidance, in the design of these proposals, is provided by the director of graduate studies and the student's comprehensive examination committee.

Written Examination

During the spring semester of the second year, a student prepares a detailed research proposal. The topic of the research proposal is determined in collaboration with the comprehensive examination committee. A detailed guide can be found in the Graduate Program in Microbiology Student Handbook.

Oral Examination

Questions during the oral examination may come from the examination proposal, course work, or other general areas of microbiology. In order to pass the comprehensive examination, a student must satisfactorily defend the written research proposal and answer questions of general microbiology that are germane to the proposal or that are important for a full understanding of the proposed experiments and their interpretation.

Final Examination

The five-member Ph.D. thesis committee serves as an advisory body for preparation of the thesis. This committee meets with the student to review the material that is expected to be incorporated in the thesis. Although meetings of the candidate with the committee should be yearly, the candidate, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the final examination. The final examination takes the form of a seminar presented to the department. This presentation is announced according to the Graduate College policy. Questions, comments, and discussion will follow. After the seminar, the candidate meets with the committee for the final thesis defense. The Ph.D. degree is not awarded until the thesis is signed. In some cases, revisions may be required.

Molecular Medicine

The Doctor of Philosophy in biomedical science with a molecular medicine subprogram provides interdisciplinary training in the concepts and methodologies fundamental to the investigation of biological processes and molecular mechanisms that relate to human disease. The Ph.D. requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

The curriculum is a sequence of required and elective courses, which provides students with broad exposure to areas including molecular biology, cell biology, biochemistry, and integrative sciences. It ensures a comprehensive exposure to conceptual and experimental aspects of molecular and

cellular biology and of translational studies. Sufficient flexibility is provided so that students can adapt the program to permit specialization in their own area of interest. Faculty members are involved in a variety of research projects involving molecular and cellular biology and molecular medicine.

The Ph.D. in biomedical science with a molecular medicine subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
All of these:		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270- BMED:7271	Scholarly Integrity/ Responsible Conduct of Research I-II	0
MMED:6280	Critical Thinking in Molecular Medicine (post-comp students must participate in a journal club of their choice)	1
MMED:7290	Seminars in Molecular Medicine (students must register each semester)	1
MMED:8115	Molecular Physiology	3
PATH:5270	Pathogenesis of Major Human Diseases	3
PCOL:5204	Basic Biostatistics and Experimental Design	1
Methods for molecular and translational medicine course (consult advisor)		1

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:8115	Molecular Physiology	3
PCOL:5204	Basic Biostatistics and Experimental Design	1

First Year, Spring

Code	Title	Hours
MMED:6280	Critical Thinking in Molecular Medicine	1
PATH:5270	Pathogenesis of Major Human Diseases	3
Methods for molecular and translational medicine course (consult advisor)		1
Electives (from second year tracks or other courses; consult advisor)		

Second Year

Students select course work from the following three track areas: metabolic disorders, cardiovascular biology, and molecular and cellular medicine (general).

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:7290	Seminars in Molecular Medicine	1
Electives		1-3

Metabolic Disorders

Code	Title	Hours
BIOC:7253	Metabolism I	1
BIOC:7254	Metabolism II	1
BIOC:7255	Metabolism III and Biosignaling	1
MMED:6280	Critical Thinking in Molecular Medicine	1
Pathogenesis of metabolic disorders course (anatomy, physiology, pathophysiology, pharmacology; consult advisor)		3
Translational medicine education rounds		

Cardiovascular Biology

Code	Title	Hours
MMED:6280	Critical Thinking in Molecular Medicine	1
Pathogenesis of cardiovascular disorders course (anatomy, physiology, pharmacology; consult advisor)		3
Elective		3
Translational medicine education rounds		

Molecular and Cellular Medicine (General)

Code	Title	Hours
All of these:		
MMED:6220	Mechanisms of Cellular Organization	3
Related course work from list in the Molecular Medicine Handbook/Guidelines		2
Translational medicine education rounds		
Two of these:		
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6225	Growth Factor Receptor Signaling	1
MMED:6226	Cell Cycle Control	1
MMED:6227	Cell Fate Decisions	1

Additional Requirements

Laboratory Rotations

To ensure that students obtain early involvement in laboratory research, they are required to register for research credits and complete three laboratory rotations during their first year of graduate study. In general, these rotations are in laboratories of three different molecular medicine faculty members. In some cases, if approved by the molecular medicine program, students may be allowed to complete two of their rotations in the same laboratory.

Teaching

Students are required to complete a teaching requirement (3 s.h.). They may teach in a combination of 1 or 2 s.h. courses, or one 3 s.h. course. This teaching requirement must be met prior to the final dissertation defense and graduation. It is recommended that teaching occur in the third year following completion of the comprehensive examination.

Publication Requirements

Students are required to have a minimum of one first-author publication in a peer-reviewed journal. The article must be formally accepted and be in press status or be published prior to graduation. A co-first-authored, peer-reviewed publication will count toward this requirement.

External Fellowship Application Requirement

Students are required to submit a fellowship to an external funding agency (i.e., National Institutes of Health, American Heart Association) within one year of completing their comprehensive examination or by a date that is mutually agreed upon by the student, the dissertation advisor, and the molecular medicine program.

Comprehensive Examination

Students are expected to complete the comprehensive examination, both written and oral components, before the beginning of their third year. The preliminary specific aims document can be submitted to the comprehensive examination committee any time after approval of the dissertation plan, but must be submitted before April 1. The committee evaluation of the specific aims will be returned to the student within one week. A rejected specific aims must be revised and resubmitted within three weeks. The committee then has one week to evaluate the resubmitted specific aims. The specific aims must be accepted by a majority vote of the committee before a student can proceed with development of a full proposal. Only two rounds of submission are allowed.

Following acceptance of the specific aims, the student must submit the written proposal within six weeks. The committee has two weeks to review the written document. The oral presentation to defend the written proposal should be scheduled as soon after the two weeks as possible or at the convenience of the committee. It is expected that all examinations will be completed by July 15, in advance of the end of the student's second year.

The detailed Molecular Medicine Student Guidelines is located under "Program Information" on the Molecular Medicine Program website.

Final Examination

The five-member thesis committee serves as an advisory body for preparation of the thesis. It is expected that a student meet with the committee annually, although the candidate, thesis advisor, or the committee can request a meeting at any time. The final examination takes the form of a seminar presented to the program followed by a final thesis defense with committee members. The student is required to present a complete copy of the thesis to the thesis committee members at least two weeks prior to the final defense date.

Molecular Physiology and Biophysics

The Doctor of Philosophy in biomedical science with a molecular physiology and biophysics subprogram offers opportunities for training and research. The degree requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students join an active group of faculty members and advanced students at a time of expanding interdisciplinary biomedical research at the University of Iowa. Faculty in the Department of Molecular Physiology and Biophysics have a strong research focus on the cellular, molecular, and physical mechanisms of physiological processes.

The Ph.D. in biomedical science with a molecular physiology and biophysics subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MPB:5153	Graduate Physiology	4
MPB:6302	Research Physiology and Biophysics	arr.
Advanced electives, approved by the director of graduate studies		9

Typical Curriculum

Fall Semester

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MPB:5153	Graduate Physiology	4
MPB:6302	Research Physiology and Biophysics	6

Spring Semester

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MMED:6215	Transcription and Multifunctional Regulation by RNA (elective)	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control (elective)	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions (elective)	1
MPB:6225/ ACB:6225/ MMED:6225	Growth Factor Receptor Signaling (elective)	1

MPB:6302 Research Physiology and Biophysics 2

Elective Course Work Options

Any elective preapproved by the director of graduate studies can be used to meet the elective requirement. A total of 9 s.h. of elective course work is required.

The most common elective options are the following.

Code	Title	Hours
BMED:5205	Practical Bioinformatics	1
GENE:6150	Genetic Analysis of Biological Systems	3
MPB:6220/ ACB:6220/ MMED:6220	Mechanisms of Cellular Organization	3
NSCI:5653/ BIOL:5653/ PSY:5203	Fundamental Neurobiology	3
IGPI:5270/ PATH:5270	Pathogenesis of Major Human Diseases	3

Additional Requirements

Plan of Study

In consultation with the director of graduate studies, each newly admitted student formulates a plan of study to be completed before the comprehensive examination. This plan should include projected dates for completion of the comprehensive examination as well as provision for removal of deficiencies. Before completing the comprehensive exams, the normal course load is 15 s.h. each semester.

Required Courses

It is the intention of the department to have a curriculum that allows course work to be mostly completed within the first year, though in some instances additional course work in subsequent years is required. The core curriculum represents a minimum of required classes; although with advice of the director of graduate studies and thesis advisor, some students may benefit from completing additional course work.

Requests for waiver of required courses or change of course registration must be approved by the director of graduate studies after consultation with the faculty and the chair of the department.

Evaluation of Progress

Students must meet progress requirements of the Department of Molecular Physiology and Biophysics and the Graduate College. To meet departmental requirements, students must obtain a grade of B or higher in MPB:5153 Graduate Physiology and BMED:5207 Principles of Molecular and Cellular Biology (B-minus or lower constitutes a non-passing grade), a grade of satisfactory (S) for BMED:7270 Scholarly Integrity/Responsible Conduct of Research I, and a g.p.a. of at least 3.00 in all elective course work (a grade below B, but above D-minus, is permissible for individual electives, so long as the grade-point average of all combined electives taken during the graduate program remains higher than 3.00).

All core curriculum courses receiving a letter grade must be satisfactorily completed prior to taking the comprehensive exam. According to Graduate College regulations, students cannot take a comprehensive exam in a semester in which they are on academic probation.

Comprehensive Examination

Students admitted directly to the doctoral program are required to complete the comprehensive examination by June 30 of the second year in the program.

Workshop

All postcomprehensive students are required to present a workshop on the progress of their thesis research once per year. Students should consult with the workshop coordinator to arrange presentation dates. Precomprehensive students also are encouraged to present workshops, though it is not required. Students have an option to present a full or half workshop (typically 45 or 20 minutes, respectively).

Teaching

Experience in teaching is an important part of a student's academic training. To attain adequate teaching proficiency, students receive teaching assignments after successful completion of the comprehensive exam and in subsequent years as warranted. Individual assignments depend on the teaching needs of the department. Examples of teaching assignments include running review sessions in a graduate physiology course, formal lectures, participating in small group conferences, assisting in computer simulations, or bench mentoring of summer students. These teaching assignments are made by the director of teaching in consultation with appropriate course directors. Thesis advisors with specific suggestions concerning teaching assignments that would be particularly beneficial to the individual circumstances of a particular student are encouraged to share them with the director of teaching for consideration. However, final discretion for approval lies with the director of teaching who must preapprove all assignments.

Research Publication

It is expected that thesis research will result in findings that are of sufficient quality and completeness to warrant publication in good quality peer-reviewed journals. At least one first-author peer-reviewed research paper must be accepted for publication prior to the Ph.D. thesis defense. The published paper or a letter from an editor indicating acceptance should be provided to the director of graduate studies before scheduling a final exam date.

Thesis Defense and Presentation

Students complete a thesis defense with their committee. Once this test is completed they must schedule a public thesis presentation.

Pharmacology

The Doctor of Philosophy in biomedical science with a pharmacology subprogram provides professional training for health science students and participates with other departments in educational and research activities such as the Medical Scientist Training Program [p. 1574], the Physician Scientist Training Pathway, the Molecular Medicine [p. 1481] Program, the Neuroscience [p. 1482] Program, the Holden Comprehensive Cancer Center, the Abboud Cardiovascular Research Center, and the UI Fraternal Order of Eagles Diabetes Research Center. The degree requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

The Ph.D. in biomedical science with a pharmacology subprogram requires the following course work.

Core Curriculum

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
MPB:5153	Graduate Physiology	4
PCOL:5135	Principles of Pharmacology	1
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PCOL:5137	Neurotransmitters	1
PCOL:5204	Basic Biostatistics and Experimental Design	1
PCOL:6203	Pharmacology for Graduate Students	6
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
PCOL:6208	G Proteins and G Protein-Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1
Electives		6

Typical Curriculum

First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
MPB:5153	Graduate Physiology	4
PCOL:5204	Basic Biostatistics and Experimental Design	1
PCOL:6015	Topics in Neuropharmacology	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology	arr.

First Year, Spring

Code	Title	Hours
PATH:5270/ IGPI:5270	Pathogenesis of Major Human Diseases	3
PCOL:5135	Principles of Pharmacology	1
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PCOL:5137	Neurotransmitters	1
PCOL:6025	Topics in Cell Signaling and Cancer	1
PCOL:6080	Pharmacology Seminar	1

PCOL:6090	Graduate Research in Pharmacology	arr.
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1

Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
PATH:7001/ FRRB:7001	Molecular and Cellular Biology of Cancer	3
PCOL:6020	Topics in Pharmacogenomics	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology	arr.
PCOL:6203	Pharmacology for Graduate Students	6

Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
MMED:6225/ ACB:6225/ MPB:6225	Growth Factor Receptor Signaling	1
PCOL:6030	Topics in Cardiovascular Pharmacology	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology	arr.
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6208	G Proteins and G Protein-Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1

Examples of Elective Course Work

Code	Title	Hours
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
PATH:5270/ IGPI:5270	Pathogenesis of Major Human Diseases	3
PHAR:5521	High Throughput Screening for Pharmaceutical and Biomedical Sciences	1
PATH:7001/ FRRB:7001	Molecular and Cellular Biology of Cancer	3

Additional Requirements

Laboratory Rotations

Newly admitted students complete three 12-week laboratory rotations by the end of the second semester.

Seminar and Journal Clubs

During each semester, all registered students enroll in PCOL:6080 Pharmacology Seminar and one of a rotating series of journal clubs focused on different topics in pharmacology.

Comprehensive Examination

The comprehensive examination process normally begins during the fourth semester and is completed during the fifth semester in the program. The exam consists of writing and defending a research proposal in an area not directly related to work being conducted by the student or in the laboratory of the student's mentor(s). During the oral defense, the Comprehensive Exam Committee may pose questions related to the written proposal and also may ask questions to determine whether the student has broad knowledge in the pharmacological sciences.

Publication

A first-authored manuscript derived from a student's thesis research must be accepted for publication.

Final Examination

The final oral examination is a defense of the thesis and is conducted by the Thesis Committee, typically immediately after a thesis seminar.

Center for the Book

Director

- Timothy D. Barrett

Graduate degree: M.F.A. in book arts

Graduate certificate: book studies/book arts and technologies

Faculty: <https://book.grad.uiowa.edu/faculty-and-staff/instructors>

Website: <https://book.grad.uiowa.edu>

The University of Iowa Center for the Book represents a community of faculty, staff, students, and local book specialists with interests in all facets of book production, distribution, and use. Some members of the center actively research the history and circulation of the book, examining the role of books in cultural and historical processes. They also look at how changes in book production affect the way books are viewed as artifacts. Specialists in book arts and technologies study the history and technique of book crafts, including letterpress printing, typography, calligraphy, papermaking, and bookbinding. Others engage in the conservation or production of books, including artists' books and literary fine press publications.

The center offers classes; sponsors lectures, seminars, and workshops; and encourages the exchange of ideas among individuals with interests in the book. A wide range of perspectives on the book as an aesthetic, cultural, and historical artifact is provided by associated faculty, staff, and graduate students in the Schools of Art and Art History and Library and Information Science; the Departments of History and English; University of Iowa Libraries; the Creative Writing Program (Iowa Writers' Workshop); and other areas. This interdisciplinary membership and the center's facilities combine to provide an exceptional environment for studying the history of the book, its evolution, and its future.

Graduate students may earn a master's degree or a graduate certificate through the center. Undergraduate students may add dimension to their majors in English, art, journalism, history, and other disciplines by taking Center for the Book courses in book arts and book studies. They also may include an emphasis on book arts or on cultural and historical aspects of the book in the interdepartmental studies major.

Programs

Graduate Programs of Study

Major

- Master of Fine Arts in Book Arts [p. 1449]

Certificate

- Certificate in Book Studies/Book Arts and Technologies [p. 1450]

Courses

Center for the Book Courses

UICB:2100 Creative Writing for Book Arts 3 s.h.
Creative writing in context of book arts; text and image, typography, visual sequence, graphic narrative; zines, chapbooks, broadsides, and artist's books.

UICB:2110 Introduction to Book Arts 3 s.h.

Topics related to artist books, hand bookbinding, letterpress printing, papermaking, and lettering arts. GE: Engineering Be Creative. Same as BKAT:2110.

UICB:2600 Graphic Design II 3 s.h.

Fundamentals of typography as a core element in visual communication; introduction to historical typographic practices as well as modern modes of designing with type. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2500. Same as DSGN:2600.

UICB:2900 Book Design for Publishing 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, ENGL:2900, WRIT:2900.

UICB:3140 Literature and the Book 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3140.

UICB:3142 Topics in Book History 3 s.h.

Authorship, publishing, and so forth within specific historical and cultural contexts. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3142.

UICB:3280 Elements of Book Art 3 s.h.

Overview of book art process and techniques for nonmajors; introduction to traditional bookbinding skills, nontraditional book structures, and content development for artist books. GE: Engineering Be Creative. Same as BKAT:3280.

UICB:3380 Elements of Letterpress 3 s.h.

Introduction to letterpress printing; metal type, relief printing, page layout, and basic typography; basic use of Vandercook Proof Press; experimentation with diverse letterpress techniques; for non-book art majors. GE: Engineering Be Creative. Same as BKAT:3380.

UICB:3400 Calligraphy: Foundational Hands 3 s.h.

Fundamental calligraphic skills using Roman majuscule, Humanistic minuscule, Italic; basic layout and color theory incorporated into letter practice. Same as BKAT:3400.

UICB:3900 Special Project for Undergraduates arr.

Independent study.

UICB:4100 Paperworks 3 s.h.

Conceptual and methodological approaches to 2-D and 3-D paper works; creation of works that couple unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp, medium's relationship to larger art and craft contexts. GE: Engineering Be Creative. Same as BKAT:4100.

UICB:4150 Introduction to Book Studies 3 s.h.

Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:4150, SLIS:4150.

UICB:4205 Bookbinding I: Materials and Techniques 3 s.h.

Hands-on introduction to materials and techniques commonly used in bookbinding. Same as BKAT:4205.

UICB:4210 Boxes and Enclosures**3 s.h.**

Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: UICB:4205. Same as BKAT:4210.

UICB:4270 Bookbinding II**3 s.h.**

Builds on skills acquired in UICB:4205; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: UICB:4205. Same as BKAT:4270.

UICB:4280 Artists' Books**3 s.h.**

Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: UICB:4205 or UICB:4205. Same as BKAT:4280.

UICB:4290 Historical Book Structures**3 s.h.**

Historical development of book structures examined through surviving examples, construction of historical models. Prerequisites: UICB:4205 or UICB:4205.

UICB:4300 Letterpress I**3 s.h.**

Mechanics of letterpress printing, typography, and design as applied to hand set metal type and edition printing; printing on a Vandercook proof press; introduction to photopolymer plates and methods of illustration related to edition printing, historical aspects of printing technology, typesetting, type classification; role of letterpress in modern private press and contemporary artist books. Same as ARTS:4300.

UICB:4305 Computer Graphics for Book Arts**3 s.h.**

Introduction to Adobe Creative Suite graphic design software (InDesign, Illustrator, Photoshop); emphasis on using software for book arts applications; typesetting and pagination of multipage documents; methods for combining text and image; tools and techniques for digital illustration; creation and manipulation of digital images; preparations of digital files for desktop or letterpress printing and services bureau output.

UICB:4340 Digital Design for Artists' Books**3 s.h.**

Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. GE: Engineering Be Creative. Same as ARTS:4340.

UICB:4380 Letterpress II**3 s.h.**

Builds on skills acquired in UICB:4300; students produce an editioned letterpress printed chapbook or artist book, a poster for a public event, and an image built from metal type; exploration of hand-set metal, digital typesetting, printing from photopolymer plates, and pressure printing; press mechanics and operation; publication philosophies, manuscript acquisition, and topics specific to literary fine press and artist books; historical and contemporary context for literary fine press publications and artist book work. Prerequisites: UICB:4300.

UICB:4390 Book and Publication Design**3 s.h.**

Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: DSGN:2600 or UICB:4300. Same as ARTS:4390.

UICB:4400 History of Western Letterforms**3 s.h.**

History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as ARTS:4400.

UICB:4415 Calligraphy I: Foundational Hands**3 s.h.**

Hands-on instruction in italic and pressure pen scripts; historical relationships, effects on modern letterforms. GE: Engineering Be Creative. Same as ARTS:4415.

UICB:4420 Calligraphy I: Blackletter Hands**3 s.h.**

Explores some of the many calligraphic forms known collectively as blackletter hands (medieval introduction to calligraphy); study of various hands from the heavily vertical Textura to the floridly expressive Gothic Cursive, and the distinctive connotations these unique letterform carry; emphasis on exploring the creative process while refining calligraphic skills and understanding the historical and social connections this hand has with other disciplines.

UICB:4490 Advanced Studies in Letter Arts**3 s.h.**

Special topics and advanced projects in calligraphy and letter arts. Prerequisites: UICB:4400 or UICB:4415 or UICB:4420. Same as ARTS:4490.

UICB:4910 The Book in the Middle Ages**3 s.h.**

Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as HIST:4910, SLIS:4910.

UICB:4920 The Transition from Manuscript to Print**3 s.h.**

History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as HIST:4920, SLIS:4920.

UICB:4930 Topics in Material Analysis**3 s.h.**

Analysis and description of physical book artifacts and their component parts (parchment, paper, bookbinding) and allied specialties (the lettering arts, printing and illustration techniques); reading, writing, presentations. Same as HIST:4430.

UICB:5110 Islamic/Asian Papermaking History and Technique**3 s.h.**

History, technique, and aesthetics of traditional Islamic and Asian hand papermaking. Same as BKAT:5110.

UICB:5130 European Papermaking History and Technique**3 s.h.**

History and technique of traditional European hand papermaking and related aesthetics; students gain confidence in pursuing independent production of handmade papers or undertaking related research in their own particular areas of interest; fiber preparation, sheet forming, and drying/finishing methods; concurrent readings and discussions of related history and aesthetics; special projects selected by student with instructor approval. Same as BKAT:5120.

UICB:5160 Studies in Papermaking**arr.**

Topics in the history and technique of papermaking. Prerequisites: UICB:4100 or UICB:5110 or UICB:5130.

UICB:5170 Advanced Papermaking Production 3 s.h.

Independent Western- or Japanese-style projects undertaken at UICB Research and Production Paper Facility at Oakdale Campus under faculty guidance; plan, implement, and evaluate professional scale production runs using full-scale equipment. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as BKAT:5170.

UICB:5180 Advanced Projects in Paper 3 s.h.

Advanced independent projects undertaken in a classroom setting; collaborative group discussions to plan, implement, troubleshoot, and evaluate student projects. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as BKAT:5180.

UICB:5210 Bookbinding III 3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Prerequisites: (UICB:4205 or BKAT:4205) and (UICB:4270 or BKAT:4270). Requirements: for UICB:5210—UICB:4205 and UICB:4270; for BKAT:5210—BKAT:4205 or BKAT:4270 or UICB:4205 or UICB:4270. Same as BKAT:5210.

UICB:5220 Book Conservation 3 s.h.

Practical methods, materials assessment, conservation history and evolution. Prerequisites: UICB:4270. Same as SLIS:5535.

UICB:5260 Studies in Bookbinding 3 s.h.

Topics related to hand bookbinding. Same as BKAT:5260.

UICB:5280 Bookbinding IV 3 s.h.

Advanced studies in bookbinding; fine binding styles, leather paring and tooling, advanced finishing techniques, refining skills; continued look at differences in regional binding practices, how these differences affect function, and why particular styles developed. Prerequisites: UICB:5210.

UICB:5330 Letterpress III: Imagemaking arr.

Advanced work in alternative and innovative letterpress technologies as they apply to imagemaking processes for fine press printing; topics include pressure printing, photopolymer from nondigital negatives, explorations of type-high surfaces, monoprints on the Vandercook, and applying hand work to editioned prints; students complete a series of print exercises for each process, a small printed book sketch, and a longer format editioned artist book. Prerequisites: UICB:4380. Same as ARTS:5330.

UICB:5340 Letterpress III: The Handprinted Book 3 s.h.

Advanced work in fine press book design; exploration of problems in hand-printing books, choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature; issues of book design and production related to letterpress printing. Prerequisites: UICB:4380. Same as ARTS:5340.

UICB:5370 Studies in Printing 1-3 s.h.

Development of individual book projects and production of one substantial project or several smaller ones; focus on acquiring or creating a text and/or other content; project development; range of print techniques available in letterpress printing; issues involved in producing editioned artist books or fine press work; opportunity to expand on existing printing; classroom setting used to augment work sessions with in-progress critiques, readings, and visits to special collections.

UICB:5380 Letterpress IV: Advanced Projects 3 s.h.

Development and/or production of one substantial project; focus on acquiring or creating a text and/or other content; project development; range of print techniques available in letterpress printing; issues involved in producing editioned artist books or fine press work; opportunity to expand existing printing; classroom setting augments work sessions with in-progress critiques, readings, and visits to special collections. Prerequisites: UICB:5330 or UICB:5340.

UICB:5520 Studies in Book History 3 s.h.

Topics related to production, distribution, and consumption of books through history and into the future. Same as SLIS:5520.

UICB:5530 Topics in Preservation 3 s.h.

Care, conservation, and preservation of cultural heritage artifacts; readings, discussion, hands-on sessions. Same as SLIS:5530.

UICB:5540 Topics in Book Arts 1-3 s.h.

Focus on particular techniques and concepts in the book arts and related fields.

UICB:5550 Special Project for Graduate Students arr.

Independent study.

UICB:5600 History of Readers and Reading 3 s.h.

Cultural nature of reading practices in historic and contemporary contexts of reading; reading communities; dimensions of gender, age, class, religion, race, ethnicity; examples of recent scholarship; use of primary resources; seminar. Same as SLIS:5600.

UICB:6100 Book Studies Proseminar 1-3 s.h.**UICB:6370 Topics in Book Studies 3 s.h.**

Topics relevant to book studies and special collections. Same as SLIS:6370.

UICB:6510 Book Art Seminar: History, Practice, and Critique 3 s.h.

Art-historical introduction to book arts (printing, bookbinding, papermaking and paperworks, artist bookwork, lettering arts, literary fine press and fine press artist books); influences and origins, contemporary practice, critical considerations; locating field through lenses of fine art, craft, and book history; weekly readings, observational analyses, hands-on exercises; archival research in the University of Iowa Libraries Special Collections; final research, analytical, and/or critical project.

UICB:6520 Graduate Book Arts Workshop 3 s.h.

Development of artwork and studio practice; readings and research in contemporary theory and practice; analysis of visual language; integration of creative activities and critical thinking in student's own art practice and analysis of contemporary work in book arts; group and individual critiques, studio assignments, presentations, discussions.

UICB:6540 M.F.A. Thesis Hours arr.

Book Arts, M.F.A.

Graduate study of the book is interdisciplinary. It focuses on book arts as hands-on practice as well as a historical and cultural phenomenon. Its principal objectives are to provide scholarly and aesthetic contexts for the study of book history, arts, and technologies; and to offer a structured program in book-related disciplines for graduate students with a serious interest in book studies.

Requirements

The Master of Fine Arts program in book arts requires a minimum of 60 s.h. of graduate credit, including a thesis. Students select one of several emphasis areas: artist book work, bookbinding, calligraphy, digital book work, papermaking, or printing. After completing core courses, they work with a faculty advisor to design an individualized curriculum in their specialty area. The degree culminates with the successful completion of a thesis.

The program requires the following course work.

Code	Title	Hours
Studio Requirements		
Courses from the areas below should be selected in consultation with advisor.		
Required Electives		
Three of these (9 s.h.):		
UICB:4205/ BKAT:4205	Bookbinding I: Materials and Techniques	3
UICB:4300/ ARTS:4300	Letterpress I	3
UICB:4400/ ARTS:4400	History of Western Letterforms	3
UICB:4415	Calligraphy I: Foundational Hands	3
UICB:5110/ BKAT:5110	Islamic/Asian Papermaking History and Technique	3
UICB:5130/ BKAT:5120	European Papermaking History and Technique	3
Graduate Book Arts Workshop		
This course (must be taken three semesters for total of 9 s.h.):		
UICB:6520	Graduate Book Arts Workshop	3
Book Art Seminar		
This course:		
UICB:6510	Book Art Seminar: History, Practice, and Critique	3
Studio Practice Electives		
Studio practice courses		15
Scholarly Inquiry Requirement		
Two of the following, or students may request to use related courses approved by the head of the scholarly inquiry area (6 s.h.):		
UICB:3140/ ENGL:3140	Literature and the Book	3
UICB:3142/ ENGL:3142	Topics in Book History	3
UICB:4150/ ENGL:4150/ SLIS:4150	Introduction to Book Studies	3

UICB:4910/ HIST:4910/ SLIS:4910	The Book in the Middle Ages	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3
UICB:5600/ SLIS:5600	History of Readers and Reading	3
UICB:6100	Book Studies Proseminar	3

Material Analysis Requirement

This course:

UICB:4930/ HIST:4430	Topics in Material Analysis	3
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Additional Electives

Elective courses (may include 0-6 s.h. of thesis credit; see below)	15
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Thesis

Can be taken for maximum of 6 s.h.:

UICB:6540	M.F.A. Thesis Hours	arr.
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Combined Programs

M.F.A./M.A. in Library and Information Science

The Center for the Book and the School of Library and Information Science offer a combined Master of Fine Arts in book arts/Master of Arts in library and information science. The combined degree program allows students with strong interests in the book arts, book history, and material book studies to also gain expertise in library and information science. The degrees provide book artists and librarians with credentials reflecting a depth of skills and knowledge that have been used to secure positions in special collections libraries and archives. Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the M.A., see the M.A. in library and information Science [p. 1477] section of the Catalog.

Admission

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College. Visit Admissions on the Center for the Book website for more information.

Book Studies/Book Arts and Technologies, Graduate Certificate

The graduate Certificate in Book Studies/Book Arts and Technologies requires 18 s.h. of graduate credit and is designed to be completed in one year. The program is open to students who are enrolled in a graduate degree program at the University of Iowa as well as to students enrolled in the Graduate College with nondegree status.

The program requires the following course work. Students should consult their advisor concerning course choices.

Code	Title	Hours
A studio practice course		3
A scholarly inquiry course		3
Electives		12
Total Hours		18

Certificate and Degree Opportunities

Separate application to each program is required.

Certificate/M.A. in Library and Information Science

The Center for the Book and the School of Library and Information Science enable students to earn the Certificate in Book Studies/Book Arts and Technologies and a M.A. in library and information science [p. 1477]. Admission deadline is February 1 for the following fall.

The programs offer multiple pathways into professional engagement with artifacts, such as rare and artist books, available in archives and libraries. Students select courses that enable them to gain skills and knowledge in areas of service such as conservation, cataloging, instruction, and outreach. Completion of the two programs requires 51 sh. of credit. Students must take at least 27 s.h. of library and information courses and 15 s.h. of book arts, studies, and technologies courses. The remaining 9 s.h. may be taken in either School of Library and Information Science (prefix SLIS) or Center for the Book (prefix UICB) courses or from another unit, with approval of the School of Library and Information Science.

Certificate/M.F.A. in Art

The Center for the Book and the School of Art and Art History enable students to earn the Certificate in Book Studies/Book Arts and Technologies and a M.F.A. in art [p. 112]. Students may wish to earn the M.F.A. in a studio art area (printmaking, drawing and painting, design, etc.) in combination with the 18 s.h. certificate in book studies/book arts and technologies. If accepted to both programs, students are advised and matriculate through both programs independently. Most, if not all, of the 18 s.h. of elective course work required for the M.F.A. may be applied toward the Center for the Book certificate. It is possible for a student to earn both credentials in the same amount of time required to earn the M.F.A.

Admissions advisors in both areas of study assist interested students to discern whether the Center for the Book M.F.A. in book arts or the School of Art and Art History M.F.A. in art

and the certificate option is most appropriate to a student's background and career goals. In large part, this is determined by the degree to which books and book arts are central to the applicant's chosen path.

Admission

Applicants must meet the admission requirements of the Graduate College; see Manual of Rules and Regulations of the Graduate College. Visit Admissions on the Center for the Book website for more information.

Cognitive Science of Language

Chair, Psychological and Brain Sciences

- Mark S. Blumberg

Coordinator, Cognitive Science of Language

- Robert M. McMurray (Psychological and Brain Sciences)

Graduate certificate: cognitive science of language

Faculty: <https://cogscilang.grad.uiowa.edu/people>

Website: <https://cogscilang.grad.uiowa.edu>

The scientific study of language is larger than any one field, due in part to the broad diversity in forms and uses of language. The Cognitive Science of Language Program uses an interdisciplinary approach to the study of language, helping to prepare language scientists who are conversant in multiple domains.

The Department of Psychological and Brain Sciences [p. 856] (College of Liberal Arts and Sciences) is the administrative home of the Cognitive Science of Language Program; the certificate is conferred by the Graduate College.

Programs

Graduate Program of Study Certificate

- Certificate in Cognitive Science of Language [p. 1452]

Cognitive Science of Language, Graduate Certificate

The graduate Certificate in Cognitive Science of Language requires a minimum of 12-15 s.h. of graduate credit. Designed to complement doctoral study, the certificate program is open to University of Iowa Ph.D. students in linguistics, neuroscience, psychology, and speech and hearing science. Ph.D. students in other disciplines may petition to be permitted to earn the certificate. Students must complete a formal application to enter the certificate program; they should contact the program's coordinator before they apply.

The certificate program ensures that students have training in interdisciplinary approaches to the study of language along with a strong theoretical grounding in their Ph.D. discipline. Certificate students work with their Ph.D. advisor and the certificate program's coordinator to develop an individual plan of study that complements the degree program and career interests of all students. In order to be granted the Certificate in Cognitive Science of Language, students must complete all of the requirements of their Ph.D. program as well as all of the certificate requirements.

Certificate students must participate in the cognitive science of language proseminar, a two-semester (6 s.h.) survey course on the five major disciplines within the language sciences—psychology, formal linguistics, neuroscience, communication disorders, and computational approaches. They also must complete three courses on cognitive science or language outside their field of study. Students can choose from the approved courses in the lists below, or they can petition the program for other courses. Students may enroll in the proseminar and three additional courses before or concurrently with other courses in their programs.

Students must include a faculty member from the Cognitive Sciences of Language Program on their Ph.D. comprehensive and dissertation exam committees.

The Certificate in Cognitive Science of Language requires the following course work.

Code	Title	Hours
Proseminar		6
Disciplinary Courses		6-9
Total Hours		12-15

Proseminar

Students complete the following two survey courses.

Code	Title	Hours
PSY:6101/ CSD:6101/ LING:6101	Cognitive Science of Language Proseminar I	3
PSY:6102/ CSD:6102/ LING:6102	Cognitive Science of Language Proseminar II	3

Disciplinary Courses

Students take a total of three courses chosen from the following lists (6-9 s.h.).

Communication Sciences and Disorders

Code	Title	Hours
CSD:3116/ LING:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3118/ LING:3118	Language Acquisition	1-3
CSD:3122	Speech Production: Anatomy and Physiology	4
CSD:4145	Developmental Language Disorders	3
CSD:5146	Neurogenic Disorders of Language	3
CSD:5206	Language Disorders: Birth to Five Years	3
CSD:5222	Gross Anatomy of Speech/Voice Production	2
CSD:5224	System and Signal Theory for Speech and Hearing Science	3
CSD:5233	Aphasia	2
CSD:5256	Anatomy and Physiology of Hearing	3-4
CSD:5282	Phonological Development and Disorders	2
CSD:6230	Advanced Hearing Science	2
CSD:6538	Seminar: Hearing Science	1

Linguistics

Introduction to Syntax (LING:5010) has a corequisite, LING:5000 Proseminar: Morphosyntax, which does not count toward the certificate.

Code	Title	Hours
LING:3030	Child Language-Linguistic Perspectives	3
LING:4090	Practical Phonetics	3
LING:5010/ SLA:5010	Introduction to Syntax	3
LING:5020/ SLA:5020	Introduction to Phonology	3
LING:6050	Language Universals Linguistic Typology	3
LING:6080/ SLA:6452	Topics in Second Language Acquisition	3
LING:7090/ SLA:7404	Seminar: Problems in Linguistics	2-3

Neuroscience

Code	Title	Hours
NSCI:6240/ NEUR:6240	Topics in Cognitive Neuroscience	3

Psychological and Brain Sciences

Code	Title	Hours
PSY:3670/ LING:3670	Language Processes	3
PSY:7020	Seminar: Cognitive Neuroscience	0-2
PSY:7430	Seminar: Cognitive Development	0-3

PSY:7610	Seminar: Cognitive Psychology	2
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Second Language Acquisition

Code	Title	Hours
SLA:6901/ ASIA:6901/ FREN:6901/ JPNS:6901/ SPAN:6901	Second Language Acquisition Research and Theory	3
SLA:6902/ ASIA:6903/ SPAN:6902	Second Language Acquisition Research and Theory II	3

Spanish and Portuguese

Code	Title	Hours
SPAN:4100/ SLA:4301	Introduction to Spanish Phonology	3
SPAN:4150/ SLA:4300	Introduction to Spanish Syntax	3
SPAN:6110/ SLA:6303	Spanish Phonology	3
SPAN:6120/ SLA:6304	Spanish Syntax	3
SPAN:6150/ SLA:6301	Topics in Spanish Language Acquisition	3

College Teaching

Director

- Mitchell J. Kelly (Psychological and Quantitative Foundations)

Graduate certificate: college teaching

Website: <https://education.uiowa.edu/services/office-graduate-teaching-excellence-ogte/graduate-certificate-college-teaching>

The certificate program in college teaching provides course work and supervised experiences that prepare graduate students for careers in postsecondary education.

The Certificate in College Teaching is administered by the Graduate College.

Programs

Graduate Program of Study

Certificate

- Certificate in College Teaching [p. 1455]

College Teaching, Graduate Certificate

The graduate Certificate in College Teaching requires a minimum of 12 s.h. of graduate credit. The certificate program is open to all University of Iowa students enrolled in a Ph.D. or other terminal degree program.

Previous teaching experience does not count toward certificate requirements.

Students apply to the certificate program on the Office of Graduate Teaching Excellence (OGTE) website, under Graduate Certificate in College Teaching.

Courses selected from the categories below can be completed in any order at any time.

The Certificate in College Teaching requires the following course work.

Category 1

Category 1 course work provides an overview of basic instructional issues and methods in college teaching. The work requires students to engage in discipline-specific thinking as they consider their own teaching situations.

Students choose two courses (minimum of 6 s.h. required) from the following.

Code	Title	Hours
Students must take at least one of these:		
GRAD:6217/ PSQF:6217	Seminar in College Teaching	3
GRAD:7385/ EDTL:7385/ EPLS:7385/ PSQF:7385/ RCE:7385	Teaching and Learning in Higher Education	3
PSQF:6205	Design of Instruction	3
SOC:7010	Teaching Sociology	3
Students may take one of these:		
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6215	Web-Based Learning	3

Category 2

Category 2 requires students to teach for at least two semesters under the guidance of two different professors. Prior or current experience as a teaching assistant does not count toward this requirement.

Students enroll in one of the following courses twice, with each enrollment supervised by a different faculty member. Students earn a total of 3 s.h. for the two enrollments. They can enroll in two practicums with two different professors in the same semester or they can complete practicum experiences in separate semesters.

Code	Title	Hours
EDTL:7380	Practicum in College Teaching	1-3
EPLS:7380	Practicum in College Teaching	1-3

GRAD:7400	Practicum in College Teaching (faculty member must be outside the College of Education)	1-3
PSQF:7380	Practicum in College Teaching	1-3
RCE:7380	Internship in Teaching	1-3

Category 3

For Category 3, students develop a full portfolio that demonstrates their skills and competencies in teaching, research, and service. The portfolio requires sample syllabi, a statement of teaching philosophy, samples of assignments and student work, and reflective essays on critical issues in teaching in higher education.

A committee of three faculty members, including a student's faculty advisor, reviews the portfolio and provides advice to the student about its content and quality. The student's faculty advisor is responsible for evaluating the portfolio and recommending that the certificate be awarded.

Category 3 requires the following course.

Code	Title	Hours
EALL:7475	Ph.D. ePortfolio in College Teaching	3

Genetics

Chair

- Daniel F. Eberl (Biology)

Graduate degree: Ph.D. in genetics

Faculty: <https://genetics.grad.uiowa.edu/faculty-and-research/directory>

Website: <https://genetics.grad.uiowa.edu>

Prospective doctoral students in genetics should have a strong undergraduate background in science, including courses in general genetics, organic chemistry, biochemistry, introductory physics, and mathematics, as well as a strong commitment to genetic research and teaching. Students are able to make up deficiencies in a particular area during their first year of graduate study.

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Genetics [p. 1457]

Courses

Genetics Courses

GENE:4213 Bioinformatics 4 s.h.

Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BIOC:3120 or MICR:3170 or BIOL:2512. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as BIOL:4213, IGPI:4213.

GENE:5173 Computational Genomics 3 s.h.

Introduction to computational methods used in genome analysis and functional genomics; biological sequence analysis, sequence database search, microarray data analysis, biological network analysis; in-depth coverage of principal genome science challenges and recent solutions. Prerequisites: (BIOS:4120 or STAT:3510) and BME:5320 and (CS:5110 or ENGR:1300). Same as BIOL:5320, BME:5330, ECE:5220, IGPI:5330.

GENE:6150 Genetic Analysis of Biological Systems 3 s.h.

Genetic techniques and approaches for analysis of biological processes; comparison of strengths, weaknesses of a variety of experimental systems.

GENE:6200 Special Topics in Genetics 1 s.h.

Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as ACB:6200.

GENE:6234 Basic Biostatistical Methods with Genetics Applications 1 s.h.

Introduction to terminology, fundamental concepts, and methods of biostatistics as applied to genetic research; genetic investigation examples used to illustrate statistical approaches.

GENE:6280 Directed Study in Genetics arr.

GENE:7191 Human Molecular Genetics 3 s.h.

Molecular genetic approaches to human disease; the human genome project, linkage analysis, candidate gene screening, special features of inbred populations, triplet repeat expansions, mitochondrial genetics, genetics of complex traits. Requirements: fundamental genetics and molecular biology.

GENE:7301 Graduate Research in Genetics arr.

Genetics, Ph.D.

Requirements

The Doctor of Philosophy program in genetics requires a minimum of 72 s.h. of graduate credit. The program is designed to promote collaborative investigation and intellectual interaction among students and faculty participants affiliated with several different departments.

Students who enroll in the Ph.D. program are encouraged to obtain a broad background in genetics, including molecular, population, and human genetics. Within this context, course requirements are flexible enough to permit students to tailor their formal course work to their individual needs. All students are required to do some teaching as part of their development as future scientists and faculty members.

Students have the option to declare a Ph.D. emphasis in computational genetics.

All students enrolled in the program are required to take the following courses.

Code	Title	Hours
All of these:		
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:6200	Special Topics in Genetics (seminar)	1
GENE:6234	Basic Biostatistical Methods with Genetics Applications	1
BMED:5207	Principles of Molecular and Cellular Biology	3
One of these:		
GENE:7191	Human Molecular Genetics	3
BIOL:3172	Evolution	4
BIOL:4333	Genes and Development	3
All of these:		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
Elective course work in molecular and microbial genetics, cell and development genetics, human genetics, or computational genetics		8
Seminar courses approved by the program		5

Even more important than formal course work is the opportunity to do significant research in genetics. Research interests of the participating faculty include virtually all areas of genetics, ranging from bacteriophage genetics to human medical genetics. In each area of genetics, there is a group of faculty members who have closely related interests.

The University is also strong in several related disciplines, including microbial physiology, enzymology, virology, protein biochemistry, computational genetics, and developmental and cell biology, all of which contribute significantly to the overall training program.

In addition to completing research and course work, students must pass a comprehensive examination, usually at the end of their second year in the program.

Associated Courses

Credit earned in the following courses may be counted toward the Ph.D. in genetics. Not all courses are offered every year.

Code	Title	Hours
GENE:4213	Bioinformatics	4
GENE:5173	Computational Genomics	3
GENE:7191	Human Molecular Genetics	3
BIOL:3172	Evolution	4
BIOL:3713	Molecular Genetics	4
BIOL:4333	Genes and Development	3
BME:5320	Bioinformatics Techniques	3
MICR:6268	Biology and Pathogenesis of Viruses	2
MMED:6215	Transcription and Multifunctional Regulation by RNA	1
MMED:6220	Mechanisms of Cellular Organization	3
MMED:6225	Growth Factor Receptor Signaling	1

Ph.D. and Dental Scientist Training Program

Ph.D. students in genetics who have earned a D.D.S. degree may be candidates for advanced training programs in dentistry. For information, contact the College of Dentistry.

Combined Programs

Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in genetics in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1574] (Carver College of Medicine) in the Catalog.

Admission

Admission to the program is based on assessment of an applicants' undergraduate academic records, performance on the Graduate Record Examination (GRE) General Test, and letters of recommendation. Admission requirements are not rigid. Most students working toward a Ph.D. in genetics have an undergraduate g.p.a. above 3.50, and a combined verbal and quantitative score above 310 on the GRE General Test (or 1250 using the old GRE scoring system). Students with lower grade-point averages or GRE scores may be admitted, depending on prior research experience and other indications of academic potential.

Students generally begin graduate work in the fall semester.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

All genetics graduate students receive a financial stipend of \$27,500 plus tuition for the academic year.

Financial support comes from training grants, research assistantships, teaching assistantships, scholarships, individual research grants, or other departmental or college funds.

Human Toxicology

Director

- Larry Robertson (Occupational and Environmental Health)

Associate Director

- Peter S. Thorne (Occupational and Environmental Health/
Civil and Environmental Engineering)

Director, Graduate Studies

- Gabriele Ludewig (Occupational and Environmental Health)

Graduate degrees: M.S. in human toxicology; Ph.D. in human toxicology

Faculty: <https://toxicology.grad.uiowa.edu/faculty>

Website: <https://toxicology.grad.uiowa.edu>

Toxicology is the study of how biological, chemical, physical, and radiological agents affect living organisms and the ecosystem, and how to prevent or lessen the adverse effects of those agents. The Human Toxicology Program prepares toxicologists to identify and assess environmental exposures, identify mechanisms by which toxicants affect homeostasis or induce disease, identify interventions to prevent adverse effects, and estimate acceptable levels of exposure to protect public health.

The program is interdisciplinary, involving the Graduate College, the Carver College of Medicine, and the Colleges of Engineering, Liberal Arts and Sciences, Pharmacy, and Public Health.

The Human Toxicology Program is supported by the Graduate College and the Iowa Superfund Research Program. Human toxicology faculty members are supported by the Environmental Health Sciences Research Center, a National Institute of Environmental Health Center of Excellence.

Programs

Graduate Programs of Study

Majors

- Master of Science in Human Toxicology [p. 1460]
- Doctor of Philosophy in Human Toxicology [p. 1461]

Facilities

Training is conducted primarily in laboratories and teaching facilities of the departments and colleges of Human Toxicology Program faculty members. These are among the best-equipped laboratories on campus. Together with the University's central research facilities, they provide access to the most up-to-date research equipment and expertise.

Courses

Human Toxicology Courses

TOX:7171 Special Problems in Toxicology arr.
Didactic material that may include tutorial, seminar, or faculty-directed research work; or a special topic.

TOX:7173 Toxicology Journal Club arr.
Current topics in toxicology literature.

TOX:7180 Toxicology Research Seminar 0-1 s.h.
Contemporary research topics.

TOX:7201 Toxicology Research arr.
Research that constitutes part of the thesis.

TOX:7300 Thesis/Dissertation arr.
Thesis or dissertation research; seminar preparation.

Human Toxicology, M.S.

Requirements

The Master of Science program in human toxicology requires a minimum of 39 s.h. of graduate credit and a thesis. The program is designed for students who wish to pursue a master's degree as a second degree or through part-time study, particularly those who perform toxicologists' functions in their jobs and who need additional training.

Entering students should have backgrounds in the biological, engineering, and physical sciences and should have completed courses in introductory chemistry and biology, and organic chemistry.

After entering the program, students work with their mentor to choose an advisory committee, which meets at least once a semester to help them explore their research interests. The committee also provides consultation on course work and research activities and serves as the committee for the final examination (thesis defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

M.S. students with a major in human toxicology must successfully complete the following course work as part of their course of study.

Code	Title	Hours
This course:		
OEH:6710	Environmental Toxicology	3
Or these three courses:		
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	1
PHAR:6502	Toxic Agents and Concepts in Toxicology	1
PHAR:6503	Target-Organ Toxicity	1
And all of these:		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
OEH:6720	Advanced Toxicology	4
TOX:7180	Toxicology Research Seminar (enrollment is required each semester)	0-1

Upon successful completion of all requirements, including the thesis and its oral defense, students are awarded the Master of Science degree.

Associated Courses

For course descriptions and prerequisite information, see the course listings in the College of Pharmacy [p. 1692] and Department of Occupational and Environmental Health [p. 1778] sections of the Catalog.

Code	Title	Hours
OEH:6710	Environmental Toxicology	3
OEH:6720	Advanced Toxicology	4
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	1

PHAR:6502	Toxic Agents and Concepts in Toxicology	1
PHAR:6503	Target-Organ Toxicity	1

Admission

Prospective students may apply to the program via a centralized application system; see Admission Information on the Human Toxicology Program website.

Completed applications should be submitted by March 1; applications submitted after that date are reviewed as they are received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Human Toxicology, Ph.D.

Requirements

The Doctor of Philosophy program in human toxicology requires a minimum of 72 s.h. of graduate credit. The program is designed for students with backgrounds in the biological, engineering, and physical sciences. Entering students should have solid training in science, including courses in introductory chemistry and biology, and organic chemistry; knowledge of biochemistry and molecular biology is also useful. Students may remedy deficiencies by taking appropriate courses during their first year of graduate study.

Students begin the program with three two-month rotations in the laboratories of participating faculty members, in order to identify a mentor. After the first year, the mentor assumes financial responsibility for the student. With advice from the mentor, each student chooses an advisory committee, which meets at least once a semester to help the student explore the student's research interests. The committee also provides consultation on course work and research activities and serves as the committee for the comprehensive examination and the final examination (dissertation defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

Ph.D. students with a major in human toxicology must successfully complete the following course work as part of their course of study.

Code	Title	Hours
This course:		
OEH:6710	Environmental Toxicology	3
Or these three courses:		
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	1
PHAR:6502	Toxic Agents and Concepts in Toxicology	1
PHAR:6503	Target-Organ Toxicity	1
And all of these:		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I (must be completed within first two years of graduate study)	0
OEH:6720	Advanced Toxicology	4
TOX:7180	Toxicology Research Seminar (enrollment is required each semester)	0-1

After successfully completing the comprehensive examination, usually at the end of the second year of graduate study, the student advances to Ph.D. candidacy. Students devote all of their time to dissertation research and writing. Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded the Doctor of Philosophy degree.

Associated Courses

For course descriptions and prerequisite information, see the course listings in the College of Pharmacy [p. 1692] and

the Department of Occupational and Environmental Health [p. 1778] sections of the Catalog.

Code	Title	Hours
OEH:6710	Environmental Toxicology	3
OEH:6720	Advanced Toxicology	4
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	1
PHAR:6502	Toxic Agents and Concepts in Toxicology	1
PHAR:6503	Target-Organ Toxicity	1

Admission

Prospective students may apply to the program via a centralized application system; see Admission Information on the Human Toxicology Program website.

Completed applications are encouraged to be submitted by December 1, but applications after that date are given full consideration. Applications submitted after March 1 are reviewed when received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Doctoral students in human toxicology receive stipends and tuition support from University of Iowa sources, including internal fellowships and graduate research assistantships, and from non-University sources, such as training grants from the National Institutes of Health.

Immunology

Director

- Steven M. Varga (Microbiology and Immunology/Pathology)

Faculty: <https://medicine.uiowa.edu/immuno/faculty>

Website: <https://medicine.uiowa.edu/immuno/>

The Immunology Program provides interdisciplinary training in the concepts and methodologies of basic and applied immunology. Faculty members are involved in a variety of research projects dealing with the immune system at all levels—structural, functional, cellular, biochemical, and molecular. Students take course work in immunology and related disciplines and are involved directly in laboratory research throughout their study.

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Immunology

Students interested in doctoral studies in immunology should apply under the umbrella program in Biomedical Science [p. 1428] (select immunology subprogram). Direct application to the Ph.D. in immunology is not currently being considered. Students who entered the graduate immunology program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

Training is conducted in laboratories and teaching facilities of the Carver College of Medicine Stead Family Department of Pediatrics and the Departments of Internal Medicine, Otolaryngology—Head and Neck Surgery, Pathology, Microbiology and Immunology, Pharmacology, and Urology; and the College of Public Health Department of Epidemiology. Faculty laboratories and central research core facilities provide students with access to state-of-the-art research equipment.

Courses

Immunology Courses

IMMU:2040 Summer Undergraduate IDGP Research

0 s.h.

IMMU:6201 Graduate Immunology

3 s.h.

Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Requirements: for IMMU:6201—college biology, general chemistry, and introductory immunology courses; for MICR:6201—courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: for IMMU:6201—courses in biochemistry and genetics; for MICR:6201—biochemistry course. Same as MICR:6201.

IMMU:6211 Immunology Seminar

1 s.h.

Requirements: immunology graduate standing.

IMMU:6231 Research in Immunology

arr.

Laboratory research. Requirements: immunology graduate standing.

IMMU:6241 Writing a Scientific Proposal

1 s.h.

How to write a scientific proposal. Prerequisites: IMMU:6201.

Requirements: enrollment in immunology graduate program.

IMMU:6247 Graduate Immunology and Human Disease

4 s.h.

Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels; learning enhanced by case-based, small-group discussion and writing exercises. Same as MICR:6247.

IMMU:7217 Integrated Topics in Infectious

Diseases

1 s.h.

Clinical cases used to raise questions in host-microbe interactions; case/scientific exposés followed by related journal club discussions at next class session. Same as MICR:7217.

IMMU:7221 Advanced Topics in Immunology

3 s.h.

In-depth analysis of selected areas. Prerequisites: IMMU:6201 or MICR:6201. Same as MICR:7207.

Informatics

Chair

- Gregory R. Carmichael (Chemical and Biochemical Engineering/Civil and Environmental Engineering/Informatics/Nursing)

Graduate degrees: M.S. in informatics; Ph.D. in informatics

Graduate certificate: informatics

Faculty: <https://informatics.uiowa.edu/about-us/people>

Website: <https://informatics.uiowa.edu/>

The field of informatics springs from the intersection of computational disciplines related to the humanities, the arts, and the biological, health, natural, and social sciences. As the rapid development of information technology transforms the world of human pursuits, informatics offers ways to solve new problems and to examine existing problems from new perspectives.

The Informatics Program provides graduate students the opportunity to study informatics in the broadest sense. The program is interdisciplinary, involving the Graduate College, the Carver College of Medicine, the Tippie College of Business, and the Colleges of Dentistry, Engineering, Liberal Arts and Sciences, Nursing, Pharmacy, and Public Health.

The Master of Science and Doctor of Philosophy degrees in informatics, and the Certificate in Informatics, are offered in four subprograms: bioinformatics and computational biology, geoinformatics, health informatics, and information science.

Bioinformatics and computational biology are on the cutting edge intersecting basic life and biomedical science with high-performance computing and networking, mathematics, statistics, and engineering. They are strongly influenced and directed by the ongoing development of high-throughput data collection assays such as DNA sequencing, gene expression, and proteomics.

Geoinformatics provides methods and technologies needed to measure, store, analyze, manage, and visualize information about phenomena occurring on or near the earth's surface. It is an increasingly essential technology for understanding and managing the complex world.

Health informatics uses contemporary information technologies to improve the storage, organization, retrieval, and evaluation of health information in order to support clinical, clinical research, and public health applications.

Information science addresses the broad spectrum of data, information, and knowledge in seeking to identify and address recurring themes of representation, manipulation, retrieval, and comprehension. It draws from a diverse range of disciplines.

Programs

Graduate Programs of Study

Majors

- Master of Science in Informatics [p. 1469]
- Doctor of Philosophy in Informatics [p. 1470]

Certificate

- Certificate in Informatics [p. 1471]

Courses

Informatics Courses

IGPI:3010 Geographic Information Systems and Science

3 s.h.

Solid foundation and introduction to GIS and digital map making; what GIS is and how GIS can contribute to research, careers, and everyday life; fundamentals that underlie GIS, including methods for GIS data collection and georeferencing, spatial modeling, spatial data analysis, and visualization; GIS trends including mobile GIS and the Web. Same as GEOG:3010.

IGPI:3011 Identifying and Developing a Global Health Project

2-3 s.h.

Review of major components of global health related research process; preparation for a local or international project which addresses a global health issue in a systematic way. Same as GHS:3010.

IGPI:3100 Introduction to Mathematical Statistics I

3 s.h.

Descriptive statistics, probability, discrete and continuous distributions, sampling, sampling distributions. Prerequisites: MATH:1860 or MATH:1560. Same as STAT:3100.

IGPI:3101 Introduction to Mathematical Statistics II

3 s.h.

Estimation, testing statistical hypotheses, linear models, multivariate distributions, nonparametric methods. Prerequisites: STAT:3100. Same as STAT:3101.

IGPI:3120 Probability and Statistics

4 s.h.

Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: MATH:1560 or MATH:1860. Same as STAT:3120.

IGPI:3200 Applied Linear Regression

3 s.h.

Regression analysis with focus on applications; model formulation, checking, selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010. Same as IE:3760, STAT:3200.

IGPI:3314 Genomics

3 s.h.

Major areas of genomics, including DNA and protein sequence analysis, structural diversity of whole genomes, microarray applications, proteomics; computer workshop experience in applying bioinformatics tools. Prerequisites: BIOL:2512 or BIOC:3120. Same as BIOL:3314.

IGPI:3330 Introduction to Software Design

3 s.h.

Design of software for engineering systems; algorithm design and structured programming; data structures; introduction to object-oriented programming in JAVA; applications to engineering problems; lab arranged. Prerequisites: ENGR:2730. Same as ECE:3330.

IGPI:3500 Introduction to Environmental Remote Sensing

3 s.h.

Basic concepts and principles of remote sensing; sources of data; georegistration; digital processing and classification of remotely sensed images for extraction of environmental information; linkage of remote sensing techniques with GIS analysis. Same as GEOG:3500.

IGPI:3510 Biostatistics**3 s.h.**

Statistical concepts and methods for the biological sciences; descriptive statistics, elementary probability, sampling distributions, confidence intervals, parametric and nonparametric methods, one-way ANOVA, correlation and regression, categorical data. Requirements: MATH:0100 or MATH:1005 or ALEKS score of 30 or higher. Same as STAT:3510.

IGPI:3520 GIS for Environmental Studies**3 s.h.**

Students learn new, more advanced techniques for the representation and study of human and natural systems using geographic information systems (GIS); application of this new knowledge to environmental management and problem solving. Prerequisites: GEOG:1050. Same as GEOG:3520.

IGPI:3540 Introduction to Geographic Visualization**3 s.h.**

Introduction of basic concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3-D visualization, virtual and augmented reality. Prerequisites: GEOG:1050. Same as GEOG:3540.

IGPI:4100 Mathematical Statistics I**3 s.h.**

Probability, conditional probability, random variables, distribution and density functions, joint and conditional distributions, various families of discrete and continuous distributions, mgf technique for sums, convergence in distribution, convergence in probability, central limit theorem. Prerequisites: MATH:2850 and MATH:2700. Same as STAT:4100.

IGPI:4101 Mathematical Statistics II**3 s.h.**

Transformations, order statistics, point estimation, sufficient statistics, Rao-Blackwell Theorem, delta method, confidence intervals, likelihood ratio tests, applications. Prerequisites: STAT:4100. Same as STAT:4101.

IGPI:4115 Finite Element I**3 s.h.**

One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: ENGR:2750. Same as CEE:4533, ME:4115.

IGPI:4150 Health and Environment: GIS Applications**3 s.h.**

Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GEOG:4150, GHS:4150.

IGPI:4159 Air Pollution Control Technology**3 s.h.**

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CBE:4459, CEE:4159.

IGPI:4200 Statistical Methods and Computing**3 s.h.**

Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: graduate standing in non-statistics or less quantitative major. Same as STAT:4200.

IGPI:4213 Bioinformatics**4 s.h.**

Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BIOC:3120 or MICR:3170 or BIOL:2512. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as BIOL:4213, GENE:4213.

IGPI:4220 Advanced Database Management and Big Data**3 s.h.**

Advanced database management topics; basics of semi-structured data and web services; how to retrieve real-world big datasets from web services; use of SQL and PL/SQL to analyze data in relational databases; big data related topics such as Hadoop and Hive. Prerequisites: MSCI:3200. Same as MSCI:4220.

IGPI:4373 Molecular Evolution: Genes, Genomes, and Organisms**3 s.h.**

Theory underlying phylogenetic analysis with application of these methods to molecular data sets; analysis of multigene data, organellar, and nuclear genome sequences to reconstruct the history of cells. Prerequisites: BIOL:3172 with a minimum grade of C-. Same as BIOL:4373.

IGPI:4480 Knowledge Discovery**3 s.h.**

Knowledge discovery process, including data reduction, cleansing, transformation; advanced modeling techniques from classification, prediction, clustering, association; evaluation and integration. Same as CS:4480, ECE:4480, MSCI:4480.

IGPI:4500 Applications in Environmental Remote Sensing**4 s.h.**

Theory and practice of remote sensing and digital image processing; practical applications to human-environment interactions. Recommendations: GEOG:3500 or EES:3110 or ENVS:3110. Same as GEOG:4500.

IGPI:4520 GIS for Environmental Studies: Applications**3 s.h.**

Project-driven course to advance student knowledge of geographic information systems (GIS); application of GIS to environmental change analysis, environmental assessment, hazard/risk analysis, and environmental decision making. Prerequisites: GEOG:3520. Same as GEOG:4520.

IGPI:4522 Bayesian Statistics**3 s.h.**

Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as PSQF:4520, STAT:4520.

IGPI:4540 Statistical Learning**3 s.h.**

Introduction to supervised and unsupervised statistical learning, with a focus on regression, classification, and clustering; methods will be applied to real data using appropriate software; supervised learning topics include linear and nonlinear (e.g., logistic) regression, linear discriminant analysis, cross-validation, bootstrapping, model selection, and regularization methods (e.g., ridge and lasso); generalized additive and spline models, tree-based methods, random forests and boosting, and support-vector machines; unsupervised learning topics include principal components and clustering. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to programming and/or software, such as R, SAS, and Matlab. Same as STAT:4540.

IGPI:4580 Data Visualization and Data Technologies**3 s.h.**

Introduction to common techniques for visualizing univariate and multivariate data, data summaries, and modeling results; students learn to create and interpret these visualizations, and assess effectiveness of different visualizations based on an understanding of human perception and statistical thinking; data technologies for obtaining and preparing data for visualization and further analysis. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to basic use of statistical programming software (e.g., R or SAS) as obtained from a regression course strongly recommended. Same as STAT:4580.

IGPI:4581 Introduction to Geographic Databases**3 s.h.**

Introduction to basic building blocks of spatial database design, spatial data models, structures, relationships, queries (SQL), indexing, and geoprocessing; design and construction of various types of spatial databases, including relational and big data approaches such as ArcGIS geodatabase, PostGIS/PostgreSQL, and MongoDB. Prerequisites: GEOG:1050. Same as GEOG:4580.

IGPI:4740 Large Data Analysis**3 s.h.**

Current areas that deal with problem of Big Data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or IE:3760 or IGPI:3200). Same as CS:4740, MATH:4740, STAT:4740.

IGPI:5001 Introductory Methodology**3-4 s.h.**

Introduction to quantitative techniques in political science; set theory, probability distributions, estimation, testing; emphasis on acquiring mathematical skills for more advanced quantitative work in political science. Requirements: M.A. or Ph.D. standing in political science. Same as POLI:5001.

IGPI:5010 Research for Master's Thesis**arr.**

Requirements: admission to M.S. program.

IGPI:5015 Independent Study**arr.****IGPI:5043 Contextual Foundations - Special Libraries****3 s.h.**

Management, organizational structures, collections, client services in special libraries; site visits to a variety of special libraries, information centers; projects that apply theoretical principles. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Same as SLIS:5043.

IGPI:5110 Introduction to Informatics**3 s.h.**

Fundamentals of computer science: algorithms, complexity, relational databases, systems concepts, programming in Python. Same as CS:5110.

IGPI:5120 Regression Modeling and ANOVA in the Health Sciences**3 s.h.**

Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs, and an introduction to mixed models; designed for non-biostatistics majors. Offered spring semesters and summer sessions. Prerequisites: BIOS:4120. Same as BIOS:5120, STAT:5610.

IGPI:5199 Applied Statistics I**4 s.h.**

Introduction to computing environments and statistical packages, descriptive statistics, basic inferential methods (confidence intervals, chi-square tests); linear models (regression and ANOVA models—specification and assumptions, fitting, diagnostics, selection, testing, interpretation). Prerequisites: STAT:3101. Corequisites: STAT:4100 or STAT:5100. Requirements: facility with matrix algebra. Same as STAT:5200.

IGPI:5200 Health Informatics I**3 s.h.**

Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IE:5860, MED:5300, SLIS:5900.

IGPI:5203 User Education: Multimedia**3 s.h.**

Develop multimedia projects for educational use in libraries; develop a portfolio of projects using multimedia technology; explore applications of multimedia for teaching and learning; explore and evaluate platforms for delivering multimedia in educational environments. Same as SLIS:5200.

IGPI:5206 Medical Imaging Physics**3 s.h.**

Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Prerequisites: BME:2200 and BME:2210. Same as BME:5210.

IGPI:5211 Genes, Genomes, and the Human Condition Graduate Lecture**3 s.h.**

Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Recommendations: BIOL:1411 highly recommended. Same as BIOL:5211.

IGPI:5212 Biomedical Signal Processing**3 s.h.**

Application of signal processing methods (e.g., Fourier, Laplace, z-transforms) to biomedical problems, such as analysis of cardiac signals, circadian rhythm, the breathing cycle; computer simulation lab. Same as BME:5200.

IGPI:5220 Principles of Public Health Informatics**3 s.h.**

Systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics. Same as EPID:5200.

IGPI:5251 Advanced Biosystems 3 s.h.

Biological systems unique to systems analysis; operation under nonequilibrium conditions; tools for systems analysis developed from models of systems at equilibrium (i.e., mechanical systems); fundamental difference between biological and mechanical systems that impact systems analysis; expand knowledge of linear systems and begin work with nonlinear systems; various modeling and analysis approaches useful in biomedical and biomedical engineering research. Prerequisites: BME:2200. Same as BME:5251.

IGPI:5270 Pathogenesis of Major Human Diseases 3 s.h.

Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as PATH:5270.

IGPI:5310 Research Data Management 3 s.h.

Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as BIOS:5310, STAT:5810.

IGPI:5311 Informatics for Sustainable Systems 3 s.h.

Introduction to fundamental and advanced environmental informatics concepts and procedures including automated data collection, data management, data transformations, and processing to support modeling and analysis; scientific visualization of environmental data to support management of food, energy, and water (FEW) resources; sustainability in FEW systems. Same as CEE:5310.

IGPI:5321 Bioinformatics Techniques 3 s.h.

Informatics tools and techniques applied to modern problems in biomedicine and basic life sciences; common tools, experience applying tools in contemporary problem settings; genomics and genetics, how to sequence a genome, transcription and expression, SNPs, Perl, BioPerl, Perl modules, Ensembl API, BLAST/BLAT, NCBI, UCSC, Ensembl Genome browsers, linkage, association, disease gene identification. Prerequisites: BIOL:1411 and (ENGR:2730 or CS:2110 or CS:5110). Same as BME:5320, ECE:5210.

IGPI:5330 Computational Genomics 3 s.h.

Introduction to computational methods used in genome analysis and functional genomics; biological sequence analysis, sequence database search, microarray data analysis, biological network analysis; in-depth coverage of principal genome science challenges and recent solutions. Prerequisites: (BIOS:4120 or STAT:3510) and BME:5320 and (CS:5110 or ENGR:1300). Same as BIOL:5320, BME:5330, ECE:5220, GENE:5173.

IGPI:5331 Graph Algorithms and Combinatorial Optimization 3 s.h.

Combinatorial optimization problems; time complexity; graph theory and algorithms; combinatorial optimization algorithms; complexity theory and NP-completeness; approximation algorithms; greedy algorithms and matroids. Prerequisites: ECE:3330. Same as ECE:5330.

IGPI:5400 Computing in Statistics 3 s.h.

R; database management; graphical techniques; importing graphics into word-processing documents (e.g., LaTeX); creating reports in LaTeX; SAS; simulation methods (Monte Carlo studies, bootstrap, etc.). Prerequisites: CS:1210 and STAT:3200 and (STAT:3120 or STAT:3101 or STAT:4101). Corequisites: STAT:5100 and STAT:5200 if not already completed. Same as STAT:5400.

IGPI:5415 Satellite Image Processing and Remote Sensing of Atmosphere 3 s.h.

Introduction to principles of atmospheric radiation and techniques for satellite image processing; hands-on experience with data calibration, image registration and enhancement, noise filtering and (supervised and unsupervised) multi-spectral classification of satellite imageries; various satellite sensors used for monitoring of different atmospheric processes and constituents. Same as CBE:5415.

IGPI:5417 Physical Meteorology and Atmospheric Radiative Transfer 3 s.h.

Physical processes for weather and climate including radiative transfer, cloud and precipitation formation, and atmospheric electricity; theory of scattering by atmospheric particles (e.g., clouds, aerosols, molecules), atmospheric radiative transfer equations, and numerical techniques and tools to solve these equations. Requirements: senior or graduate standing. Same as CBE:5417.

IGPI:5436 Electronic Structure and Informatics in Chemistry 3 s.h.

Basic principles of molecular electronic structure theory; molecular structure and reactivity; molecular orbital theory; density functional theory; introduction to informatics and data science; how calculations can be used to enhance experimental research projects. Recommendations: CHEM:4432. Same as CHEM:5436.

IGPI:5450 Pattern Recognition 3 s.h.

Mathematical foundations and practical techniques of pattern recognition; adaptation, learning, description; statistical pattern recognition; syntactic pattern recognition, neural networks for recognition; fuzzy logic for recognition; nonstandard and combined pattern recognition approaches. Prerequisites: ECE:2400. Same as ECE:5450.

IGPI:5460 Digital Signal Processing 3 s.h.

Theory, techniques used in representing discrete-time signals; system concepts in frequency and sampling domains; FIR and IIR digital filter theory, design and realization techniques; theory, application of discrete Fourier transforms/FFT. Prerequisites: ECE:3400. Same as ECE:5460.

IGPI:5480 Digital Image Processing 3 s.h.

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: ECE:2400 or BME:2200. Same as BME:5220, ECE:5480.

IGPI:5510 Biostatistical Computing 2 s.h.

Introduction to computer programming using SAS and R statistical software packages; programming language syntax, constructs, procedures, and techniques for data management, data analysis, and statistical programming commonly encountered in biostatistics; designed for first-year biostatistics majors. Offered fall semesters. Corequisites: BIOS:5710. Same as BIOS:5510.

IGPI:5641 Computer-Based Control Systems 3 s.h.

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: ECE:5600. Same as ECE:5640, ME:5362.

IGPI:5710 Biostatistical Methods I 4 s.h.

Probability distributions, moments, estimation, parametric and nonparametric inference for one-sample and two-sample problems, analysis of frequency data; emphasis on use of computers; designed for first-year biostatistics majors. Offered fall semesters. Requirements: two semesters of calculus. Same as BIOS:5710.

IGPI:5720 Biostatistical Methods II 4 s.h.

Continuation of BIOS:5710; multi-factor ANOVA (analysis of variance), multiple comparisons, orthogonal contrasts, linear regression and correlation, regression diagnostics and remedial measures, model selection, and mixed models; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5710. Requirements: one semester of linear algebra. Same as BIOS:5720.

IGPI:5730 Biostatistical Methods in Categorical Data 3 s.h.

Estimation of proportions, rates, risks, relative risks, and odds ratios; Mantel-Haenszel method; logistic regression (including ordinal logistic regression and multi-category nominal logistic regression); Poisson regression and negative binomial regression; methods for correlated or clustered data (conditional logistic regression, generalized estimating equations, and mixed effects models); special topics include an introduction to generalized linear models and likelihood-based inferential techniques in this framework; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5510 and BIOS:5710. Corequisites: BIOS:5720. Same as BIOS:5730.

IGPI:6100 Database Management 3 s.h.

Principles and practices of database design and management; discussion and practice cover database application lifecycle, data modeling, relational database design, SQL queries, reports and other interfaces to database data, documentation; individual and group projects. Prerequisites: SLIS:5020. Same as SLIS:6100.

IGPI:6110 Applied Categorical Data Analysis 3 s.h.

Analysis of proportions, risk measures, and measures of association; Mantel-Haenszel method; logistic regression for binary responses and for matched data; logistic regression for multi-category responses; analysis of count data (Poisson regression and negative binomial regression); analysis of clustered data (generalized estimating equations and generalized linear mixed effects model); special topics include the application of propensity score methods; designed for non-biostatistics majors. Offered fall semesters. Prerequisites: BIOS:5120. Same as BIOS:6110.

IGPI:6120 Natural Language Processing 3 s.h.

Tools and techniques for computational processing of text, including lexical analysis, part-of-speech tagging, named entity recognition, relationship extraction, topic detection and tracking, sentiment analysis, question answering; example corpora and applications drawn from multiple disciplines including biomedicine, digital humanities, and social science. Prerequisites: SLIS:5020. Same as SLIS:6120.

IGPI:6140 Digital Environments 3 s.h.

Methods and models for building digital libraries; organization with metadata; standards such as those for object identifiers, open access, building cross-linkages between collections; automatic harvesting of content. Prerequisites: SLIS:5020. Same as SLIS:6140.

IGPI:6151 Environmental Systems Modeling 3 s.h.

Mathematical modeling of environmental systems, including rivers, lakes, estuaries, treatment systems for conventional and toxic pollutants. Prerequisites: CEE:5152 and CEE:2150 and CEE:3155. Same as CEE:6151.

IGPI:6210 Applied Survival Analysis 3 s.h.

Nonparametric, parametric, and semi-parametric methods for time-to-event data; types of censoring; Kaplan-Meier estimation; Cox proportional hazards models, including methods for assessing adequacy of the proportional hazards assumption; time varying covariates; sample size calculations for comparison of two or more groups; focus on analysis of real data sets and examples using statistical software. Offered spring semesters. Prerequisites: BIOS:5120 or BIOS:5720. Same as BIOS:6210.

IGPI:6216 Finite Element II 3 s.h.

Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as CEE:6532, ME:6215.

IGPI:6310 Introductory Longitudinal Data Analysis 3 s.h.

Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as BIOS:6310, STAT:6550.

IGPI:6380 Analysis of Scholarly Domains 3 s.h.

Information transfer in academic disciplines; scientific method, other means of knowledge construction, resulting literatures; reference tools used to control literature for a variety of audiences; emphasis on humanities, social sciences, or sciences. Same as SLIS:6380.

IGPI:6490 Information Policy and Ethics 3 s.h.

Ethical and legal issues as they relate to information policy development and interpretation; application of information policies to address problems in information organizations. Same as SLIS:6490.

IGPI:6501 Seminar in Spatial Analysis and Modeling 1-3 s.h.

Research themes in spatial analysis, GIScience, simulation, remote sensing. Same as GEOG:6500.

IGPI:6510 Readings in Informatics arr.

Topics not covered in other courses; individual study.

IGPI:6511 Applied Generalized Regression 3 s.h.

Applications of semiparametric models, generalized linear models, nonlinear normal errors models, correlated response models; use of statistical packages, especially R and SAS. Requirements: introductory statistics and applied linear models. Same as STAT:6510.

IGPI:6515 Independent Study arr.**IGPI:6520 Research for Dissertation arr.**

Requirements: Ph.D. candidacy.

IGPI:6530 Environmental and Spatial Statistics 3 s.h.

Methods for sampling environmental populations, sampling design, trend detection and estimation, geostatistics, kriging, variogram estimation, lattice data analysis, analysis of spatial point patterns. Prerequisites: STAT:4101 and STAT:3200. Same as STAT:6530.

IGPI:6600 Linear Programming 3 s.h.

Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as IE:6600, MSCI:6600.

IGPI:6610 Statistical Methods in Clinical Trials 3 s.h.

Survey of statistical methods commonly used in clinical trials; primary focus on methodologic perspective for the design, conduct, analysis, and interpretation of all phases of clinical trials; logistical and operational aspects of conducting multisite clinical trials; designed for biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5720. Requirements: familiarity with SAS and R programming. Same as BIOS:6610.

IGPI:6650 Causal Inference 3 s.h.

Concepts of causal inference, counterfactuals, confounding, causal graphs, internal/external validity, heterogeneity of treatment effect; methods covered include propensity score matching (optimal pair, multiple control and full matching; near-exact, fine-balance, and risk set matching) and stratification; covariate balance checks; sensitivity analysis; inverse probability of treatment weighted estimation; doubly robust estimators; mediation analysis; marginal structural models. Offered fall semesters of odd years. Prerequisites: BIOS:5720 and BIOS:5730 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:6650.

IGPI:6700 Discrete Optimization 3 s.h.

Introduction to modeling and solving discrete optimization problems; integer programming, network flows, dynamic programming. Prerequisites: MSCI:6600. Same as MSCI:6700.

IGPI:7000 Management Sciences Topics 3 s.h.

Same as MSCI:7000.

IGPI:7210 Survival Data Analysis 3 s.h.

Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:7210, STAT:7570.

IGPI:7310 Longitudinal Data Analysis 3 s.h.

Statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; includes ANOVA based methods, hierarchical linear models, linear mixed models, error structures, generalized estimating equations, and generalized linear mixed models; may include Bayesian approaches; designed for biostatistics and statistics majors. Offered spring semesters of odd years. Prerequisites: (BIOS:5720 and STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Same as BIOS:7310.

IGPI:7400 Computer Intensive Statistics 3 s.h.

Computer arithmetic; random variate generation; numerical optimization; numerical linear algebra; smoothing techniques; bootstrap methods; cross-validation; MCMC; EM and related algorithms; other topics per student/instructor interests. Prerequisites: (BIOS:5710 or STAT:5200) and STAT:3101. Requirements: proficiency in Fortran or C or C++ or Java. Same as STAT:7400.

IGPI:7470 Image Analysis and Understanding 3 s.h.

Mathematical foundations and practical techniques of digital image analysis and understanding; image segmentation (from edges and regions), object description (from boundaries, regions, scale, scale insensitive descriptions, 3-D shape, texture) pattern recognition (statistical and syntactic methods, cluster analysis), image understanding (knowledge representation, control strategies, matching, context, semantics), image analysis and understanding systems; lab arranged. Prerequisites: ECE:5480. Same as ECE:7470.

IGPI:7480 Advanced Digital Image Processing 3 s.h.

Advanced local operators (scale-space imaging, advanced edge detection, line and corner detection), image morphology (binary/gray scale operators, morphological segmentation and watershed), digital topology and geometry (binary/fuzzy digital topology, distance functions, skeletonization), color spaces, wavelets and multi-resolution processing (Haar transform, multi-resolution expansions, wavelet transforms in one or two dimensions, fast wavelet transform, wavelet packets), image registration (intensity correlation, mutual information, and landmark-based deformable registration methods). Prerequisites: ECE:5460 and ECE:5480. Same as ECE:7480.

IGPI:7600 Advanced Biostatistics Seminar 0-3 s.h.

Current topics; supervised experience in reading and interpreting biostatistical literature. Same as BIOS:7600.

Informatics, M.S.

Requirements

The Master of Science program in informatics requires a minimum of 30-32 s.h. of graduate credit, depending on a student's choice of subprogram: the bioinformatics and computational biology subprogram requires a minimum of 30 s.h. of credit; the geoinformatics, health informatics, and information science subprograms require a minimum of 32 s.h. of credit. Students working toward a Doctor of Philosophy in informatics may be granted a Master of Science degree upon completion of the M.S. requirements.

Credit required for the M.S. includes 9-12 s.h. in foundations of informatics and at least 9 s.h. in disciplinary applications of informatics.

Students select an advisor from their subprogram's affiliated faculty members. In consultation with their advisors, students prepare a study plan, which is reviewed at least once a year. A final master's degree examination, either oral or written, is required for the geoinformatics or information science subprogram.

For more information about the Master of Science requirements, see the Interdisciplinary Graduate Program in Informatics website.

Combined Programs

M.S. (Health Informatics Subprogram)/Pharm.D.

The College of Pharmacy and the Graduate College offer the combined Doctor of Pharmacy/Master of Science in informatics with a health informatics subprogram. The combined degree program requires completion of 32 s.h. beyond the bachelor's degree. Students who complete the program are granted both degrees.

The Pharm.D./M.S. program assists students to develop special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, as well as other competencies. Graduates will be prepared for employment in industry or academic institutions with skills to address pharmacotherapy issues as well as information technology management.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the M.S. program before entering the spring semester of their first year in the pharmacy program. For more information, see Doctor of Pharmacy [p. 1705] (Pharm.D.) in the College of Pharmacy section of the Catalog.

Admission

Applicants to the M.S. program should apply to the degree subprogram of their choice; the subprograms make independent admission decisions.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations

of the Graduate College. They also must meet the admission requirements of the informatics subprogram they want to enter; see Admission Requirements on the program's website.

Informatics, Ph.D.

Requirements

The Doctor of Philosophy program in informatics requires a minimum of 72 s.h. of graduate credit. It is offered in four subprograms: bioinformatics and computational biology, geoinformatics, health informatics, and information science.

The 72 s.h. required for the Ph.D. includes 9-12 s.h. in foundations of informatics and at least 9 s.h. in disciplinary applications of informatics. Other course requirements are outlined in the curriculum specific to each subprogram.

Students select an advisor from their subprogram's affiliated faculty members. In consultation with their advisors, students prepare a study plan, which is reviewed by their mentors and curricular advisory committees at least once a year.

Ph.D. students must pass a comprehensive examination at or near completion of their course work requirements. The exam may be written, oral, or both, depending on the structure of the student's subprogram or the decision of the student's committee.

A student who does not already hold an M.S. in informatics from the University of Iowa and who has passed the Ph.D. comprehensive examination may be granted an M.S. degree in informatics without taking the final master's degree exam in the health informatics, geoinformatics, or information science subprogram, upon recommendation of the Informatics Program. The bioinformatics and computational biology subprogram does not grant an M.S. degree when a student passes the comprehensive exam.

Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded the Doctor of Philosophy degree.

For more information about the Doctor of Philosophy requirements, see the Interdisciplinary Graduate Program in Informatics website.

Admission

Applicants to the Ph.D. program should apply to the degree subprogram of their choice; the subprograms make independent admission decisions.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. They also must meet the admission requirements of the informatics subprogram they want to enter; see Admission Requirements on the program's website.

Informatics, Graduate

Certificate

The graduate Certificate in Informatics requires a minimum of 18-21 s.h. of graduate credit, depending on a student's choice of subprogram: the subprograms in health informatics and information science require a minimum of 18 s.h.; the bioinformatics and computational biology and the geoinformatics subprograms require a minimum of 21 s.h.

The certificate program is designed for students enrolled in University of Iowa graduate degree programs who wish to study informatics as a complement to their degree program and for nondegree students who are interested in increasing their knowledge of informatics.

All subprograms require a minimum of 9 s.h. in the foundations of informatics.

For more information about certificate requirements, see the Interdisciplinary Graduate Program in Informatics website.

Admission

Applicants to the certificate program should apply to the degree subprogram of their choice; the subprograms make independent admission decisions. Certificate program applicants may be degree or nondegree graduate students. Applicants who are enrolled in a University of Iowa graduate degree program must be in good academic standing in their program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. They also must meet the admission requirements of the informatics subprogram they want to enter; see Admission Requirements on the program's website.

International Writing Program

Director

- Christopher Merrill

Faculty: <https://iwp.uiowa.edu/about-iwp/iwp-staff>

Website: <https://iwp.uiowa.edu>

The International Writing Program (IWP) conducts a unique fall residency program for established writers from outside the United States, and a summer writing program for American and international high school students. During spring semester, IWP offers courses related to the program's general mission, including collaborative distance learning courses for writing students overseas. The program regularly offers Massive Open Online Courses (MOOCs) on literary topics.

Residency Program

Each fall the International Writing Program assembles a community of poets, fiction writers, essayists, playwrights, and journalists for a 10-week residency on campus. Participants range from emerging talents to writers who are among their countries' leading literary figures and writers of world stature. For most, their time in the program is their first, or their first extended, stay in the United States.

At the University they live and interact with each other while working on writing and translation projects and participating in public events. Throughout their residency, they present their work in IWP:3191 International Literature Today and IWP:5205 International Translation Workshop, and participate as guests in many other courses on campus. They also meet with the public through readings, panel discussions, a film series, and other presentations.

Since 1967 over 1,500 writers from nearly 190 countries have participated in the program.

International Writing Program participants are supported by the U.S. Department of State, through bilateral agreements with many countries, by grants from cultural institutions and governments abroad, and by private funds. The program does not provide grants for writers.

For more information, contact the International Writing Program or visit its website.

Summer Program

Between the Lines

Between the Lines is an IWP summer program that brings American high school students together with students from Russia and the Arabic-speaking world for two weeks during the first half of July. Between the Lines students explore creative writing and world literature in a multilingual, multicultural environment. They attend writing workshops conducted in English, in which they create and share stories and poetry with their peers. They also participate in a literature seminar conducted in English, where they discuss works written by international and American authors, as well as attend a series of master classes and special events.

International students are nominated by embassies in their home countries. American students between the ages of 15-18 may apply to the program; they must complete an online application and submit samples of their creative work,

a statement of purpose, a letter of recommendation from a teacher familiar with their writing, and a current high school transcript. Contact Between the Lines for more information.

Between the Lines is funded by a grant from the U.S. Department of State's Bureau of Educational and Cultural Affairs.

Courses

International Writing Program Courses

IWP:1009 Undergraduate Internship arr.

Professional experience for students interested in arts management and international literature. Requirements: undergraduate standing, minimum of 36 s.h. of course work, and consultation with IWP director.

IWP:1102 On Campus Independent Study arr.

Independent study arranged in collaboration with instructor.

IWP:3191 International Literature Today 1,3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3595, WLLC:3191.

IWP:3201 Writing and Publishing for the Literary Web arr.

Technical aspects of web publishing, including step-by-step instruction on using content management systems (Drupal and Wordpress); specific stylistic and editorial protocols associated with contributing to literary websites; utilize and navigate a content management system; create a contributor portfolio of online work, including media items, reviews, interviews, and blog posts.

IWP:3210 Comparative Arts 3 s.h.

Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Same as CL:3210.

IWP:5205 International Translation Workshop 1-3 s.h.

International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as TRNS:5205.

IWP:5230 Writing Across Genres: A Workshop arr.

Writing across genres; exploration of modes and voices different from chosen genres (i.e., poets may test the waters of playwriting, nonfiction writers of translation, translators of fiction); rotations by guest faculty; workshop includes students from Writing University M.F.A. programs and International Writing Program residents.

IWP:6635 Crossing Borders Seminar 2-3 s.h.

Same as AFAM:6635, ANTH:6635, CINE:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, POLI:6635, SPAN:6904.

IWP:7460 Translation Workshop 3 s.h.

Requirements: at least one foreign language. Same as TRNS:7460.

Library and Information Science

Director

- David A. Eichmann

Graduate degree: M.A. in library and information science

Faculty: <https://www.slis.uiowa.edu/faculty-and-staff/profiles>

Website: <https://www.slis.uiowa.edu/>

Today's age is defined by the intersection of information, technology, and human creativity. In this context, library and information science is dedicated to understanding the nature of information, the interaction between information and communication technologies, the relationship between information and knowledge, the cognitive and affective aspects of knowledge acquisition, and the interface between people and information. It offers new knowledge, technological benefits, and professional expertise for every dimension of human affairs.

Library and information professionals take on many challenges in serving the needs of their constituencies—children and teachers, members of academic communities, employees of profit and nonprofit organizations, and the public at large—constituencies that range from information poor to information rich. They work in the contexts of issues such as information and communication technology, public and private information policy, managerial policy, and regional, national, and international economics.

The School of Library and Information Science prepares professionals to meet these diverse challenges. It offers a graduate-level program of preparation for careers in all types of libraries and information centers, providing students with a strong, well-rounded education in an environment that supports individuals from all segments of a multicultural, multiethnic, and multilingual society. Its curriculum reflects the profession's immediate and long-range needs and prepares students to be leaders in a changing field.

By promoting excellence in research, the school contributes to the base of theoretical and practical knowledge in library and information science and helps develop an understanding of how to meet the varied and changing information needs of individuals and society. It also provides public service through continuing education programs, selective consulting services for library and information centers, and participation in professional organizations. The school strongly encourages its students, faculty members, and alumni to shape the future of the profession by filling key roles in organizations involved in all aspects of the information cycle.

Graduate students working toward a degree in library and information science may elect to pursue a combined degree program offered by the school in collaboration with the College of Law or a graduate degree program in book arts offered by the Center for the Book. See Combined Programs [p. 1479] in the M.A. in library and information science section of the Catalog.

Students interested in school librarianship may earn a teaching license through a joint program with the College of Education; see "School Teacher Librarian" under Requirements [p. 1477] in the M.A. in library and information science section of the Catalog.

Library and information science M.A. students may earn the Certificate in Book Studies/Book Arts and Technologies

[p. 1450]. In addition, they may earn the Certificate in Informatics [p. 1471] and choose a subprogram in bioinformatics and computational biology, geoinformatics, health informatics, or information science.

Related Certificate

Public Digital Humanities

The Certificate in Public Digital Humanities is especially for students with humanities backgrounds who want to gain expertise and credentials to work more intensively with technology. The program brings students together with varied academic backgrounds to learn how to communicate, sort out the roles required for fully functioning teams, and understand the unique contributions made by individuals across disciplines. Students learn to appreciate the diversity of humanities research methods while identifying core digital activities that underlie research projects. For more information, see the Certificate in Public Digital Humanities [p. 1485].

Student Organizations and Activities

All M.A. students in the school are automatically members of LISSO, the Library and Information Science Student Organization, which also serves as the student chapter of the American Library Association. LISSO sponsors various activities, such as speaker series, workshops, brown bag lunches, and social events. Participation in LISSO events provides students with significant opportunities for professional and extracurricular growth. Students also are encouraged to join other state and national professional organizations.

The B Sides Project is a student-run broadcast from the School of Library and Information Science. The podcast aims to provide an interactive and accessible space where library and information science students, faculty, alumni, and community professionals can dialog about all aspects of the profession, study, research, and practice of library and information science and related fields. Show topics range from personal experiences and reflections on work, internships, school, and conferences, to interviews and panel discussions, current issues in the field of library and information science, professional aspirations, book reviews, and more.

Honor Society

The Beta Beta Theta Chapter of Beta Phi Mu, the international honor society for library and information science, is located at the University of Iowa. Each year new members are chosen from the top 25 percent of the preceding year's graduating class. To be eligible for membership, graduates must achieve a g.p.a. of at least 3.75, demonstrate professional promise, and be recommended by the faculty.

Programs

Graduate Program of Study

Major

- Master of Arts in Library and Information Science [p. 1477]

Facilities

The School of Library and Information Science (SLIS) is housed in the south wing of the University's Main Library, in a setting that promotes community among students, faculty, and staff and provides easy access to resources of the University of Iowa Libraries. Facilities are provided for the varied instructional and research activities of the school.

The school includes two classrooms dedicated for use by SLIS faculty and students. These rooms include a wired 28 workstation technology classroom (19 Macs, 9 PCs) fully equipped for videoconferencing, and a seminar classroom with a videoconferencing system and two large high-definition screens.

Gunther Commons

Gunther Commons, a state-of-the-art collaboratory equipped with eight workstations, is the school's combined student center and technology lab. Individuals and teams of students gather in the collaboratory to work on course assignments and to gain experience with specialized software that supports the latest teaching technologies. Students have access to both Windows and Macintosh computers, with gigabit access to the campus network and wireless service throughout the Main Library.

University of Iowa Libraries

All of the resources of the University of Iowa Libraries are available to the school's students and faculty. The system contains more than 4 million volumes in the Main Library and six departmental libraries.

The web-based catalog provides access to books and periodicals, electronic indexes, and full-text databases held by University Libraries. In addition, InfoHawk+ provides online resource access to selected internet and CD-ROM resources arranged by subject and academic discipline. Wireless internet access is available in the Main Library.

The school benefits with proximity to the Learning Commons. It encompasses the majority of public space on the first floor of the Main Library. The Learning Commons is a technology-infused, comfortable and flexible learning space, and an academic and information help center.

The third floor of the Main Library houses the map collection, Special Collections, and University Archives, including the Iowa Women's Archives.

Other Libraries

Students have access to a variety of libraries through field trips, practicum experience, and personal use: the State Historical Society of Iowa library in Iowa City; the Iowa City, Coralville, and Cedar Rapids public and school libraries; the Augustana, Coe, Cornell, Mount Mercy, and Grinnell College libraries; and the Herbert Hoover Presidential Library and Museum in West Branch.

Other Resources

The second floor of the University Capitol Centre (UCC) houses the instructional services and campus services departments of the University's Information Technology Services. It provides instructional and research computing facilities and services for the University community. All University students, staff, and faculty may use the center's computers for University-related research, thesis preparation, and class work. Instructional

Technology Centers provide campuswide access to the University's academic computing resources and the internet.

Courses

Library and Information Science Courses

SLIS:4150 Introduction to Book Studies 3 s.h.

Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:4150, UICB:4150.

SLIS:4910 The Book in the Middle Ages 3 s.h.

Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as HIST:4910, UICB:4910.

SLIS:4920 The Transition from Manuscript to Print 3 s.h.

History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as HIST:4920, UICB:4920.

SLIS:5000 Proseminar in Library and Information Science 0 s.h.

Integrated view of different areas of library and information science; early program exposure to faculty members and their research interests. Requirements: library and information science major.

SLIS:5010 Cultural Foundations 1-3 s.h.

The role of libraries and information agencies in society; major issues, including information policy, professional ethics, literacy, diversity, technology, pedagogy. Requirements: admission to library and information science.

SLIS:5020 Computing Foundations 3 s.h.

Introduction to analysis, specification, and design of automated systems; review of the software life cycle; testing, deployment, and evaluation of large, computer-based software. Requirements: admission to library and information science.

SLIS:5030 Conceptual Foundations 3 s.h.

Theory, principles, and standards in organization of information; function of catalogs, indexes, bibliographic networks; introduction to metadata descriptions, name and title access, subject analysis, controlled vocabularies, classification systems. Requirements: admission to library and information science.

SLIS:5041 Contextual Foundations - College and University Libraries 3 s.h.

Objectives, organization, unique functions and services of academic libraries; educational environment in which academic libraries function; examination of issues and problems affecting academic libraries. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite.

SLIS:5042 Contextual Foundations - Public Libraries 3 s.h.

Historical development of public libraries; current issues in public library management and policy making, including intellectual freedom; readers advisory service and genres of popular materials for adults. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite.

SLIS:5043 Contextual Foundations - Special Libraries**3 s.h.**

Management, organizational structures, collections, client services in special libraries; site visits to a variety of special libraries, information centers; projects that apply theoretical principles. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Same as IGPI:5043.

SLIS:5044 Contextual Foundations - School Library Media Administration**3 s.h.**

Design of library media programs for the major functions of teaching and learning, information access, and program administration; focus on curricular and teaching responsibilities of school librarians and media specialists, development of philosophy, examination of roles and responsibilities, and program evaluation. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite.

SLIS:5200 User Education: Multimedia**3 s.h.**

Develop multimedia projects for educational use in libraries; develop a portfolio of projects using multimedia technology; explore applications of multimedia for teaching and learning; explore and evaluate platforms for delivering multimedia in educational environments. Same as IGPI:5203.

SLIS:5210 Reference and Information Services**3 s.h.**

Resources and services; essential reference services and experience using a variety of print and electronic resources to answer specific reference questions. Prerequisites: SLIS:5010.

SLIS:5220 Resources for Children**3 s.h.**

Evaluation and use of books, magazines, electronic media, and other sources of information and recreation in relation to youth development.

SLIS:5230 Resources for Young Adults**3 s.h.**

Topics related to populations served by youth services departments (e.g., societal issues, informational needs); seminar.

SLIS:5240 Resources for Adults**3 s.h.**

Role of libraries in meeting adults' informational and recreational needs; popular culture materials, Reader's Advisory services, lifelong learning.

SLIS:5520 Studies in Book History**3 s.h.**

Topics related to production, distribution, and consumption of books through history and into the future. Same as UICB:5520.

SLIS:5530 Topics in Preservation**3 s.h.**

Care, conservation, and preservation of cultural heritage artifacts; readings, discussion, hands-on sessions. Same as UICB:5530.

SLIS:5535 Book Conservation**3 s.h.**

Practical methods, materials assessment, conservation history and evolution. Prerequisites: UICB:4270. Same as UICB:5220.

SLIS:5600 History of Readers and Reading**3 s.h.**

Cultural nature of reading practices in historic and contemporary contexts of reading; reading communities; dimensions of gender, age, class, religion, race, ethnicity; examples of recent scholarship; use of primary resources; seminar. Same as UICB:5600.

SLIS:5700 Cultural Heritage**3 s.h.**

Increased use of digital technologies in collection, organization, dissemination, and use of heritage resources that generate intellectual, social, technological, legal, and ethical challenges to—and opportunities for—the heritage practice; exploration of challenges and opportunities, as well as their impact on the heritage profession; students become familiar with key heritage-related concepts and topics, apply them to a concrete project, and write a report of their findings.

SLIS:5900 Health Informatics I**3 s.h.**

Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IE:5860, IGPI:5200, MED:5300.

SLIS:6020 Literacy and Learning**3 s.h.**

Learning and literacy theory relevant to work in information services; how librarians can help people process information and use it to form understanding and create new knowledge. Prerequisites: SLIS:5010.

SLIS:6100 Database Management**3 s.h.**

Principles and practices of database design and management; discussion and practice cover database application lifecycle, data modeling, relational database design, SQL queries, reports and other interfaces to database data, documentation; individual and group projects. Prerequisites: SLIS:5020. Same as IGPI:6100.

SLIS:6110 Evidence-Based Practice in Library and Information Science**3 s.h.**

Structured approach to improved libraries through decision making that supports the collection, interpretation, and evaluation of data; assessment of the effectiveness of library programs and services.

SLIS:6120 Natural Language Processing**3 s.h.**

Tools and techniques for computational processing of text, including lexical analysis, part-of-speech tagging, named entity recognition, relationship extraction, topic detection and tracking, sentiment analysis, question answering; example corpora and applications drawn from multiple disciplines including biomedicine, digital humanities, and social science. Prerequisites: SLIS:5020. Same as IGPI:6120.

SLIS:6130 Community Engagement**3 s.h.**

Ways in which information professionals in libraries and other settings learn about, collaborate with, and provide services and outreach to community members; introduction and overview of community engagement theory and practice; service learning or community-based research projects. Prerequisites: SLIS:5010.

SLIS:6140 Digital Environments**3 s.h.**

Methods and models for building digital libraries; organization with metadata; standards such as those for object identifiers, open access, building cross-linkages between collections; automatic harvesting of content. Prerequisites: SLIS:5020. Same as IGPI:6140.

SLIS:6145 Digital Preservation and Stewardship**3 s.h.**

Introduction to concepts and theories related to preservation and continued stewardship of born-digital and digitized materials; taught from an archival perspective, focusing on current methods of collection, maintenance, and access for digital collections in libraries, archives, and museums.

SLIS:6150 Information Behavior**3 s.h.**

Understanding how information users approach their information needs; concepts for understanding information use; analysis of user communities.

SLIS:6155 Information Visualization 3 s.h.

Information visualization is to unveil the underlying structure of large or abstract data sets using visual representations that utilize the powerful processing capabilities of the human visual perceptual system; introduction to theories, techniques, and examples of information visualizations for different presentations of data. Prerequisites: SLIS:5020.

SLIS:6160 Search and Discovery 3 s.h.

Search system architecture; information needs and queries; search models; concepts in relevance and repositories, archives, web-based systems; information quality measures.

SLIS:6170 Organizational Management 3 s.h.

Survey of management issues common to all information environments—understanding organizations, decision making, hiring and personnel, grant writing, and marketing.

SLIS:6250 Beginning Cataloging and Classification 3 s.h.

Systems for describing materials and information in catalogs and organizing them for effective retrieval in libraries, museums, and other information centers; AACR2 descriptive principles, Dewey and Library of Congress classifications, Sears and LC subject headings, cataloging networks and services. Prerequisites: SLIS:5030.

SLIS:6320 Topics: Conceptual Structures/ Systems 1-3 s.h.

Special topics relevant to conceptual structures (e.g., knowledge, representation, manipulation schemes) and systems (e.g., intelligent OPACS, user interface technologies).

SLIS:6330 Archives and Media 3 s.h.

Collecting as a core library activity; various types of media collected, from traditional print media to new digital media; how archives are structured and managed to provide for selection, organization, access, and perpetual storage; work on sample collections, presentation of techniques and concepts. Prerequisites: SLIS:5010 and SLIS:5030.

SLIS:6335 Metadata Theories and Applications 3 s.h.

Principles of describing materials in both traditional and digital contexts; standards for writing and implementing metadata. Prerequisites: SLIS:5030. Corequisites: SLIS:5030, if not taken as a prerequisite. Requirements: admission to library and information science program.

SLIS:6345 Stewardship of Information and Collections 3 s.h.

Principles for creating, building, and maintaining digital and print collections in libraries and other information organizations. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Requirements: admission to library and information science program.

SLIS:6350 Archives and Media 3 s.h.

Collecting as a core library activity; various types of media collected from traditional print media to new digital media; how archives are structured and managed to provide for selection, organization, access, and perpetual storage; work on sample collections, presentation of techniques, and concepts. Prerequisites: SLIS:5010 and SLIS:5030.

SLIS:6370 Topics in Book Studies 3 s.h.

Topics relevant to book studies and special collections. Same as UICB:6370.

SLIS:6380 Analysis of Scholarly Domains 3 s.h.

Information transfer in academic disciplines; scientific method, other means of knowledge construction, resulting literatures; reference tools used to control literature for a variety of audiences; emphasis on humanities, social sciences, or sciences. Same as IGPI:6380.

SLIS:6411 Topics: Resources/Services 1-3 s.h.

Current topics in types of information resources and services.

SLIS:6490 Information Policy and Ethics 3 s.h.

Ethical and legal issues as they relate to information policy development and interpretation; application of information policies to address problems in information organizations. Same as IGPI:6490.

SLIS:6520 Practicum in Libraries and Information Centers 2-3 s.h.

Supervised field experience in selected libraries and information centers; emphasis on application of theory to practice; at least 80 hours of fieldwork. Requirements: 15 s.h. of SLIS course work.

SLIS:6530 School Library Media Practicum 3 s.h.

Supervised field experience in library media centers at elementary and secondary school levels; emphasis on application of theory to practice; at least 80 hours of fieldwork. Prerequisites: SLIS:5044.

SLIS:6570 Independent Study 1-3 s.h.

Formal contract between student and faculty member. Requirements: formal proposal.

SLIS:6580 Thesis 0-6 s.h.

Prerequisites: SLIS:5010 and SLIS:5020 and SLIS:5030 and SLIS:6110 and SLIS:6170.

SLIS:6585 Design, Visualization, and Mapping 3-D Environments 3 s.h.

Introduction to foundational modeling theory, methodology, and conceptual principles of design necessary to present information in visual formats; various software including data management solutions, database concepts, and simple programming skills that assist in visualizing and disseminating data through multiple digital and online media; basic graphing tools to map data; how to model physical properties and theoretical reconstructions of architectural elements in various 3-D digital modeling environments. Requirements: admission to public digital humanities certificate program. Same as CLSA:6585.

SLIS:6590 Digital Humanities Capstone 3 s.h.

Application and practice of classroom experience to a specific project under guidance from a faculty member and project team leader. Requirements: admission to public digital humanities certificate program, an approved certificate plan of study on file, completion of 12 s.h. of approved course work, and good standing in all required certificate course work. Same as GRAD:6590.

SLIS:7290 Digital Humanities Theory and Practice 3 s.h.

Overview of theories and use of technology to preserve, deploy, visualize, map, and analyze concepts; discussions with practicing digital public scholars; assignments consist of a digital portfolio tailored to student research; introductory course in public digital humanities certificate. Same as GRAD:7290.

Library and Information Science, M.A.

Students who pursue the master's degree in library and information science gain an understanding of the foundations of the library and information profession, including the history of the field, ethical and philosophical concerns, the information cycle, principles and procedures for dealing with a variety of information carriers, and the theory and practice of strategic management. They examine future trends, with emphasis on cutting-edge technological concerns. Students study the discipline's research base, gaining heightened awareness of the synergism between library and information science and other disciplines, as well as the close relationship between research and practice. Finally, students become knowledgeable about the factors that underlie users' information needs and appropriate strategies to assist them.

Requirements

The Master of Arts in library and information science requires 36 s.h. of graduate credit. Students must earn a grade of B or higher in all courses for the major. They may repeat a course to remedy a lower grade; see the SLIS Handbook for further details. A thesis option is available for students who seek additional research experience.

Students may apply a maximum of 12 s.h. of graduate transfer credit in library and information science or related areas toward the degree, subject to the approval of the transfer credit committee. Approval is determined by the course's content, currency, and applicability to a student's program.

The program is designed to be completed in two years with enrollment of 9 s.h. during the fall and spring semesters. The School of Library and Information Science strongly recommends that students not register for more than 12 s.h. during fall and spring semesters and 8 s.h. during summer sessions. The program also may be completed through part-time study.

The curriculum includes a proseminar and three tiers of course work. Tier I consists of four required courses that provide a solid grounding for all successive course work. For Tier II, students select four of the ten courses listed, based on their areas of interest. In Tier III, students may earn up to 12 s.h. in electives chosen with guidance from their advisors. This three-tier arrangement allows each student to concentrate in an area that most closely matches the student's professional goals.

The Master of Arts in library and information science has held continuous accreditation from the American Library Association since 1971.

The M.A. with a major in library and information science requires the following course work.

Code	Title	Hours
	Proseminar	0
	Tier I Courses	12
	Tier II Courses	12
	Tier III Courses	12
	Total Hours	36

Proseminar

Students must enroll in the proseminar during their first semester, along with Tier I courses SLIS:5010 Cultural Foundations and SLIS:5020 Computing Foundations.

Code	Title	Hours
SLIS:5000	Proseminar in Library and Information Science	0

Tier I

Code	Title	Hours
All of these:		
SLIS:5010	Cultural Foundations (taken in student's first semester)	3
SLIS:5020	Computing Foundations (taken in student's first semester)	3
SLIS:5030	Conceptual Foundations	3
One of these:		
SLIS:5041	Contextual Foundations - College and University Libraries	3
SLIS:5042	Contextual Foundations - Public Libraries	3
SLIS:5043	Contextual Foundations - Special Libraries	3
SLIS:5044	Contextual Foundations - School Library Media Administration	3

Tier II

Code	Title	Hours
Four of these:		
SLIS:6020	Literacy and Learning	3
SLIS:6100	Database Management	3
SLIS:6110	Evidence-Based Practice in Library and Information Science	3
SLIS:6130	Community Engagement	3
SLIS:6150	Information Behavior	3
SLIS:6170	Organizational Management	3
SLIS:6330	Archives and Media	3
SLIS:6335	Metadata Theories and Applications	3
SLIS:6345	Stewardship of Information and Collections	3
SLIS:6490	Information Policy and Ethics	3

Tier III

With their advisor's guidance, students choose 12 s.h. in Tier III electives. Courses from Tier I and Tier II also may be selected as electives.

Code	Title	Hours
SLIS:4150	Introduction to Book Studies	3
SLIS:4910	The Book in the Middle Ages	3
SLIS:4920	The Transition from Manuscript to Print	3
SLIS:5200	User Education: Multimedia	3

SLIS:5210	Reference and Information Services	3
SLIS:5220	Resources for Children	3
SLIS:5230	Resources for Young Adults	3
SLIS:5240	Resources for Adults	3
SLIS:5520	Studies in Book History	3
SLIS:5530	Topics in Preservation	3
SLIS:5535	Book Conservation	3
SLIS:5600	History of Readers and Reading	3
SLIS:5700	Cultural Heritage	3
SLIS:5900	Health Informatics I	3
SLIS:6120	Natural Language Processing	3
SLIS:6140	Digital Environments	3
SLIS:6145	Digital Preservation and Stewardship	3
SLIS:6160	Search and Discovery	3
SLIS:6250	Beginning Cataloging and Classification	3
SLIS:6320	Topics: Conceptual Structures/Systems	1-3
SLIS:6370	Topics in Book Studies	3
SLIS:6380	Analysis of Scholarly Domains	3
SLIS:6490	Information Policy and Ethics	3
SLIS:6520	Practicum in Libraries and Information Centers	2-3
SLIS:6530	School Library Media Practicum	3
SLIS:6570	Independent Study	1-3
SLIS:6580	Thesis	0-3
SLIS:6585	Design, Visualization, and Mapping 3-D Environments	3
SLIS:6590	Digital Humanities Capstone	3
SLIS:7290	Digital Humanities Theory and Practice	3

Specializations

Students' programs often are designed around particular career goals. Following are examples of possible specializations.

Public Libraries

Public libraries provide informational, educational, and recreational materials and a wide range of services for a diverse clientele. Although public libraries receive the bulk of their funding from local taxes, they also may be organized on a regional or statewide cooperative basis. The variety of uses, services, materials, and organizational structures of public libraries makes this a challenging area of librarianship. Public librarians need to develop skills in analyzing the communities they serve, designing comprehensive marketing plans to meet their needs, implementing the plans in a cost-effective way, and evaluating the success of their efforts.

Academic Libraries

The academic library, whether in a community college, a four-year college, or a university, provides information services in support of the parent institution's teaching, research, and public service missions. These services include instruction in the use of the library and its resources. Management skills

and subject or language competence often are required. Since librarians in this setting usually are considered academic faculty members, a second master's or other advanced degree is desirable.

Special Libraries and Information Centers

Special libraries serve corporations, private companies, government agencies, technical and academic institutions, museums, medical facilities, and information management consulting firms. They are organized to anticipate and quickly respond to the specific information needs of their users. Special librarians are information resource experts who collect, analyze, evaluate, package, and disseminate information to facilitate accurate decision making. Knowledge of information technology and the ability to design services suitable to the parent organization are professional necessities. In addition, substantial subject expertise may be required.

School Teacher Librarian

School teacher librarians provide instruction to students in accessing, evaluating, and using information; collaborate with teachers on the use of resources in instruction; provide leadership in the use of instructional and information technologies; offer reading guidance; provide reference service; and manage the library media center.

The University of Iowa offers a state-approved program leading to endorsement as school teacher librarian K-12. In order to fulfill state requirements for this endorsement, students must hold or be eligible for a teaching license and must complete a designated sequence of courses that leads both to certification and to the M.A. degree.

Licensed teachers employed in Iowa schools may enroll in a distance education program that leads to an M.A. in library and information science and endorsement for school librarianship. Contact the School of Library and Information Science for details.

Students who are interested in school libraries but lack a valid Iowa teaching license may earn licensure as a school teacher librarian by completing 30 s.h. in the College of Education. The Master of Arts in library and information science with teacher licensure requires 66 s.h. of credit. Students must apply and be admitted to both programs.

Certificate Opportunities

Book Studies/Book Arts and Technologies

For more information regarding this combined program, see Combined Programs [p. 1479] in this section of the Catalog.

Informatics

M.A. students in library and information science also have the opportunity to earn the Certificate in Informatics. Specialty areas include bioinformatics and computational biology, geoinformatics, health informatics, and information science. For more information, see the Certificate in Informatics [p. 1471] in the Catalog.

Public Digital Humanities

Students also may apply to earn the Certificate in Public Digital Humanities. The program requires 15 s.h. of graduate credit and offers credentials to students who plan to

incorporate digital technology into their future research, training, or careers. For more information, see the Certificate in Public Digital Humanities [p. 1485] in the Catalog

Certificate Program Application

Separate application to each certificate program is required. For more information, see Degrees and Certificates on the School of Library and Information Science website.

Combined Programs

M.A./J.D.

The School of Library and Information Science and the College of Law offer a combined Master of Arts/Juris Doctor program. Students in the combined program may apply a limited amount of credit toward both degrees. Up to 9 s.h. in law course work may be applied toward the M.A. in library and information science; up to 6 s.h. in library and information science course work may be applied to the J.D. degree. Students take law courses their first year and begin taking School of Library and Information Science courses in their second year.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Elective courses also are available for students who wish to specialize in law librarianship but who do not wish to pursue the J.D. degree.

M.A./M.F.A. in Book Arts

The School of Library and Information Science and the Center for the Book offers a combined Master of Arts/Master of Fine Arts in book arts. The combined program allows students with strong interests in the physical book to acquire training in the book arts, book history, and material book studies. The earned expertise in the production and legacy of the book as a physical artifact combined with expertise in library and information science can be an asset for those focused on careers in special collections libraries and archives.

Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, see the M.F.A. in book arts [p. 1449] in the Catalog.

Students interested in a librarianship career with a more general interest in the physical book should consider the book studies, book arts and technologies/library and information science (BLIS) certificate program; see "Certificate Opportunities" under Requirements [p. 1477] in this section of the Catalog.

M.A./Certificate in Book Studies/Book Arts and Technologies

The Center for the Book and the School of Library and Information Science collaborate to offer the book studies/book arts and technologies/library and information science (BLIS) program. The combined program enables students to earn an M.A. in library and information science and a certificate in book studies. It requires admission to the School of Library

and Information Science M.A. program and the Center for the Book certificate program.

The M.A./Certificate in Book Studies/Book Arts and Technologies offers multiple pathways into professional engagement with artifacts available in archives and libraries, such as rare and artist books. Students select courses that enable them to gain skills and knowledge in areas of service such as conservation, cataloging, instruction, and outreach. The combined program requires 51 s.h. of course work. Students take 27 s.h. of SLIS courses; 15 s.h. of book arts, studies, and technologies courses; and the remaining 9 s.h. may be taken in either SLIS or Center for the Book course work, or from another unit with approval from the SLIS advisor.

Admission deadline is February 1 for fall entry. For more information, see the Certificate in Book Studies/Book Arts and Technologies [p. 1450] in the Catalog.

Admission

Applicants begin the admission process by submitting an online graduate application through the Office of Admissions. Applicants then receive a HawkID and can upload the remaining application documents through MyUI. Transcripts of all academic work, a written statement of purpose and goals, a résumé or curricula vitae, and three letters of recommendation are required. Applicants to the teacher librarian program are asked to include a copy of their current teaching certificate. The admission committee considers each applicant's letters of recommendation, statement of purpose, résumé or curricula vitae, and other appropriate criteria, as well as an applicant's grade-point average. Applicants for admission to the M.A. program should have a g.p.a. of at least 3.00 on a 4.00 scale. Graduate Record Examination (GRE) General Test scores are not required. Admission is competitive.

Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants with TOEFL scores below 100 on the internet-based test are required by the University to take an English Proficiency Test if admitted to the program. In place of TOEFL, the school also accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0. Applicants who submit IELTS scores are required to take an on-campus English proficiency evaluation.

Completed applications should be received by February 1 for consideration for fall admission. Decisions of the admissions committee are announced approximately six weeks after the application deadline. Late applications are considered if places are still available. Financial aid often is not available for late applicants. Admitted students are assigned a faculty advisor for program planning during their first semester.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

The School of Library and Information Science typically offers partial-tuition scholarships and one-quarter-time graduate assistantships. To be considered for scholarships or assistantships, applicants must meet the M.A. program's grade-point average requirement for admission (see Admission [p. 1479] in this section of the Catalog). Prospective students must submit letters of application

for scholarships before February 1. At the discretion of the admissions committee, limited graduate assistantships may be offered to incoming students based on academic merit and prior experience. In addition, available assistantships are advertised as they become available; students should apply for specific assistantships.

For information on departmental scholarships, contact the School of Library and Information Science or visit its website to learn about available opportunities. Part-time employment usually is available in the University of Iowa Libraries or other campus units.

Applications for student loans, work-study eligibility, or other financial assistance should be submitted directly to the University's Office of Student Financial Aid.

Career Advancement

Library and information science graduates have many options for employment. Alumni hold positions in public, school, special, and academic libraries as well as other information settings. They serve in varied roles, such as information consultant, database manager, library administrator, webmaster, network coordinator, cataloger, children's librarian, school library media specialist, and archivist.

The school shares announcements of national and international job opportunities through an electronic mailing list. In addition, the Library and Information Science Student Organization (LISSO) sponsors talks by speakers versed in areas of librarianship as well as workshops on résumé writing, social media networking, and interviewing. Internships and the school's practicum courses provide students with hands-on experience that may enhance their job prospects.

For recent information on library and information science placement, see the Library Research Service (LRS) website and the annual Placement and Salaries 2017 report on the Library Journal website.

Molecular Medicine

Director

- Matthew J. Potthoff (Pharmacology)

Faculty: <https://medicine.uiowa.edu/mcb/faculty>

Website: <https://medicine.uiowa.edu/mcb/>

The Molecular Medicine Program provides interdisciplinary training in the concepts and methodologies fundamental to the investigation of biological mechanisms at the molecular level. Faculty members are involved in a variety of research projects related to gene expression and regulation.

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Molecular and Cellular Biology

Students interested in doctoral studies in molecular medicine should apply under the umbrella program in Biomedical Science [p. 1428] (select molecular medicine subprogram). Students who entered the graduate molecular and cellular biology program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

Training is conducted primarily in laboratories and teaching facilities of the Carver College of Medicine Stead Family Department of Pediatrics and the Departments of Anatomy and Cell Biology, Biochemistry, Internal Medicine, Microbiology and Immunology, Molecular Physiology and Biophysics, Neurology, Obstetrics and Gynecology, Ophthalmology and Visual Sciences, Otolaryngology—Head and Neck Surgery, Pathology, Pharmacology, Physical Therapy and Rehabilitation Science, Psychiatry, and Radiation Oncology; and the College of Liberal Arts and Sciences Departments of Biology and Chemistry. Faculty laboratories and central research facilities available to students provide access to the most up-to-date research equipment.

Courses

Molecular Medicine Courses

MMED:5270 Pathogenesis of Major Human Diseases 3 s.h.

Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as IGPI:5270, PATH:5270.

MMED:6215 Transcription and Multifunctional Regulation by RNA 1 s.h.

Principles and techniques for investigating mechanisms of controlling eukaryotic gene expression; basic genome organization, chromatin structure, transcription, RNA processing, translation; cloning methods, use of electronic sequence databases, footprinting, chromatin immunoprecipitation, in vivo and in vitro transcription assays, DNA microarray analysis, information retrieval. Prerequisites: BMED:5207.

MMED:6220 Mechanisms of Cellular Organization 3 s.h.

Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BIOC:3130. Same as ACB:6220, MPB:6220.

MMED:6225 Growth Factor Receptor Signaling 1 s.h.

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as ACB:6225, MPB:6225.

MMED:6226 Cell Cycle Control 1 s.h.

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as ACB:6226, MPB:6226.

MMED:6227 Cell Fate Decisions 1 s.h.

Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as ACB:6227, MPB:6227.

MMED:6240 Inflammatory Cell Signaling and Targeted Cancer Therapy 1 s.h.

Introduction to topics in important cancer signaling pathways; promises and challenges of targeted cancer therapy; emphasis on current fundamental topics in cancer cell signalings; how altered protein ubiquitination/deubiquitination, constitutive activation of proteins kinases, and transcription factors underpin uncontrollable proliferation and survival of cancer cells in tumor microenvironment; translation of knowledge to targeted cancer therapy; promotion of critical thinking. Recommendations: MMED:6225, MMED:6227, and BIOC:5243.

MMED:6250 Mechanisms of Parasitism Journal Club 1 s.h.

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students. Same as MICR:6250.

MMED:6280 Critical Thinking in Molecular Medicine 1 s.h.

Opportunity to work closely with participating faculty to gain skill in critical reading of research literature and facility in presenting material to an audience. Requirements: advanced graduate standing.

MMED:7290 Seminars in Molecular Medicine 1 s.h.

Research findings in molecular biology. Requirements: molecular and cellular biology graduate standing.

MMED:7305 Molecular Medicine Research arr.

Requirements: molecular and cellular biology graduate standing.

MMED:8115 Molecular Physiology 3 s.h.

Principles of human physiology, organ systems, cell function. Offered fall semesters.

Neuroscience

Chair

- Daniel T. Tranel (Neurology/Psychological and Brain Sciences)

Graduate degree: Ph.D. in neuroscience

Faculty: <https://neuroscience.grad.uiowa.edu/faculty/directory>

Website: <https://neuroscience.grad.uiowa.edu>

The Neuroscience Program provides an interdisciplinary and interdepartmental approach to graduate education and research training in the structure, function, and development of the nervous system and its role in cognition and behavior. Students obtain training at all levels of the nervous system, from cellular/molecular to the behavioral/cognitive.

Programs

Graduate Program of Study

Major

- Doctor of Philosophy in Neuroscience [p. 1483]

Facilities

Training is conducted primarily in the laboratories and teaching facilities of the Carver College of Medicine graduate Departments of Anatomy and Cell Biology, Biochemistry, Internal Medicine, Molecular Physiology and Biophysics, Neurology, Pharmacology, and Psychiatry; and the College of Liberal Arts and Sciences Departments of Biology, Communication Sciences and Disorders, Health and Human Physiology, and Psychological and Brain Sciences. Students use faculty laboratories and central research facilities for ultrastructural analysis; histochemistry and immunocytochemistry; electrophysiology; fluorescence-activated cell sorting; cellular and subcellular biochemistry; cell, tissue, and organ culture; operant and classical conditioning; molecular biology; behavioral genetics; neural substrates of complex behavior; brain-behavior relationships in humans; neuropsychology; and functional neuroimaging (PET, fMRI).

Courses

Neuroscience Courses

NSCI:4353 Neurophysiology: Cells and Systems 3-4 s.h.

Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: (BIOL:2753 or BIOL:3253) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850) and ((PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612)). Same as BIOL:4353.

NSCI:5161 Undergraduate Research in Neuroscience

arr.

Experimental research under faculty supervision.

NSCI:5210 Fundamentals of Behavioral Neuroscience

3-4 s.h.

Concepts, methods, and findings in behavioral and cognitive neurosciences; emphasis on principles of neuroscience, sensation, motivation, emotion. Same as PSY:5210.

NSCI:5212 Foundations in Behavioral and Cognitive Neuroscience

4 s.h.

Concepts, methods, and findings in behavioral and cognitive neurosciences. Prerequisites: BIOL:3253 or PSY:5210 or NSCI:5210. Same as PSY:5212.

NSCI:5365 Seminar: Neuropsychology and Neuroscience

arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, PSY:5365.

NSCI:5653 Fundamental Neurobiology

3 s.h.

Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, peripheral and CNS sensory systems, peripheral and CNS motor systems, autonomic systems, emotion, memory, sleep, language, attention and cognition, neuronal development. Same as BIOL:5653, PSY:5203.

NSCI:5658 Fundamental Neurobiology Discussion 1 s.h.

Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as BIOL:5658, PSY:5204.

NSCI:5753 Developmental Neuroscience

1 s.h.

Neural induction and nervous system patterning; neurogenesis, axon, and dendrite outgrowth and targeting; synapse formation, specificity, refinement; mechanisms of neuronal cell death; myelination; neural stem cells; introduction to cellular, molecular, and genetic techniques in studies of neural development. Prerequisites: BIOL:5653. Same as BIOL:5753.

NSCI:6209 Steroid Receptor Signaling

1 s.h.

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as MPB:6209, PCOL:6209.

NSCI:6240 Topics in Cognitive Neuroscience

1-3 s.h.

Key topics in the neural basis of human cognition; research literature. Recommendations: graduate courses in basic neuroscience and cognitive psychology. Same as NEUR:6240.

NSCI:6250 Functional Magnetic Resonance Imaging

2-3 s.h.

Basic physics principles of functional magnetic resonance imaging and approaches to data acquisition, including BOLD imaging, arterial spin labeling, and magnetic source imaging; data analysis strategies; paradigm design and development.

NSCI:6265 Neuroscience Seminar

0-1 s.h.

Research presentations. Same as ACB:6265, BIOL:6265, MPB:6265, PSY:6265.

NSCI:7235 Neurobiology of Disease

3 s.h.

Broad, thematic understanding of disease mechanisms in neurobiological disorders.

NSCI:7301 Directed Study in Neuroscience

arr.

NSCI:7305 Neuroscience Research

arr.

Requirements: neuroscience graduate standing.

Neuroscience, Ph.D.

For information about predoctoral training opportunities in neuroscience, contact the Neuroscience Program or visit its website.

Requirements

The Doctor of Philosophy program in neuroscience requires a minimum of 72 s.h. of graduate credit. The program's curriculum is designed around three tracks: molecular/cellular, developmental/systems, and cognitive/behavioral. Following broad-based instruction in a core curriculum, students specialize in one of the tracks.

Within a framework of core, track-specific, and elective courses, students pursue a program of study individually designed according to their undergraduate training and graduate research goals. After enrolling in the Neuroscience Program, entering students consult with the advisory committee regarding their level of preparation for the program's required courses.

The Student Advisory Committee meets with all first- and second-year graduate students once each semester, helping students explore their research interests and select faculty mentors for the required laboratory rotations. Each student is expected to complete three rotations in faculty laboratories before selecting a thesis advisor. Rotations ordinarily last 12 weeks but may last from 8 to 16 weeks. Under special circumstances, two rotations may be in the same laboratory, an arrangement that permits the student to learn a variety of techniques and approaches before settling down to work on the dissertation project. Students usually choose a dissertation lab at the end of their first year.

Background Requirements

Students are expected to demonstrate competency, through prerequisites or course work, in each of four fields: biochemistry, general physiology, cell biology, and statistics. These requirements ordinarily should be fulfilled by the end of the first year of graduate study. Waivers of background course requirements may be requested by students who have taken equivalent courses before entering the Neuroscience Program.

Neuroscience Core

The following courses form the core of the neuroscience graduate curriculum.

Code	Title	Hours
NSCI:5653	Fundamental Neurobiology	3
ACB:6252	Functional Neuroanatomy	arr.
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
PSY:6370	Principles of Neuropsychology	3
One statistics course		3-4
In addition, students register for the following two courses each semester:		
NSCI:6265	Neuroscience Seminar	0-1
NSCI:7305	Neuroscience Research	arr.

Electives

Elective requirements may be met by completing 8 s.h. from a list of courses offered by the Departments of Anatomy and Cell Biology, Biology, Molecular Physiology and Biophysics, Pharmacology, Psychological and Brain Sciences, and other departments as appropriate. With permission of the Student Advisory Committee, students may satisfy the elective requirement wholly or in part by registration in the following course.

Code	Title	Hours
NSCI:7301	Directed Study in Neuroscience	arr.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Financial Support

Full-time Neuroscience Program students receive stipends and full tuition scholarships through fellowships and research assistantships. Awards are renewed annually, based on continued satisfactory progress and availability of funds. The standard graduate student stipend is \$27,500.

The Neuroscience Program is committed to supporting its graduate students for their entire training period. Students normally are supported in the first year by the program. After that, support is expected to come from the student's primary research mentor. Occasionally, advanced students are supported through teaching assistantships. Tuition is paid for all students.

NIH Training Grant

The Neuroscience Program is supported by a training grant from the National Institutes of Health. The grant provides stipend and tuition support for a select group of first- and second-year graduate students.

Public Digital Humanities

Director

- Deborah E. Whaley (African American Studies/American Studies)

Graduate certificate: public digital humanities

Faculty: <http://www.lib.uiowa.edu/studio/people/>

Website: <http://www.lib.uiowa.edu/studio/pdh-certificate/>

The Certificate in Public Digital Humanities offers credentials to graduate students who plan to incorporate digital technology into their future research, teaching, or careers. Students learn to appreciate the diversity of contemporary humanities research methods while exploring core digital tools that underlie many humanistic research projects. Students also learn important skills such as how to manage an original project, collaborate across different academic departments, participate in teams, and communicate technical information to a non-specialist audience.

The certificate provides crucial training and education for the 21st-century humanist interested in the intersection between technology and research.

The Certificate in Public Digital Humanities is administered by the Graduate [p. 1416] College.

Programs

Graduate Program of Study

Certificate

- Certificate in Public Digital Humanities [p. 1485]

Public Digital Humanities, Graduate Certificate

The graduate Certificate in Public Digital Humanities requires 15 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. The program is open to all University of Iowa graduate students in good academic standing.

The certificate requires the following course work—four courses as well as the digital humanities capstone, which involves an independent project.

Code	Title	Hours
SLIS:6330	Archives and Media	3
GRAD:6590/ SLIS:6590	Digital Humanities Capstone	3
GRAD:7290/ SLIS:7290	Digital Humanities Theory and Practice	3
A course in visualization		3
An elective course, approved by the advisor and certificate director		3
Total Hours		15

The course in visualization will vary by semester. Students should check the Public Digital Humanities Certificate website for more information.

Applicants to the certificate program must submit a one-page statement of interest to the director of the certificate program. They must include a signed letter from their academic advisor stating that they have their home department's support in pursuing the certificate.

Translational Biomedicine

Executive Associate Dean

- Patricia L. Winokur

Education Director

- Laurie Gutmann (Neurology)

Graduate degree: M.S. in translational biomedicine

Website: <https://icts.uiowa.edu/>

The Translational Biomedicine Program offers training in translational biomedicine, biostatistics, ethics, and in various elective areas while providing time to conduct mentored research under the direction of an interdisciplinary team. It is specifically tailored to clinicians in medicine, nursing, pharmacy, dentistry, and psychology.

Related Certificate

Translational and Clinical Investigation

The Department of Epidemiology and the Institute for Clinical and Translational Science offer the graduate certificate program in translational and clinical investigation; see the Certificate in Translational and Clinical Investigation [p. 1788] (College of Public Health) in the Catalog.

Programs

Graduate Program of Study

Major

- Master of Science in Translational Biomedicine [p. 1487]

Facilities

Training is conducted mainly in the laboratories and teaching facilities of the Carver College of Medicine and the College of Public Health. The University of Iowa Institute for Clinical and Translational Science is available for research training. The program also is linked with the Carver College of Medicine's graduate training program in clinical research.

Courses

Translational Biomedicine Courses

TBM:3001 Introduction to Translational Research 2 s.h.

Array of scientific studies translated into clinical solutions; creative ideas balanced with practical strategies for implementation at bedside; expansive number of career opportunities becoming available in translational sciences. Requirements: admission to clinical and translational science certificate program.

TBM:3002 Practicum in Clinical and Translational Science 2 s.h.

How research experience translates into clinical practice; translational impact of independent research; summary of research accomplishments; outline of a translational paper that is mutually acceptable to student, preceptor, and faculty; submission of paper and completion of poster presentation describing research project and translational application of research. Requirements: admission to clinical and translational science certificate program.

TBM:5000 Translational Biomedical Research arr.

Student research guided by mentor.

TBM:5001 Introduction to Translational Biomedicine 3 s.h.

Basis for clinical and translational research; introduction to principles of experimental design for patient- and population-oriented research; approaches available to clinical and translational investigators (e.g., statistics, questionnaires, ethics, imaging, information technology); infrastructure that supports clinical and translational investigators at the University of Iowa and nationally; for early-career clinicians/scientists and established investigators. Requirements: enrollment in translational biomedicine M.S. program.

TBM:5002 Critical Thinking and Communication: Study Design and Commercialization 1 s.h.

Various study design methodologies and process of commercialization; presentations of current projects. Requirements: candidacy for M.S. in translational biomedicine.

TBM:5003 Critical Thinking and Communication:

Scientific Writing and Presentation Strategies 1 s.h.

Grant development and journal writing process; development of effective scientific presentations.

TBM:5004 Critical Thinking and Communication: Career Development and the Funding Process 1 s.h.

Introduction to a variety of career development awards and their requirements; opportunity to work on personal career development grant applications.

TBM:5005 Critical Thinking and Communication:

Leadership, Team Science, and Mentoring 1 s.h.

Leadership skills for managing and developing a research team; leading and organizing a team; managing and sharing resources with other faculty and fellows; finding, hiring, and keeping good people; leading productive meetings; delegation strategies; resources and tools for mentors; information on applying and teaching leadership skills to mentees.

Translational Biomedicine, M.S.

The goals of the M.S. program in translational biomedicine are to:

- promote interaction and collaboration among researchers across the spectrum of biomedicine;
- enrich translational vocabulary and an understanding of T1 research (laboratory), T2 research (application to evidence-based practice), T3 research (implementation and dissemination), and T4 research (population studies and policy development) among basic, clinical, and human studies scientists; and
- develop skills in ethical decision making, scientific leadership, team building, networking, and research program management.

Requirements

The Master of Science program in translational biomedicine (TBM) requires a minimum of 30 s.h. of graduate credit plus a final project. Students must maintain a cumulative graduate g.p.a. of at least 3.00 in all UI course work. The plan of study for students in the two-year program is based on their chosen discipline.

The program is designed to teach members of scientific teams how to move biomedical discoveries into clinical applications and beyond. It is tailored for individuals who have completed doctoral-level training in one area of biomedicine and wish to apply their expertise to the T1-T4 research spectrum. The program admits individuals who hold medical or graduate degrees (e.g., M.D., D.O., D.D.S., D.N.P., Ph.D., Pharm.D., D.V.M., or the equivalent) and are employed by the University of Iowa at the faculty ranks of associate professor, assistant professor, instructor, a fellow physician, or a postdoctoral scholar/fellow.

The M.S. with a major in translational biomedicine requires the following course work.

Core Courses

Code	Title	Hours
All of these:		
TBM:5000	Translational Biomedical Research	9
TBM:5001	Introduction to Translational Biomedicine	3
TBM:5002	Critical Thinking and Communication: Study Design and Commercialization	1
TBM:5003	Critical Thinking and Communication: Scientific Writing and Presentation Strategies	1
TBM:5004	Critical Thinking and Communication: Career Development and the Funding Process	1

TBM:5005	Critical Thinking and Communication: Leadership, Team Science, and Mentoring	1
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:6950	Clinical Research Ethics	2
Total Hours		24

Electives

Students must earn a minimum of 6 s.h. in graduate-level elective course work pertinent to their educational goals and background. Electives may be selected from the lists below, or students may obtain approval for other courses with program administration approval.

Epidemiology

Code	Title	Hours
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:5900	Problems and Special Topics in Epidemiology	arr.
EPID:6100	Writing a Grant Proposal	3
EPID:6150	Writing for Medical Journals	1
EPID:6250	Genetics and Epidemiology	3
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6650	Cardiovascular Disease Epidemiology	3
EPID:6900	Design of Intervention and Clinical Trials	3

Drug Discovery

Code	Title	Hours
BME:5330	Computational Genomics	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
PHAR:5512	Drug Discovery and Mechanisms	3

Innovation

Code	Title	Hours
ENTR:9400	Evaluating Innovation Opportunities	2-3
ENTR:9550	Commercializing New Technology	3
LAW:9717	Iowa Medical Innovation Group Seminar	arr.
NURS:6553	Seminar on Innovations	4

Device Development

Code	Title	Hours
BME:5210	Medical Imaging Physics	3
BME:5220	Digital Image Processing	3
BME:5230	Multidimensional Medical Imaging Process	3
BME:5401	Biomaterials and Implant Design	3
BME:5510	Cardiovascular Biomechanics	3
BME:5520	Cardiovascular Fluid Mechanics	3
BME:5530	Design of Circulatory Implants and Artificial Organs	3
BME:5550	Cardiovascular Tissue Mechanics	3
BME:5610	Musculoskeletal Biomechanics	3

Neuroscience

Code	Title	Hours
NSCI:5210	Fundamentals of Behavioral Neuroscience	3-4
NSCI:5365	Seminar: Neuropsychology and Neuroscience	arr.
NSCI:5653	Fundamental Neurobiology	3
NSCI:5753	Developmental Neuroscience	1
NSCI:6250	Functional Magnetic Resonance Imaging	2-3
NSCI:7235	Neurobiology of Disease	3
PSY:6280	Structural and Functional MRI Methods and Application	3
PSY:6370	Principles of Neuropsychology	3

Genetics

Code	Title	Hours
ACB:6200	Special Topics in Genetics	1
BME:5330	Computational Genomics	3
GENE:5173	Computational Genomics	3
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:6234	Basic Biostatistical Methods with Genetics Applications	1
GENE:7191	Human Molecular Genetics	3

Informatics and Biostatistics

Code	Title	Hours
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5510	Biostatistical Computing	2
BIOS:5710	Biostatistical Methods I	4
BIOS:5720	Biostatistical Methods II	4
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:6110	Applied Categorical Data Analysis	3

BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7230	Advanced Clinical Trials	3
BIOS:7600	Advanced Biostatistics Seminar	0-3
BME:5320	Bioinformatics Techniques	3
EPID:5200	Principles of Public Health Informatics	3

Miscellaneous

Code	Title	Hours
PATH:5260	Translational Histopathology	3

Final Project

In addition to completion of the 30 s.h. in required course work, scholars must submit a final project. The project may be in one of the following formats.

- A complete grant application for a K01, K08, K23, K08, R01, R03, R21, or a U.S. Department of Veterans Affairs career award. The R03 completed as part of the required grant writing course may not be submitted as the final project.
- An original research manuscript (less than 2,500 words) of a published or in publishable quality for a peer-reviewed journal. The manuscript must contain the following components:

a structured abstract;

an introductory section that adequately frames the research question addressed; and

a methodology section that sufficiently describes the following elements (study design, study sample, data collection strategies and sources, data elements, and data analysis), results of the study, and a discussion including a description of the relationship of the current findings to prior relevant research and/or policy implications of the findings and methodological limitations.

Admission

The Translational Biomedicine Program welcomes applicants who have diverse educational and scientific backgrounds and varied research interests. Applicants must have a strong interest and background in a health science profession and knowledge of basic sciences and medicine.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Translational biomedicine applicants must:

- have a doctoral-level degree in a biomedical discipline (e.g., M.D., D.O., D.D.S., D.N.P., Ph.D., Pharm.D., D.V.M., or the equivalent);
- be employed by the University of Iowa as an associate professor, assistant professor, instructor, a fellow physician, or a postdoctoral scholar/fellow;
- be engaged in scientific research with a University of Iowa mentor who has funding from a peer-reviewed source (e.g. National Institutes of Health, National Science Foundation, another foundation, and so forth);
- hold a bachelor's degree from a regionally accredited American college or university or an equivalent degree from an international institution, as determined by the University of Iowa Office of Admissions;
- have a g.p.a. of at least 3.00 or the international equivalent, as determined by the University of Iowa Office of Admissions; and
- have a Graduate Record Exam (GRE) General Test combined verbal and quantitative score of 300 on the revised test (or 1050 on the old test) and an analytical writing score of 4.0 or above; applicants who already hold a graduate or professional degree may seek a waiver of the GRE requirement.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL), or they must have a score of at least 7.0, with no subscore lower than 6.0, on the International English Language Testing System (IELTS).

Applicants must submit a curriculum vitae, a statement of research interest and career goals, and three letters of recommendation. One letter must be from the applicant's UI research mentor; the program recommends that the second be a letter of support from the applicant's department chair.

All prospective students, and their mentors, must guarantee that once they are accepted as students in the program, they will be able to devote essentially all of their time over a two-year period to training. For instance, a fellow in the Carver College of Medicine might spend no more than two months each year working on clinical assignments (e.g., two months of inpatient assignments or one month of inpatient assignments and one-half day per week in a clinic).

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Translational Biomedicine, M.S.

Course	Title	Hours
Academic Career		
Any Semester		
Final Project ^a		
	Hours	0
First Year		
Fall		
TBM:5000	Translational Biomedical Research	3
TBM:5001	Introduction to Translational Biomedicine	3

TBM:5002	Critical Thinking and Communication: Study Design and Commercialization	1
	Hours	7

Spring

TBM:5000	Translational Biomedical Research	3
TBM:5003	Critical Thinking and Communication: Scientific Writing and Presentation Strategies	1
BIOS:4120	Introduction to Biostatistics	3
EPID:6950	Clinical Research Ethics	2
	Hours	9

Second Year

Fall

TBM:5004	Critical Thinking and Communication: Career Development and the Funding Process	1
EPID:4400	Epidemiology I: Principles	3
Elective course		3
	Hours	7

Spring

TBM:5000	Translational Biomedical Research	3
TBM:5005	Critical Thinking and Communication: Leadership, Team Science, and Mentoring	1
Elective course		3
	Hours	7
	Total Hours	30

- a Complete one of the following formats: a complete grant application (K23, K08, K01, R01, R03, R21, or VA career award) or an original research manuscript (>2500 words) of published or in-publishable quality for a peer-reviewed journal. Additional requirements apply.

Transportation Studies

Director, School of Urban and Regional Planning

- Charles E. Connerly

Coordinator, Transportation Studies

- John W. Fuller (Urban and Regional Planning)

Graduate certificate: transportation studies

Faculty: <https://www.urban.uiowa.edu/faculty-and-staff>

Website: <https://www.urban.uiowa.edu/>

Transportation is vital to modern society. The United States, like other nations, faces many critical transportation problems and issues. The highway system is reaching an advanced stage of its life cycle, transportation finance is unsustainable, public transit operating deficits are growing, the quality of transportation available to many citizens is unacceptably low, serious inequities exist between transportation modes, and extensive changes are called for in traditional transportation institutions. New approaches to financing the nation's road system are badly needed.

Transportation engineers and planners draw on a number of skills to respond to the challenges they face. They must analyze and forecast the movement of people and goods within and between cities; identify effective and efficient means for providing desired transportation services; price these services properly; and evaluate the impact that transportation changes have on land use, environmental quality, economic activity, the local or regional economy, and various subgroups within society.

No single academic discipline can supply all of the theories, principles, or methods needed to address the varied and complex problems in transportation. Recognizing this, the Department of Civil and Environmental Engineering [p. 1343] and the School of Urban and Regional Planning [p. 1492] participate in the interdisciplinary Transportation Studies Program, through which students in the participating units can earn the Certificate in Transportation Studies along with their graduate degrees.

The Departments of Industrial and Systems Engineering [p. 1381] and Mechanical Engineering [p. 1395] also participate in the transportation certificate program, offering courses in human factors and safety issues in transportation, and the Department of Geographical and Sustainability Sciences [p. 496] offers courses in geographic information systems (GIS), location theory, and other related areas. The Certificate in Transportation Studies is coordinated by the School of Urban and Regional Planning [p. 1492].

Programs

Graduate Program of Study

Certificate

- Certificate in Transportation Studies [p. 1491]

Transportation Studies, Graduate Certificate

The graduate Certificate in Transportation Studies requires 18 s.h. of graduate credit. Students may earn the certificate in conjunction with an M.S. or Ph.D. in civil and environmental engineering or with an M.A. or M.S. in urban and regional planning.

Individuals working toward degrees in other transportation-related disciplines are encouraged to apply to the Transportation Studies Program. Depending on a student's background, additional course work in statistics, computer programming, simulation, mathematics, and operations research may be required for the certificate. Credit earned in these courses may not be applicable to a student's degree program.

Students enrolled in the certificate program may wish to participate in faculty-led transportation research, which may explore topics such as system planning, traffic operations and engineering, spatial data systems and analysis, simulation applications, and policy issues.

Certificate/M.S. or Ph.D. in Civil and Environmental Engineering

Students working toward a Master of Science or a Doctor of Philosophy in civil and environmental engineering may earn the Certificate in Transportation Studies by completing a total of 18 s.h. from the courses listed below. Not all courses are offered every semester; view MyUI to determine when specific courses are offered.

Code	Title	Hours
Fall Semester		
Students must take at least three of these fall semester courses:		
CEE:4762	Design of Transportation Systems	3
CEE:4763	Traffic Engineering	3
CEE:4764	Winter Highway Maintenance	3
CEE:5678	Application Simulation to Transportation	3
URP:6266	Transportation and Land Use Planning	3
Spring Semester		
Students must take all of these spring semester courses:		
CEE:4160	Introduction to Bridge Engineering	3
CEE:4176	Transportation Demand Analysis	3
URP:6260	Transportation Policy and Planning	3

Engineering students may apply to the certificate program through the Graduate College and the Department of Civil and Environmental Engineering. See Civil and Environmental Engineering [p. 1343] (College of Engineering) for information about graduate study and degree requirements in that department.

Certificate/M.A. or M.S. in Urban and Regional Planning

Students working toward a Master of Arts or Master of Science in urban and regional planning may earn the Certificate in Transportation Studies by completing a total of 18 s.h. from the courses listed below. Not all courses are offered every semester; view MyUI to determine when specific courses are offered.

Code	Title	Hours
Fall Semester		
URP:6265	Planning Sustainable Transportation	3
URP:6266	Transportation and Land Use Planning	3
URP:6268	Freight Transportation Planning	3
URP:6269	Transportation Program Seminar	1
URP:6290	Economic Impact Assessment	3
Spring Semester		
URP:3360	Urban Transportation	arr.
URP:4262	Transportation Demand Analysis	3
URP:6233	Financing Local Government	3
URP:6260	Transportation Policy and Planning	3
URP:6264	Transportation Planning Process	2-3

Urban and regional planning students may apply to the certificate program through the Graduate College and the School of Urban and Regional Planning. See Urban and Regional Planning [p. 1492] (Graduate College) for information about graduate study and degree requirements in the school.

Urban and Regional Planning

Director

- Charles E. Connerly

Graduate degrees: M.A. in urban and regional planning; M.S. in urban and regional planning

Faculty: <https://www.urban.uiowa.edu/faculty-and-staff>

Website: <https://www.urban.uiowa.edu>

Urban and regional planning encompasses the development and implementation of public policies that improve the quality of life in cities and regions.

Related Certificate

Transportation Studies

The Transportation Studies Program offers the Certificate in Transportation Studies, which requires 18 s.h. of graduate credit. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), and the School of Urban and Regional Planning (Graduate College) participate in the program.

The certificate is coordinated by the School of Urban and Regional Planning. See the Certificate in Transportation Studies [p. 1491] (Graduate College) in the Catalog.

Programs

Graduate Programs of Study

Majors

- Master of Arts in Urban and Regional Planning [p. 1496]
- Master of Science in Urban and Regional Planning [p. 1499]

Courses

Urban and Regional Planning Courses

URP:2013 Introduction to Sustainability arr.

Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). Same as BUS:2013, GEOG:2013.

URP:3001 Planning Livable Cities 3 s.h.

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as GEOG:3920.

URP:3134 Regional and Urban Economics 3 s.h.

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: ECON:1100. Same as ECON:3640.

URP:3135 Environmental and Natural Resource Economics 3 s.h.

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: ECON:1100. Same as ECON:3625.

URP:3217 Negotiation and Conflict Resolution 3 s.h.

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios. Same as RHET:3009.

URP:3350 Transportation Economics 3 s.h.

Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as ECON:3750, GEOG:3940.

URP:3360 Urban Transportation arr.

Transportation in the urban market; urban transport modes, technologies, costs, pricing, and ways to develop and analyze urban policy in order to promote city livability and sustainability; development of urban transportation and transport operations in the U.S. and worldwide; urban transport policies, plans, and policy development processes; major urban transportation issues, investigation of possible means of attacking urban transportation issues. Prerequisites: ECON:1100. Same as ECON:3770.

URP:4170 Megacities Seminar 1-3 s.h.

Global historical, political, economic, urban, and cultural aspects of megacity development; planning methods to address contemporary and emerging issues; critical analysis of peer-reviewed literature and computational simulations; topics include urban sprawl, poverty and inequality, economies, food scarcity, population growth, governance models, environmental and health concerns, sustainability.

URP:4262 Transportation Demand Analysis 3 s.h.

City planning procedures and traffic engineering techniques applied to transportation problems; trip generation, distribution, assignment, mode choice models; travel surveys, data collection techniques; arterial flow, intersection performance, parking; transit system analysis. Same as CEE:4176.

URP:4750 Environmental Impact Analysis 4 s.h.

In-depth exposure to the history and evolution of the U.S. Environmental Impact Assessment (EIA) process; discussion of major court cases; ecological, economic, and political aspects of current environmental controversies; exposure to real-world scenarios that are crucial to understanding the EIA process in action; field trips to six or seven environmental control facilities in Iowa City and neighboring areas. Prerequisites: GEOG:1070. Same as GEOG:4750.

URP:4752 Eight Generational Planning: Envisioning Cities for Year 2228 3 s.h.

Star Trek tells us that Captain Kirk will be born in Iowa in 2228, what should cities look like in that year? Students envision and design great regenerative cities in the age of Anthropocene—the period we are in which features substantial human influence on climate and the environment; exploration of contemporary philosophies and urban strategies for sustainability, resilience, post-scarcity abundance, human well-being, social inclusiveness, and justice in an era of rapid changes in society, technology, climate, and environment.

URP:5678 Application Simulation to Transportation 3 s.h.

Transportation system management and traffic engineering; application of real-time simulation and visualization. Prerequisites: CEE:3763 or CEE:4763. Same as CEE:5678.

URP:5800 Environmental Economics and Policy 3 s.h.

Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies. Same as GEOG:5800.

URP:6200 Analytic Methods I 1-3 s.h.

Methods used in planning and policy analysis; emphasis on application of statistical techniques and quantitative reasoning to planning problems; use of computers and data systems in planning analysis.

URP:6201 Analytic Methods II 3 s.h.

Integration of methods with the planning process; application of multiple regression, population estimation and projection, survey methods, time series analysis, industrial growth and change; presentation of results to decision makers and the public. Prerequisites: URP:6200.

URP:6202 Land Use Planning: Law and Practice 4 s.h.

Legal, social foundations of land use planning; comprehensive planning, zoning and subdivision review; legal aspects of land use, environmental planning; ordinance drafting; staff report writing; citizen participation.

URP:6203 History and Theories of Planning 3 s.h.

History of urban planning in America as a reflection of social and economic forces; alternative planning philosophies, roles, and ethical choices open to planners. Same as HIST:6203.

URP:6205 Economics for Policy Analysis 3 s.h.

Principles of economics for planners; concepts and techniques of microeconomic analysis; income inequality; the role of government in the economy; tax and pricing policy; project evaluation; externalities.

URP:6208 Program Seminar in Planning Practice 1 s.h.

Planning process, roles of planners, professional ethics and standards.

URP:6209 Field Problems in Planning I 3 s.h.

Experience working on a two-semester project involving a current planning issue, usually for a client. Requirements: urban and regional planning graduate standing.

URP:6210 Field Problems in Planning II 3 s.h.

Continuation of URP:6209. Prerequisites: URP:6209. Requirements: urban and regional planning graduate standing.

URP:6211 Community Outreach Practicum 1-3 s.h.

Application of planning skills to community work by non-profit organizations in local area; urban planners contributing to their communities; community outreach.

URP:6225 Applied GIS for Planners 3 s.h.

Analysis of Census of Population data using GIS software; data and analytical needs of urban planners; coverage of GIS topics to plan functions of GIS and spatial analysis, varied GIS software in a planning organization; structure of the Census.

URP:6227 Spatial Analysis in Planning 3 s.h.

Databases, GIS, planning support systems; spatial model building and use of spatial statistics; applications to substantive problems in transportation, environment, housing, economic development. Recommendations: completion of an introductory GIS course.

URP:6228 GIS for Local Government 1 s.h.

Development, maintenance, and operation of an enterprise-wide Geographic Information System (GIS); implementation of a parcel-based data system model common to government entities; practical experience using data for land-use planning analysis.

URP:6229 Practicum 1-5 s.h.

Full-time internship of at least five months with a planning-related organization. Requirements: urban and regional planning graduate standing.

URP:6233 Financing Local Government 3 s.h.

Financing of local government infrastructure through property taxes, bonding, impact fees, pricing, tax increment financing; institutional alternatives—downtown improvement districts, special districts, homeowners' associations; fiscal disparities and regional finance; case studies. Prerequisites: URP:6205.

URP:6235 Geodatabases and GIS 1 s.h.

Geodatabase implementation in the management of large GIS data sets. Prerequisites: URP:6225.

URP:6242 Planning and City Administration 1 s.h.

Relationship of planners and other local government personnel; how planning fits into city management; city management view of local political process, provision of city services, finance and budgeting, human resources, intergovernmental relations, how meetings are run, dealing with the public.

URP:6243 The Land Development Process 3 s.h.

How land is developed; analysis of site suitability, preparation of subdivision plan, site plan review, development approval process, infrastructure and site preparation, negotiating local development politics; field trips. Prerequisites: URP:6202.

URP:6245 Growth Management 3 s.h.

Causes and consequences of urban sprawl, shortfalls in conventional land use planning; local and state growth management policies, techniques of policy implementation, positive and negative impacts of such policies; Smart Growth; emerging challenges. Prerequisites: URP:6202.

URP:6249 Sustainability Seminar 1 s.h.

Focus of increasing interest for planning students and practicing planners; involves environmental effects, economy, social justice; discussion and investigation of sustainability practice applied to local and regional efforts of public and private entities; greater awareness and understanding of the effectiveness and resource requirements of local activities addressing sustainability; presentations by the instructor, local tours, guest lectures.

URP:6253 Designing Sustainable and Healthy Cities**3 s.h.**

Principles and practical elements of urban design for sustainable and healthy cities; general urban design background for policy makers and planners; impacts of urban design for environmental sustainability and for community health and well-being; physical, mental, social, and environmental health as they are affected by urban form, air and water quality, green spaces and climate change impacts.

URP:6256 Environmental Policy**3 s.h.**

Environmental policy formation and politics; comparative international perspective on the United States' experience.

URP:6257 Environmental Management**3 s.h.**

Environmental best management practices for sustainable management of natural resources; open space and habitat protection, prairie and wetland restoration, water supplies management, natural hazard mitigation, farmland protection.

URP:6258 Modeling Dynamic Systems**3 s.h.**

Nonlinear dynamics in human-environment relationships; quantitative modeling of global environment processes; environment modeling for policy and land use planning; introduction to fundamentals of linked global-scale environment processes from a systems perspective, focus on historical and contemporary role of human activities in altering flows of energy and mass within the Earth system; hands-on simulation and group games to understand feedback loops in complex systems, with applications to land use, water, climate, ecosystems, and nutrient cycles across time and spatial scales; emphasis on quantifying effects of policies and planning on environmental change.

URP:6260 Transportation Policy and Planning**3 s.h.**

Institutional setting for transportation planning, evolution of domestic transportation policy, international influences, transportation modes and markets, current sources of transportation planning information, emerging policy issues.

URP:6264 Transportation Planning Process**2-3 s.h.**

Technical issues, political interface, citizen involvement, intermodal questions, public versus private roles; review and critique of transportation plans.

URP:6265 Planning Sustainable Transportation**2-4 s.h.**

Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as GEOG:6264.

URP:6266 Transportation and Land Use Planning**3 s.h.**

Policies and interactions between transportation and land use; location theories and practices; transportation infrastructure, land use, travel behavior modeling; current policies that influence travel behavior and urban form.

URP:6268 Freight Transportation Planning**3-4 s.h.**

Freight transportation planning in the United States; surface modes, primarily trucking and rail, as well as trade-offs in bulk movements by inland waterways and pipelines; comparison with recent developments in policy, planning, and practice for surface transportation in other developed economies (e.g., Europe).

URP:6269 Transportation Program Seminar**1 s.h.**

Transportation finance, safety and economic regulation, planning processes, management, government policy issues at federal, state, and local levels.

URP:6271 Housing Policy**3 s.h.**

Recent housing policy initiatives at federal, state, and local levels.

URP:6273 Community Development in the Upper Midwest**3 s.h.**

Examination of issues, challenges, and possible solutions confronting small-to-medium sized towns, typically under 50,000 people, in Iowa and elsewhere in the Upper Midwest (Illinois, Wisconsin, Minnesota); students and faculty partner with an Iowa community to develop ideas and plans for community revitalization.

URP:6277 Affordable Housing Finance**3 s.h.**

Financing development or rehabilitation of affordable housing; low-income housing tax credits, the housing finance system and current regulatory issues, mortgage discrimination, improving financing for rental housing.

URP:6278 Nonprofit Organizational Effectiveness I**3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, LAW:8751, MGMT:9150, RELS:6070, SPST:6010, SSW:6247.

URP:6279 Nonprofit Organizational Effectiveness II**3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, LAW:8752, MGMT:9160, RELS:6075, SPST:6020, SSW:6248.

URP:6280 Planning for Disaster Mitigation and Recovery**2-3 s.h.**

Types of disasters that communities face; what role planners play, what role should they play; importance of hazard mitigation and planning for post-disaster recovery; where planners' unique skills play the most significant roles in aiding a community to redesign a safer future.

URP:6282 Grant Writing**1-2 s.h.**

Same as SSW:6282.

URP:6290 Economic Impact Assessment**3 s.h.**

Economic impact and growth analysis, including economic base, income expenditure, input-output analysis; use of economic impact analysis in a cost-benefit context; industrial location and mobility theory with statistics applications. Prerequisites: URP:6205.

URP:6295 Economic Development Policy**3 s.h.**

Analysis of policies and programs at national, regional, state, and local levels that address problems of economic growth, development, decline.

URP:6297 Economic Development Finance**3 s.h.**

Business financial statements and evaluation of loan proposals; small business finance including financing working capital, fixed assets, and real estate; economic development agencies and institutions; and case studies of economic development financing. Prerequisites: URP:6205.

URP:6305 Readings**arr.****URP:6315 Independent Study in Planning****1-6 s.h.**

Research and analysis of a special planning problem; opportunity to apply knowledge in area of specialization.

URP:6320 Introduction to Graphic Communications**2 s.h.**

Visual communication techniques through use of print and digital media; how to graphically convey concepts and information to a variety of audiences; basic design principles to build a foundation in graphic communication; relationships between various software packages; advantages and shortcomings of various digital tools; development of professional graphic media that is beautiful and effective.

URP:6325 Thesis: Urban and Regional Planning **arr.****URP:6330 Developing Graphic Content** **1 s.h.**

Skills necessary to develop graphic content utilized by professionals in the field of urban and regional planning; students learn to use programs such as SketchUp, LayOut, Google Earth, and Lumion; produce maps, diagrams, experiential perspectives, renderings, and other visuals; and convey a variety of ideas pertaining to the urban environment.

URP:6335 Internship **2 s.h.**

Work in a planning or related agency or nonprofit organization.

URP:6400 Sustainable Development: The Kerala Experience **3 s.h.**

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services. Winter session.

Urban and Regional Planning, M.A.

The M.A. in urban and regional planning is a two-year degree program fully accredited by the Planning Accreditation Board. It is built on the premise that planners must be educated in methods of policy analysis and that there is a common body of knowledge, represented in the core curriculum, that provides a solid foundation for all specializations in the field.

A wide range of educational backgrounds provide good preparation for graduate study in urban and regional planning. Students with undergraduate majors such as animal ecology, architecture, computer science, economics, engineering, English, finance, geography, history, marketing, political science, sociology, and urban studies currently study in the school. With an increasingly diverse student body and a low student-faculty ratio, the School of Urban and Regional Planning is committed to creating an environment that is inclusive and welcoming of all students. Approximately 45 full-time students and a few part-time students are enrolled, and about 25 percent are international students.

The common core of courses and the design of the facilities allow students to get to know each other quickly. Students interact closely with faculty members in the classroom, in informal conversation, and while working on research projects. Students and faculty also collaborate in the second year capstone courses, URP:6209 Field Problems in Planning I and URP:6210 Field Problems in Planning II, to prepare plans and reports for communities throughout Iowa. This work is supported by the University's Iowa Initiative for Sustainable Communities, which was created by the School of Urban and Regional Planning in 2009.

Graduate students working toward a master's degree in urban and regional planning may elect to pursue one of the combined degree programs offered by the school in collaboration with the College of Engineering, the College of Law, the College of Public Health, the Department of Geographical and Sustainability Sciences, the School of Social Work, and with Higher Education and Student Affairs (HESA).

Requirements

The Master of Arts program in urban and regional planning requires 50 s.h. of graduate credit. The 50 s.h. required to complete the degree must be comprised of a minimum of 35 s.h. in the School of Urban and Regional Planning. Students must earn a grade of B-minus or higher in all core and concentration area courses and must maintain an overall graduate g.p.a. of at least 3.00.

The graduate curriculum is based on the philosophy that planners must develop the theoretical and analytic skills that will permit them to analyze social problems and evaluate public policies. Planners also must cultivate professional skills such as report writing, oral presentation, computer use, and team management in order to work effectively in various organizational and political environments.

Work for the master's degree includes core courses, an area of concentration, electives, and capstone courses. A final examination is required. A thesis is not required, although students may petition to write one. Students are encouraged to complete an approved internship or practicum.

The M.A. with a major in urban and regional planning requires the following work.

Core Curriculum

The core curriculum helps students develop an understanding of the institutions—social, economic, political, administrative, and legal systems—that provide the context for policy analysis and that constrain public choices. It also promotes development of the ability to identify social goals and normative criteria for evaluating public policies, as well as the analytic skills to perform such investigations.

The core requires a total of 23 s.h., including at least 3 s.h. in an advanced economic methods course. The advanced economics methods course usually is taken during the first three semesters. Early core courses are drawn primarily from traditional disciplines, particularly economics and statistics, and include an introduction to land use planning and to theories and practice of planning. As students proceed through the curriculum, increasing emphasis is placed on the development of critical judgment and insight, achieved through the application of theory and methods to realistic planning problems and case studies.

The core curriculum includes the following courses; students may request a waiver of selected core courses on the basis of previous course work.

Code	Title	Hours
All of these:		
URP:6200	Analytic Methods I	3
URP:6201	Analytic Methods II	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6203	History and Theories of Planning	3
URP:6205	Economics for Policy Analysis	3
URP:6208	Program Seminar in Planning Practice	1
URP:6258	Modeling Dynamic Systems	3
Advanced Economic Methods		
At least one of these:		
URP:6233	Financing Local Government	3
URP:6290	Economic Impact Assessment	3

Concentration Area

Beginning in the second semester, students choose a concentration area and develop it by applying the concepts and skills developed in the core. Currently, the school's faculty and course offerings support five concentration areas: transportation planning, housing and community development, economic development, land use and environmental planning, and geographic information systems.

Students complete at least 9 s.h. of courses in their concentration area. Courses offered by other University departments and programs may supplement those offered by the School of Urban and Regional Planning.

Students may combine two concentration areas. Examples of combined areas are environmental and economic development planning, and transportation and community development planning. Students also may design other concentration areas, subject to faculty approval. For example, they may specialize in health services planning.

with appropriate course work in the Department of Health Management and Policy or Occupational and Environmental Health, or in human services planning with courses in the School of Social Work.

Capstone Courses

Students complete the following two capstone courses, usually during the third and fourth semesters. Students who complete a practicum are exempt from this requirement.

Code	Title	Hours
URP:6209	Field Problems in Planning I	3
URP:6210	Field Problems in Planning II	3

Internship

Students are encouraged to complete an internship in a planning agency or related organization. To earn 2 s.h. of credit for the internship, students must submit a brief paper summarizing and evaluating their experience. Internships usually are paid staff positions and are completed during the summer between the first and second years or during the academic year.

Practicum

An extended internship, consisting of at least five months of full-time employment in a planning-related organization, may qualify as a practicum. A practicum generally takes place during summer after the first year and into the fall semester of the second year. It carries 5 s.h. of credit and substitutes for the internship and the capstone courses.

Thesis

A thesis is not required, although students may petition to write one. Students may register for up to 6 s.h. of thesis credit. In addition, they may take up to 8 s.h. of readings to develop a thesis topic and prepare a literature review.

Final Exam

A final examination is required for all students. An oral and written exam constitutes the final exam for students who do not write a thesis.

Combined Programs

The School of Urban and Regional Planning participates in several combined degree programs, in which students work toward an M.A. in urban and regional planning at the same time they work toward another degree. Combined degree programs enable students to earn both degrees in less time than it would take to earn the two degrees separately (see "Two Master's Degrees" under Master's Degrees in the Manual of Rules and Regulations of the Graduate College). The following combined degree programs are available.

- B.S.E. in civil engineering/M.A.; see the Bachelor of Science in Engineering [p. 1311] and the B.S.E. in civil engineering [p. 1353] (College of Engineering) in the Catalog.
- B.A. or B.S. in environmental policy and planning/M.A.; see Environmental Policy and Planning [p. 401] (College of Liberal Arts and Sciences) in the Catalog.
- J.D./M.A.; see Juris Doctor [p. 1518] (College of Law) in the Catalog.

- M.A. in educational policy and leadership studies (higher education and student affairs subprogram)/M.A.; see the M.A. in educational policy and leadership studies [p. 1200] with a higher education and student affairs subprogram (College of Education) in the Catalog.
- M.S. in occupational and environmental health/M.A.; see the M.S. in occupational and environmental health [p. 1781] (College of Public Health) in the Catalog.
- M.S.W./M.A.; see the Master of Social Work [p. 928] (College of Liberal Arts and Sciences) in the Catalog.

Requirements for each combined degree program can vary. The minimum requirements for the urban and regional planning part of any combined degree include completion of at least 35 s.h. in School of Urban and Regional Planning courses (prefix URP), the core and capstone courses, 9 s.h. of a concentration, and the master's degree final examination. In the case of two master's degrees, all programs require at least 60 s.h. of credit.

Students who wish to enter a combined degree program must apply to each of the two degree programs separately; they must be admitted to both programs before they may be admitted to the combined program. Contact the admissions coordinator at the School of Urban and Regional Planning for more information about combined degree programs.

Admission

Admission to the School of Urban and Regional Planning is open to students from any undergraduate major or concentration area.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Admission is based on Graduate Record Examination (GRE) General Test scores (verbal, quantitative, and analytical writing), letters of recommendation, previous academic performance, and a written statement of purpose. Law School Admission Test (LSAT) and Graduate Management Admission Test (GMAT) scores also are accepted.

Applicants should submit an application form, GRE General Test scores, Test of English as a Foreign Language (TOEFL) scores for students whose first language is not English, recommendation letters, statement of purpose, and transcripts.

For fall admission, applications should be submitted to arrive early in the year (preferably by January 15), although applications are accepted until July 15 (April 15 for international students). Applications for spring admission should be received by October 1 and no later than December 1. Fall admission is strongly preferred. Students applying for financial aid should submit their materials by January 15.

Financial Support

Students in the School of Urban and Regional Planning receive financial support from the program primarily from teaching or research assistantships and from contract or grant-funded assistantships. Assistantships typically require 10 hours of work per week under the direction of a faculty member and are accompanied by a tuition scholarship.

Students initiate applications for financial support, and awards are made on the basis of merit, experience, and interests.

Assistantships may be renewed for a total of up to four semesters.

Students applying for financial support are encouraged to submit application materials and requests for support by January 15. Students who apply after that date are considered only as remaining funds permit. Financial support usually is not available for students beginning the program in the spring semester.

Career Advancement

Today's planners find themselves in demand for such diverse jobs as sustainability coordinator and planner, environmental analyst with a natural resources agency, land use planner, transportation planner, community development planner, community organizer, economic development planner, recycling coordinator, planning director, neighborhood planner, state legislative analyst, planning consultant, and nonprofit project manager or director.

Recent graduates have taken positions with city, metropolitan, and regional planning agencies, state and federal government, nonprofit organizations, and private consulting firms. They work in all geographic regions of the United States and in countries around the world.

Urban and Regional Planning, M.S.

The M.S. in urban and regional planning is a two-year degree program fully accredited by the Planning Accreditation Board. It is built on the premise that planners must be educated in methods of policy analysis and that there is a common body of knowledge, represented in the core curriculum, that provides a solid foundation for all specializations in the field.

A wide range of educational backgrounds provide good preparation for graduate study in urban and regional planning. Students with undergraduate majors such as animal ecology, architecture, computer science, economics, engineering, English, finance, geography, history, marketing, political science, sociology, and urban studies currently study in the school. With an increasingly diverse student body and a low student-faculty ratio, the School of Urban and Regional Planning is committed to creating an environment that is inclusive and welcoming of all students. Approximately 45 full-time students and a few part-time students are enrolled, and about 25 percent are international students.

The common core of courses and the design of the facilities allow students to get to know each other quickly. Students interact closely with faculty members in the classroom, in informal conversation, and while working on research projects. Students and faculty also collaborate in the second year capstone courses, URP:6209 Field Problems in Planning I and URP:6210 Field Problems in Planning II, to prepare plans and reports for communities throughout Iowa. This work is supported by the University's Iowa Initiative for Sustainable Communities, which was created by the School of Urban and Regional Planning in 2009.

Graduate students working toward a master's degree in urban and regional planning may elect to pursue one of the combined degree programs offered by the school in collaboration with the College of Engineering, the College of Law, the College of Public Health, the Department of Geographical and Sustainability Sciences, the School of Social Work, and with Higher Education and Student Affairs (HESA).

Requirements

The Master of Science program in urban and regional planning requires 50 s.h. of graduate credit. The 50 s.h. required to complete the degree must be comprised of a minimum of 35 s.h. in the School of Urban and Regional Planning. Students must earn a grade of B-minus or higher in all core and concentration area courses and must maintain an overall graduate g.p.a. of at least 3.00.

The graduate curriculum is based on the philosophy that planners must develop the theoretical and analytic skills that will permit them to analyze social problems and evaluate public policies. Planners also must cultivate professional skills such as report writing, oral presentation, computer use, and team management in order to work effectively in various organizational and political environments.

Work for the master's degree includes core courses, an area of concentration, electives, and capstone courses. A final examination is required. A thesis is not required, although students may petition to write one. Students are encouraged to complete an approved internship or practicum.

The M.S. with a major in urban and regional planning requires the following work.

Core Curriculum

The core curriculum helps students develop an understanding of the institutions—social, economic, political, administrative, and legal systems—that provide the context for policy analysis and that constrain public choices. It also promotes development of the ability to identify social goals and normative criteria for evaluating public policies, as well as the analytic skills to perform such investigations.

The core requires a total of 23 s.h., including at least 3 s.h. in an advanced economic methods course. The advanced economics methods course usually is taken during the first three semesters. Early core courses are drawn primarily from traditional disciplines, particularly economics and statistics, and include an introduction to land use planning and to theories and practice of planning. As students proceed through the curriculum, increasing emphasis is placed on the development of critical judgment and insight, achieved through the application of theory and methods to realistic planning problems and case studies.

The core curriculum includes the following courses; students may request a waiver of selected core courses on the basis of previous course work.

Code	Title	Hours
All of these:		
URP:6200	Analytic Methods I	3
URP:6201	Analytic Methods II	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6203	History and Theories of Planning	3
URP:6205	Economics for Policy Analysis	3
URP:6208	Program Seminar in Planning Practice	1
URP:6258	Modeling Dynamic Systems	3
Advanced Economic Methods		
At least one of these:		
URP:6233	Financing Local Government	3
URP:6290	Economic Impact Assessment	3

Concentration Area

Beginning in the second semester, students choose a concentration area and develop it by applying the concepts and skills developed in the core. Currently, the school's faculty and course offerings support five concentration areas: transportation planning, housing and community development, economic development, land use and environmental planning, and geographic information systems.

Students complete at least 9 s.h. of courses in their concentration area. Courses offered by other University departments and programs may supplement those offered by the School of Urban and Regional Planning.

Students may combine two concentration areas. Examples of combined areas are environmental and economic development planning, and transportation and community development planning. Students also may design other concentration areas, subject to faculty approval. For example, they may specialize in health services planning

with appropriate course work in the Department of Health Management and Policy or Occupational and Environmental Health, or in human services planning with courses in the School of Social Work.

Capstone Courses

Students complete the following two capstone courses, usually during the third and fourth semesters. Students who complete a practicum are exempt from this requirement.

Code	Title	Hours
URP:6209	Field Problems in Planning I	3
URP:6210	Field Problems in Planning II	3

Internship

Students are encouraged to complete an internship in a planning agency or related organization. To earn 2 s.h. of credit for the internship, students must submit a brief paper summarizing and evaluating their experience. Internships usually are paid staff positions and are completed during the summer between the first and second years or during the academic year.

Practicum

An extended internship, consisting of at least five months of full-time employment in a planning-related organization, may qualify as a practicum. A practicum generally takes place during summer after the first year and into the fall semester of the second year. It carries 5 s.h. of credit and substitutes for the internship and the capstone courses.

Thesis

A thesis is not required, although students may petition to write one. Students may register for up to 6 s.h. of thesis credit. In addition, they may take up to 8 s.h. of readings to develop a thesis topic and prepare a literature review.

Final Exam

A final examination is required for all students. An oral and written exam constitutes the final exam for students who do not write a thesis.

Combined Programs

The School of Urban and Regional Planning participates in several combined degree programs, in which students work toward an M.S. in urban and regional planning at the same time they work toward another degree. Combined degree programs enable students to earn both degrees in less time than it would take to earn the two degrees separately (see "Two Master's Degrees" under Master's Degrees in the Manual of Rules and Regulations of the Graduate College for information on earning concurrent master's degrees). The following combined degree programs are available.

- B.S.E. in civil engineering/M.S.; see the Bachelor of Science in Engineering [p. 1311] and the B.S.E. in civil engineering [p. 1353] (College of Engineering) in the Catalog.
- B.A. or B.S. in environmental policy and planning/M.S.; see Environmental Policy and Planning [p. 401] (College of Liberal Arts and Sciences) in the Catalog.
- J.D./M.S.; see Juris Doctor [p. 1518] (College of Law) in the Catalog.

- M.A. in educational policy and leadership studies (higher education and student affairs subprogram)/M.S.; see the M.A. in educational policy and leadership studies [p. 1200] with a higher education and student affairs subprogram (College of Education) in the Catalog.
- M.S. in occupational and environmental health/M.S.; see the M.S. in occupational and environmental health [p. 1781] (College of Public Health) in the Catalog.
- M.S.W./M.S.; see the Master of Social Work [p. 928] (College of Liberal Arts and Sciences) in the Catalog.

Requirements for each combined degree program can vary. The minimum requirements for the urban and regional planning part of any combined degree include completion of at least 35 s.h. in School of Urban and Regional Planning courses (prefix URP), the core and capstone courses, 9 s.h. of a concentration, and the master's degree final examination. In the case of two master's degrees, all programs require at least 60 s.h. of credit.

Students who wish to enter a combined degree program must apply to each of the two degree programs separately; they must be admitted to both programs before they may be admitted to the combined program. Contact the admissions coordinator at the School of Urban and Regional Planning for more information about combined degree programs.

Admission

Admission to the School of Urban and Regional Planning is open to students from any undergraduate major or concentration area.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Admission is based on Graduate Record Examination (GRE) General Test scores (verbal, quantitative, and analytical writing), letters of recommendation, previous academic performance, and a written statement of purpose. Law School Admission Test (LSAT) and Graduate Management Admission Test (GMAT) scores reports also are accepted.

Applicants should submit an application form, GRE General Test scores, Test of English as a Foreign Language (TOEFL) scores for students whose first language is not English, recommendation letters, statement of purpose, and transcripts.

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Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Urban and Regional Planning, M.S.

Course	Title	Hours
First Year		
Fall		
URP:6200	Analytic Methods I	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6203	History and Theories of Planning	3
URP:6205	Economics for Policy Analysis	3
URP:6208	Program Seminar in Planning Practice	1
Hours		14
Spring		
URP:6201	Analytic Methods II	3
Major: Economics methods core course ^a		3
Major: Elective and/or area of concentration course ^b		3
Major: Elective and/or area of concentration course ^b		3
Major: Elective and/or area of concentration course ^b		3
Hours		15
Summer		
Internship: Internship in a planning agency or related organization ^c		
Hours		0
Second Year		
Fall		
URP:6209	Field Problems in Planning I	3
URP:6258	Modeling Dynamic Systems	3
Major: Economics methods core course (if not already taken) ^a		3
Major: Elective and/or area of concentration course ^b		3
Major: Elective and/or area of concentration course ^b		3
Hours		15
Spring		
URP:6210	Field Problems in Planning II	3
Major: Elective and/or area of concentration course ^b		3
Major: Elective and/or area of concentration course ^b		3
Major: Elective and/or area of concentration course ^b		3
Hours		12
Total Hours		56

^a Choose from URP:6233 or URP:6290

^b Complete at least 9 s.h. of courses in a concentration area.

^c To earn 2 s.h. of credit for the internship, submit a brief paper summarizing and evaluating the experience. May also be completed during the academic year.

January 15. Students who apply after that date are considered only as remaining funds permit. Financial support usually is not available for students beginning the program in the spring semester.

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College of Law

Dean

- Kevin K. Washburn

Associate Deans

- Carin N. Crain, Thomas P. Gallanis, Emily A. Hughes, Adrien K. Wing

Assistant Deans

- Collins B. Byrd, Jill De Young, Gordon S. Tribbey

Executive Librarian

- Katherine Hall

Undergraduate certificate: human rights

Professional degrees: J.D.; LL.M.; M.S.L.; S.J.D.

Faculty: <https://law.uiowa.edu/faculty-and-scholarship/faculty-bios-and-expertise>

Website: <https://law.uiowa.edu>

The University of Iowa College of Law is the oldest law school west of the Mississippi River. Founded in 1865 as the Iowa Law School, the college is a charter member of the American Association of Law Schools and an American Bar Association-approved law school.

One of 11 colleges at the University of Iowa, the College of Law is part of Iowa City's unique cultural community. Students, faculty, and staff work together in a friendly, relaxed, and productive environment that puts students' needs first.

A longstanding commitment to inclusion and diversity is a source of pride for the College of Law, which was one of the first schools in the nation to grant a law degree to a woman (1873) and to an African American (1879). Diversity is central to the college's educational philosophy and to its core mission of preparing culturally proficient graduates who are capable of intellectual inquiry, critical and reflective thinking, and engagement.

Iowa's challenging law school curriculum carefully balances substantive courses, perspective offerings, examination of ethical values and professionalism, and experiential programs, including a highly active in-house legal clinic. The college's low student-faculty ratio and the faculty's open-door policy ensure that students have opportunities for interaction and collaboration with their law professors.

The college's writing program—one of the strongest among law schools nationwide—is integral to all students' academic experience. During both semesters of their first year, students take a small-section course in legal analysis, writing, and research. During the second and third years, they complete four additional writing units. Among opportunities for completing the writing requirement is work on one of the law school's four student-run scholarly journals: *Iowa Law Review*; *Journal of Corporation Law*; *Journal of Gender, Race & Justice*; and *Transnational Law & Contemporary Problems*.

Programs

Undergraduate Program of Study

- Certificate in Human Rights (under University of Iowa Center for Human Rights [p. 1523])

Professional Programs of Study

- Juris Doctor [p. 1518]
- Master of Laws [p. 1520]
- Master of Studies in Law [p. 1521]
- Doctor of Juridical Science [p. 1522]

Facilities

Facilities and Resources

Boyd Law Building

The Willard L. Boyd Law Building, completed in 1986, exemplifies Iowa's continuing commitment to legal education and the legal profession. The building's large, circular structure reflects the special character of the Iowa law school and allows the college to operate in a physical environment in which every square foot of space is designed to promote the college's academic and professional programs.

Among the building's facilities are classrooms, the Levitt Auditorium, the Law Library, faculty and administrative offices, offices for the college's cocurricular programs, meeting rooms, and a bookstore. The first floor features the new Lauridsen Family Law Commons, a renovation project completed in 2016. This space provides ample areas for studying, including two conference rooms, two seminar rooms, and the Court Café. The third floor of the Boyd Law Building is where the college's clinical law programs are located. This suite functions as a teaching law firm, offering ease of access, usability, and visibility.

Law Library

The centerpiece of the Boyd Law Building is the University of Iowa Law Library. The Law Library has one of the most comprehensive collections of legal materials in the country, containing more than 1.3 million separately cataloged titles. A particular strength of the library is its collection of U.S. legal materials. The Law Library also holds an exceptionally strong collection of materials in foreign, comparative, and international law, including a print collection comprising more than 280,000 volumes and over 1,500 serials and subscriptions.

Research Centers and Programs

Participation in research centers and outreach programs is an important part of the College of Law's service to professional and civic communities.

Iowa Innovation, Business & Law Center

The Iowa Innovation, Business & Law Center is an interdisciplinary teaching and research venture that brings together faculty members who teach and study problems of business, technology, innovation, regulation, and legal policy from diverse perspectives. The center's purpose is twofold: first, it offers an innovative curriculum and outstanding legal training in areas pertaining to government regulation of entrepreneurship, innovation, and management of resources; second, it encourages creative individual and collaborative interdisciplinary research in these areas.

Institute of Public Affairs

The Institute of Public Affairs provides services and information to help maintain and strengthen the effectiveness

of Iowa's local governments. The institute facilitates goal setting and strategic planning, educational programs and information, professional development, and public management assistance, and offers information and publications, outreach, and linkage with other University programs and activities. The Institute provides training for newly elected mayors and council members through a municipal leadership academy and publishes the *Iowa Municipal Policy Leader's Handbook* for city officials. It also holds the annual Iowa Municipal Management Institute, a professional development conference for city and county managers and administrators in Iowa.

Labor Center

The University of Iowa Labor Center provides educational programs and research support to Iowa's working people and their organizations. Since 1951, the Labor Center has acted as a bridge between the University and Iowa's labor community.

Larned A. Waterman Iowa Nonprofit Resource Center

The Larned A. Waterman Iowa Nonprofit Resource Center offers information and assistance from across the University of Iowa to help Iowa's charitable nonprofit organizations become more effective in building their communities.

Law, Health Policy & Disability Center

The Law, Health Policy & Disability Center is a leader in law, technology, education, and research focused on improving the quality of life for persons living with disabilities. Based at the University of Iowa College of Law, the center concentrates on public policy and its impact on persons with disabilities, emphasizing employment, self-determination, and self-sufficiency.

National Health Law and Policy Resource Center

The National Health Law and Policy Resource Center, founded in 1981, promotes laws and public policies that foster and facilitate accessible, affordable, and quality health services and related services for all Americans, particularly members of vulnerable and disadvantaged populations. The center provides a nonpartisan forum for informed dialogue between academics, practitioners, and public policy makers based on the best available data and information about important health law and policy issues.

University of Iowa Center for Human Rights

The University of Iowa Center for Human Rights was founded in 1999 as an outgrowth of the University's year-long commemoration celebrating the 50th anniversary of the Universal Declaration of Human Rights. Based in the College of Law, the center engages in human rights teaching, scholarship, and public engagement.

Courses

- Law Courses [p. 1503]
- Law Study Abroad Courses [p. 1517]

The following courses are those offered by the College of Law during the past four academic years and those scheduled to be offered during the coming academic year. See the Guide to Courses under Courses and Curriculum on the College

of Law website for a list of College of Law courses defined by Interpretation 509-1 of the American Bar Association Standards for the Approval of Law Schools.

Law Courses

LAW:8006 Civil Procedure 4 s.h.

Procedure before trial; commencement of a suit; subject matter jurisdiction; jurisdiction over the person and venue; pleadings, motion practice, including summary judgment, simple joinder of parties and claims in determining scope and size of the lawsuit; pretrial discovery procedures, the trial, claim and issue preclusion.

LAW:8010 Constitutional Law I 3 s.h.

Constitutional allocation of governmental powers; doctrine of judicial review and nature of judicial function in constitutional cases; relationships among several branches of national government; the federal system, including powers delegated to national government, powers reserved to states, and intergovernmental immunities; role of judicial process in structuring limits within which society operates; institutional development of legal system, relationship among institutions within the system.

LAW:8017 Contracts 4 s.h.

Law that governs the otherwise unregulated sector of the economy and concerns the making and enforcement of promises, usually as part of a bargain; basics-formation of agreements, consideration, invalidating causes, parole evidence and interpretation, conditions, remedies; roles of promises and promissory exchanges in a modern economy; limitations the law places on freedom of contract.

LAW:8022 Criminal Law 3 s.h.

Basic understanding of substantive criminal law; underlying premises of and justifications for criminal law; emphasis on general doctrines that dictate the minimum elements necessary to impose criminal liability, essential requirements of culpable conduct (an *actus reus*, or guilty act), blameworthy mental state (a *mens rea* or guilty mind); rape, homicide, causation, attempt, conspiracy, accomplice liability; various defenses to criminality, such as self-defense, duress, intoxication, insanity, diminished capacity.

LAW:8026 Introduction to Law and Legal Reasoning 1 s.h.

Basic concepts and intellectual skills necessary for understanding the first-year curriculum.

LAW:8032 Legal Analysis Writing and Research I 2 s.h.

Structured development of effective skills in legal analysis, writing, and research; first of a two-semester sequence.

LAW:8033 Legal Analysis Writing and Research II 2 s.h.

Structured development of effective skills in legal analysis, writing, and research; second of a two-semester sequence. Prerequisites: LAW:8032.

LAW:8034 Extended Legal Analysis Writing and Research II 5 s.h.

Legal analysis, research, writing, and law-practice skills for non-native English speakers; recognition and analysis of legal issues, effective oral and written communication with clients and the court; persuasive writing; negotiation; oral argument; sentence-level effectiveness; interpreting statutes; emphasis on effective teamwork. Prerequisites: LAW:8032.

LAW:8037 Property**4 s.h.**

Concept of private property as one of the legal system's basic foundations; historical development of Anglo-American property law examined in conjunction with changing currents of economic, social, and political thought; emphasis on understanding decision making by courts in the common-law tradition, and its interplay with legislative enactments intended to change the common law; fundamental notions relating to the origins of property rights; relationship of possession and ownership, with emphasis on capacity of property law to recognize a wide range of interest configurations; impetus for promoting ease and reliability in conveyance of property interests, commercially and gratuitously; function of public recording in providing stability to transfers of interest in land; role of adverse possession and prescriptive use in recognizing expectations based on long-standing property relationships; responsiveness of property law to social change as illustrated by modern reforms in landlord-tenant act.

LAW:8046 Torts**4 s.h.**

Development of tort principles; civil responsibility for harms to tangible personal and property interests; roles of legislatures, judges, juries; intentional harms, negligence, and strict liability considered from perspectives of jurisprudence, economics, and moral philosophy.

LAW:8105 Administrative Law**3 s.h.**

Formal and informal procedures, processes, and functions of state and federal administrative agencies; legislative, executive, and judicial control of their actions; nature and definition of administrative agencies; permissible delegation of authority to administrative agencies; scope of agency authority; agencies' right to obtain information from members of the public; citizens' right to obtain information in agencies' possession; definition and types of administrative rules; rule-making procedure; agency discretion to make law by rule or adjudication; right to a trial-type hearing before an agency; parties' specific rights in an administrative hearing, including notice, open or closed hearing, right to counsel, evidence, nature and exclusivity of the record; agency decision-making process, including role of hearing officers, separation of functions and bias of decision makers, nature of opinion required; judicial review of administrative action, including reviewability of agency action, primary jurisdiction of agencies, exhaustion of administrative remedies, standing, scope of judicial review, mechanics of judicial review.

LAW:8112 Advanced Civil Procedure**arr.**

Complex civil litigation; advanced civil procedure topics not taught in first year; essential aspects of civil procedure (e.g., personal and subject matter jurisdiction); joinder devices (intervention, necessary parties, interpleader, consolidation), discovery and confidentiality orders, appellate jurisdiction, mechanisms to structure the trial (e.g., bifurcation of issues); class. Prerequisites: LAW:8006.

LAW:8121 Advanced Legal Research Methods in Specialized Subjects**1 s.h.**

Legal research methods in specific legal practice and research areas; specific topic rotates each year (litigation and ADR legal research, business and tax legal research, federal legislative history legal research, legal history research); students work with real-world examples to improve research skills related to a particular legal subject.

LAW:8123 Advanced Legal Research**2 s.h.**

Builds on LAW:8032 and LAW:8033; in-depth exploration of American legal resources; current print and electronic resources that help students develop better, more efficient search techniques and select the most effective formats for their research; opportunity to review the basic sources of legal information, use varied techniques to access legal information, develop personal strategies for managing information; advanced training in LEXIS, WESTLAW, the internet; nonlegal information sources important to the legal community.

LAW:8125 State Legal Research**1 s.h.**

Legal resources available for a particular state; exploration of current print and electronic resources, particularly low-cost electronic resources such as FastCase and the internet are explored for purposes of developing better, more efficient search techniques; selection of the most effective formats for research; sources of legal information; techniques for accessing legal information.

LAW:8133 American Governance: Theory and Practice**2-3 s.h.**

Tracing the evolution of our constitutional system by examining specific events in American history; particular emphasis will be given to the role of Congress and its relationship with the Executive Branch and court system. Requirements: open only to students educated outside the United States.

LAW:8146 Antitrust Law**3 s.h.**

Laws dealing with restraints of trade, monopolization and mergers; history of these laws and their development in the courts; current doctrine and its underlying legal and economic theories; analytical tools of trade: sufficiency of economic efficiency as the measure of justice.

LAW:8153 Applied Evidence**2 s.h.**

Opportunities to apply the rules of evidence; use of mock case problems presenting evidentiary issues that attorneys in real practice would address by filing motions in limine; students are enabled to more fully comprehend the reasoning and rationale behind the rules, and appreciate the intricacies of applying the rules to a set of facts; focus on pretrial evidentiary litigation and specific rules of evidence. Prerequisites: LAW:8460.

LAW:8158 Arbitration Principles and Practice**3 s.h.**

Introduction to law of arbitration and essential skills and procedures involved in its practice; role of arbitration in modern conflict resolution in various settings in which it is used; conceptual framework and explanatory theories for analysis of issues frequently encountered in arbitration; statutory and contractual grounds for arbitration (e.g., labor relations, employment, consumer and commercial transactions); development of skills and understanding of procedure through use of problems and exercises simulating common arbitration scenarios in which students participate as lawyers, arbitrators, and parties.

LAW:8159 Arbitration: Law and Theory 2-3 s.h.

The law of arbitration and its role in modern conflict resolution, conceptual framework and explanatory theories for the analysis of issues frequently encountered; statutory and contractual grounds for arbitration, such as labor relations, employment, consumer, and commercial transactions; the decision to use arbitration; the role of lawyers; judicial enforcement of arbitration agreements and arbitration awards; contractual issues and defenses; federal preemption; arbitrability and separability; remedies; the relationship between arbitration and litigation and mediation and other non-adversary forms of dispute resolution.

LAW:8160 Arbitration: Practice and Advocacy 1-2 s.h.

Skill development to effectively participate in arbitration and related court proceedings; advise clients on various aspects of arbitration; opportunity to draft an arbitration agreement, a petition to compel arbitration, a prehearing arbitration booklet with legal authorities and supporting exhibits, and pleadings necessary for judicial review; examination of all aspects of the arbitration process; procedures for post-award remedies and judicial review; hybrid methods of arbitration, applicable rules, and ethics concepts.

LAW:8161 Arbitration Advocacy Competition 1-2 s.h.

Development and application of arbitration advocacy skills in preparation for the Iowa intramural and regional competitions; addresses arbitration presentation methodology, procedure, prehearing preparation, and advocacy skills; students who advance in the intramural Iowa Arbitration Tournament are selected to represent Iowa in the ABA Arbitration Competition the following fall.

LAW:8169 The American Legal Experience 3 s.h.

Historical role of law in American social, political, and economic life from the 17th century through 1980s; legal issues involving religion and state, early national period and the Constitution, law of slavery, common law and economic development, changing legal status of women, law's engagement with the social sciences, race discrimination, crime, legal realism, and development of modern welfare and business policy.

LAW:8186 Bankruptcy 3 s.h.

Students study the rights of individuals and entities under the federal bankruptcy laws from the perspective of both debtors and creditors; there are three types of bankruptcy proceedings—liquidation bankruptcy for consumers and businesses (Chapter 7), consumer reorganization, known as "wage earner's plans" (Chapter 13), and business reorganization (Chapter 11); students survey foundational topics relevant to all these forms of bankruptcy—in general, equal weight given to both consumer and business bankruptcies; attention given to some of the intricacies of business reorganizations towards the end of the course.

LAW:8194 Basic Federal Income Taxation 3-4 s.h.

Operation, policies, principles of federal income tax, including gross income, deductions, property dispositions, tax accounting, assignment of income among family members, time value of money, leveraging.

LAW:8198 Building the State 2 s.h.

Examination of state building and deconstruction; taxing, spending, fiscal citizenship, theories about state building; topics may include statelessness, legibility and state building, utopian tax regimes, revolutionary tax systems (French, U.S.A., Confederate States of America, potential Scottish state), voluntary taxation and non-state "tax" regimes (ISIS, organized crime).

LAW:8216 Civil Procedure in Pre-Trial Theory and Practice arr.

The law of pleadings and other pretrial matters presented in LAW:8006; hypothetical case developed from interview to pleading to early pretrial stages; experience drafting relevant pleadings and motions. Prerequisites: LAW:8006.

LAW:8218 Civil Rights Law 3 s.h.

Civil rights law; constitutional litigation brought under Section 1983 to enforce the 4th, 8th, and 14th Amendments, specifically exploring prisoners' rights, police abuse, and substantive Due Process claims; examination of Reconstruction Era civil rights statutes (Sections 1981 and 1982) and modern federal statutes prohibiting discrimination such as Title VII and the Americans with Disabilities Act (ADA); cutting-edge civil rights issues such as affirmative action, sexual harassment, and racial identity; interpretive and strategic challenges that arise in civil rights litigation.

LAW:8224 Client Counseling 1 s.h.

Immersion in practice skills fundamental to any attorney-client relationship—interviewing and counseling; exploration of critical unseen factors which impact interviewing and counseling (e.g., self-awareness, cultural competence, bias, beliefs about the role of the lawyer in an attorney-client relationship); introduction and critique of three models of representation including traditional or regnant lawyering, client-centered lawyering, and rebellious or democratic lawyering.

LAW:8237 Comparative Corporate Governance 2 s.h.

Today's global economy has resulted in a proliferation of multi-national corporations, where frequently the parent corporation is governed by the law of one country, and one or more subsidiaries are governed by the laws of other countries; comparative assessment of advantages and disadvantages to incorporating in a particular country; focus on corporations considering mergers, acquisitions, or joint ventures with corporations outside of their own jurisdiction; and consideration of reasons why a corporation might form a subsidiary under the law of another jurisdiction.

LAW:8241 Comparative Constitutional Law 2-3 s.h.

Comparative focus on the United States Constitution with particular emphasis on the Constitution of France and the freedom of expression in areas such as libel law, hate speech, and more; suitably tailored writing component to help students master course material while also improving their own expressive abilities.

LAW:8245 Comparative Equality arr.

Affirmative action or "positive discrimination" for examining/ comparing inequality and inclusion in the countries of France, Brazil, Canada, India, South Africa, and the United States; historical context in which affirmative action or positive discrimination programs have been implemented for certain groups within Brazil, Canada, India, South Africa, and the United States as arguments in favor of and against such programs in those countries; lessons learned from these countries applied to France to answer the question, "is France in need of affirmative action?"

LAW:8263 Comparative Law 2-3 s.h.

Comparative study of origins, development, and principal features of the world's main legal systems; common and civil law traditions; historical development of the main legal systems, their sources, ideologies, techniques; subjects important to international legal practice (e.g., international judicial assistance, application of foreign law in American courts; in-depth study of modern legal systems of the United States, Britain, France, Germany, Japan, Russia; introduction to other legal traditions, including preliterate tribal law, traditional Chinese and Islamic law.

LAW:8272 Conflict of Laws 2-3 s.h.

Examination of legal problems created when a transaction or relationship has associations with more than one state or nation; students examine questions of judicial jurisdiction (which state's or nation's courts should hear a case?), choice of law (which state's or nation's laws should determine the outcome of a case?), and enforcement of judgments (when will a state or nation enforce the judicial judgments of a different state or nation?).

LAW:8280 Constitutional Law II 3 s.h.

Limits on governmental power imposed by the national constitution for protection of individuals; protection of life, liberty, and property by due process and equal protection; freedom of expression and association; religious freedom and the guarantee against establishment of religion; 1st and 14th Amendments.

LAW:8301 Copyrights 3-4 s.h.

Federal law of copyrights, primarily the Copyright Act of 1976; emphasis on copyright protections affecting new technologies, such as videotape, computer hardware and software, electronic data transfer, cable television rebroadcast; ability of legal concepts to keep pace with technological developments. Recommendations: LAW:8643.

LAW:8303 Corporate Compliance Overview 2-3 s.h.

Areas of corporate and regulatory law that impose requirements on corporations including financial services institutions and health care provider organizations; importance of corporate compliance for these organizations and an overview of relevant regulatory authorities and their underlying theories and rationales; pertinent government regulations, guidance documents, and enforcement initiatives forming the framework for corporate compliance; focus on the process of compliance which should be established internally, regardless of the relevant regulatory authority involved; evolving role of compliance and the chief compliance officer. Corequisites: LAW:8331.

LAW:8307 Corporate Finance 1-3 s.h.

Introduction to fundamental principles of corporate finance, including financial statement analysis, valuation of corporate securities and of businesses, capital structure decisions, portfolio theory, and efficient capital markets hypothesis; focus on financial and accounting aspects of corporate decisions than with any particular body of law. Prerequisites: LAW:8331.

LAW:8318 Corporate Governance and Control 1-4 s.h.

Principal issues in creation of appropriate governance and control systems for large publicly held corporations; questions of corporate structure, shareholder voting rights, duties of directors, derivative suits, indemnification and transfers of control viewed from perspective of Delaware's statutory and common law. Recommendations: LAW:8331.

LAW:8322 Corporate Taxation 3 s.h.

Influence of tax considerations on the structure of corporate transaction, from a merger to a restructuring to a securities offering; examination of primary Internal Revenue Code provisions that affect corporations and their shareholders; corporate formations, dividends, redemptions, liquidations, taxable asset and stock acquisitions, tax-free reorganizations; analysis of statutory and regulatory materials; tax reform proposals. Prerequisites: LAW:8194. Corequisites: LAW:8331.

LAW:8329 Comparative Criminal Procedure 2 s.h.

Study abroad program.

LAW:8331 Business Associations 3-4 s.h.

Structure, characteristics of both large publicly and closely held corporations; distribution of powers among management, directors, shareholders; fiduciary duties that limit those powers; enforcement of such duties by shareholder suits; may include basic principles of agency, partnership, and limited partnership law.

LAW:8342 Topics in Criminal Law Practice 1-3 s.h.

Substantive and procedural aspects of criminal law not covered in regular College of Law criminal law and criminal procedure courses; students divided into teams (prosecutors and defense attorneys); hands-on exercises designed to reflect substantive criminal law and procedure discussion; jury selection, jury instructions, pretrial motions, client and witness interviews, depositions, investigation; ethical considerations for prosecutors and defense attorneys, including prosecutorial discretion in charging decisions and conflicts of interest. Prerequisites: LAW:8022.

LAW:8348 Criminal Procedure: Adjudication 3-4 s.h.

Adjudicatory phases of the criminal justice system: indictments and the charging process, preliminary hearings, applications for release on bail and pretrial detention, processes of discovery, guilty pleas, jury selection, conduct of criminal trials, sentencing proceedings and post-trial motions, appellate review, collateral remedies; focus on constitutional rights, specifically the Fifth, Sixth, Eighth, and Fourteenth Amendments; statutory provisions, rules of criminal procedure.

LAW:8350 Criminal Procedure: Investigation 3-4 s.h.

Guarantees and rights of the Fourth, Fifth, and Sixth Amendments to the U.S. Constitution against police and prosecutorial practices designed to investigate and prove criminal cases; protection against unreasonable searches and seizures, guarantee against extraction of involuntary confessions, privilege against self-incrimination constraints upon securing confessions (i.e., *Miranda* doctrine), due process protection against unreliably suggestive identification procedures, right to counsel, protection against inculpatory admissions and identification practices; exclusionary rules and remedies that enforce constitutional guarantees.

LAW:8362 Critical Race Theory arr.

Race relations and racial discrimination in America from perspectives of the Critical Race Theory movement (CRT); affirmative action, hate speech, queer theory, voting rights, postmodernism, liberalism, Asian-critical theory, Latin-critical theory, federal Indian law, critical white studies; critical race feminism—essentialism, motherhood, lawbreaking, employment law, sexual harassment, global issues.

LAW:8374 Debt Transactions**4 s.h.**

Examination of laws and practices of modern lending; procedures for collection of unsecured debts including enforcement of judgments, exemptions, prejudgment remedies, fraudulent conveyances, and statutory liens; examination of secured transactions that involve both real property (mortgages) and personal property (security interests governed by Article 9 of the Uniform Commercial Code); equal weight given to consumer and commercial transactions.

LAW:8399 Election Law**3 s.h.**

The Supreme Court has long declared that the right to vote is fundamental, because it is preservative of all other rights; the right to vote in theory and practice, with focus on its relationship to racial and economic justice; what has been done and what should be done to move us closer to the ideal of political equality; proper role of unelected judges in our democracy; history of the right to vote, "one person, one vote" principle, Voting Rights Act, partisan gerrymandering, voter identification, voter registration, political parties, and campaign finance.

LAW:8415 Employment Discrimination**2-3 s.h.**

Legal prohibitions against discrimination in employment on the basis of race, sex, national origin, age; focus on Title VII of the Civil Rights Act of 1964; procedural and remedial problems, elementary issues of proof.

LAW:8421 Employment Law**2-3 s.h.**

Rights of employers, employees in unorganized workplaces; legal issues that arise between employers and employees in nonunionized settings; hiring, discipline, termination, minimum wage, covenants not to compete, employment-related intellectual property issues, occupational safety and health, unemployment.

LAW:8428 British Legal System**1-2 s.h.**

Taught in London Law Consortium.

LAW:8433 Environmental Law**2-3 s.h.**

Role of the legal system in addressing problems of environmental disruption, with special emphasis on air, water, hazardous waste pollution.

LAW:8452 European Union Law**2-3 s.h.**

Law of the European Union; EU legal and institutional structure; role of the European Court of Justice in elaborating constitutional and administrative law for the EU on the basis of treaties and legislation; principle of free movement; progress of European integration.

LAW:8460 Evidence**3 s.h.**

Rules of evidence developed in common-law courts and under statutes; judicial notice; examination of witnesses; privilege and competence; remote and prejudicial evidence; hearsay; burden of proof and presumptions; roles of judge and jury.

LAW:8467 Family Law**3-4 s.h.**

Creation, dissolution of marriage and parent-child relationships; lawyer's practical approach to family law problems combined with a broader view of how the law might treat those problems in light of findings from social and behavioral sciences.

LAW:8481 Federal Courts**3-4 s.h.**

Role of the federal courts in our federal system of government; the federal courts' original and appellate jurisdiction; Supreme Court review of state courts' judgments; Congress' power to strip the federal courts of jurisdiction; development of federal common law; federal writ of habeas corpus; abstention doctrines; state sovereign immunity; federal remedies against state and local action; and Congress' power to create non-Article III adjudicative tribunals. Prerequisites: LAW:8006 and LAW:8010.

LAW:8497 Federal Criminal Practice**2 s.h.**

Introduction to each step in the criminal process together with instruction in advocacy skills required for the effective practice of law; complete chronology of a typical federal criminal case, from grand jury investigation through post-trial motions; importance of strategic thinking. Prerequisites: LAW:8350.

LAW:8504 Corporate Crimes**1-3 s.h.**

Introduction to corporate criminal law; black letter doctrines of corporate liability and sentencing; Department of Justice policies and practices that shape the course of corporate prosecutions; criminal statutes that are of frequent concern for corporations, including those that address false claims, securities fraud, bribery, and mail and wire fraud; developments occurring in this evolving area of law.

LAW:8513 Foreign Comparative and International Legal Research**1-2 s.h.**

Treaty research, locating and identifying documents from international organizations and tribunals, legal research in selected jurisdictions outside the United States; variety of print and electronic sources; research methods in foreign and international law.

LAW:8527 The Constitution and U.S. Foreign Relations**arr.**

Introduction to law of foreign relations in the United States; impact of constitutional distribution of powers on conduct of U.S. foreign relations; influence of separation of powers doctrines on conduct of foreign relations, status of international law in U.S. legal system, role of courts in adjudicating issues affecting foreign relations, and controversy over distribution of war powers between President and Congress.

LAW:8558 Genetics and the Law**3 s.h.**

Introduction to legal issues raised by genetic and genomic technologies; genetic privacy, uses and abuses of genetic testing, prenatal diagnosis, mandatory screening, genetic discrimination, regulation of genetic research, DNA banking, research on stored tissue samples, ownership of genetic material and information, and provision of genetic services including informed consent, disclosure, and duties to family members at risk for genetic disease.

LAW:8562 Health Law**2-3 s.h.**

Major areas of concern in health law; tension between quality, access, costs; may include malpractice, quality control, health care financing, access (insurance, Medicare, and Medicaid), licensing, bioethics (end-of-life decisions, informed consent, surrogacy, organ transplantation).

LAW:8570 Human Rights in the World Community**1-3 s.h.**

Introduction to established and developing legal rules, procedures, and enforcement mechanisms that govern protection of international human rights; liberal western and developing world notions of human rights, recent examples of human rights controversies worldwide; international human rights of women.

LAW:8577 Immigration Law and Policy 1-3 s.h.

Legal, historical, social, philosophical, and policy foundations of immigration control; modern debate over immigration; criteria and procedures that govern admission of non-U.S. citizens to the United States for permanent residence and temporary visits; deportation criteria and processes; national security and civil liberties implications of immigration policy; refugees and political asylum; undocumented migrants; acquisition, loss, and significance of U.S. citizenship; focus on U.S. law with introduction to perspectives from comparative and international law; experience analyzing varied fact problems that require strategic decision making and interpretation of complex statutory provisions.

LAW:8584 Insurance Law 1-3 s.h.

State regulation of insurance, adverse selection and moral hazard, risk classification and rate regulation, and insurance contracts; emphasis on life, long-term care, and disability insurance; may include health insurance, reinsurance, and other types of insurance; focus on social and economic underpinnings of insurance; practical experience conducting research regarding insurer use of genetic information in risk classification; students contribute to and conduct research for the professor's NIH grant examining life, long-term care, and disability insurer use of genetic information.

LAW:8593 Federal Indian Law arr.

Specialized body of law allocating power and authority in Indian country that has grown up around native American peoples and their reservations; sovereignty, jurisdiction, federal Indian policy, tribal self-government.

LAW:8594 Interest-Based Negotiation for Lawyers 2-3 s.h.

Theory and practice of an approach to negotiation, known as interest-based or problem-solving negotiation; focus of this negotiation model is not on positions of disputants, but interests that underlie these positions; interest-based negotiators attempt to generate options that satisfy, at least minimally, interest of all parties and can lead agreements from which all parties realize some gains; emphasis on acquisition and enhancement of skills necessary to apply this negotiation approach; in-class exercises.

LAW:8599 International and Comparative Inequality Law 3 s.h.**LAW:8600 International Business Transactions 1-3 s.h.**

Legal and practical issues in international trade and investment; typical private transactions, such as the sale of goods (documentary sales transaction, INCOTERMS, letters of credit, agency, distribution), transfer of technology (franchising, licensing), and direct investment across national borders; how private international sales, investment, and licensing transactions are structured to permit private businesses to minimize and plan for the risks associated with conducting business on a global scale.

LAW:8615 International Commercial Arbitration arr.

Formation and enforcement of agreements to enter arbitration in order to settle international business disputes; process of arbitrating an international business dispute; recognition and enforcement of arbitral awards.

LAW:8618 International and Comparative Family Law 1-3 s.h.

Introduction to family law system in England; issues of international legal practice in family cases; international legal instruments for protection of children, including U.N. Convention on the Rights of the Child, Hague Convention on the Civil Aspects of International Child Abduction, and Hague Convention on Intercountry Adoption. Corequisites: LAW:8467.

LAW:8620 International Intellectual Property Law 1 s.h.

Overview of international intellectual property law; comparison of U.S. and foreign law relating to patents, copyrights, trademarks; principal multinational agreements relating to intellectual property, including Paris Convention, Berne Convention, TRIPs Agreement; implementation of these agreements within domestic law of United States and other countries. Recommendations: at least one other intellectual property course.

LAW:8622 International Environmental Law 3 s.h.

Laws and institutions developed by the international community to deal with international environmental problems, including those of the atmosphere (acid rain, ozone depletion, radioactive fallout, climate change), hydrosphere (land-based sea pollution, sea-based vessel pollution, transboundary groundwater diversion), lithosphere (hazardous waste disposal, toxic pollutants, decertification), biosphere (driftnet fishing, endangered elephants, loss of tropical rainforests).

LAW:8627 International Securities Regulation 1 s.h.

In today's securities markets, cross-border transactions have become very common, and activities in one country frequently impact securities markets and regulation in other countries; to understand global issues with which securities regulators around the world have been tackling, topics include global securities markets, extraterritorial application of U.S. securities regulation, enforcement against cross-border market misconduct, and international organization and cooperative framework. Recommendations: securities regulation recommended, but not essential.

LAW:8629 Taxation of International Business Transactions 3 s.h.

Introduction to U.S. aspects of international taxation and international tax policy issues; how the United States taxes foreign persons on income they derive from U.S. sources; taxation of U.S. persons on their worldwide income; United States bilateral tax treaty network, under which many of the statutory rules regarding the taxation of foreigners are modified or supplanted; solving problems that illustrate the operation of the Code and regulations. Prerequisites: LAW:8194. Corequisites: LAW:8331.

LAW:8631 International Trade Law: Basic Norms and Regulations 3 s.h.

Basic norms and legal framework of international trade as expressed in the GATT/WTO regime and U.S. trade laws; issues raised by regional trade blocs such as NAFTA; controversies such as the economic and philosophical justifications for, and objections to, free trade from a variety of perspectives.

LAW:8643 Introduction to Intellectual Property 3-4 s.h.

Introduction to some of the most important intellectual property rules; goals and theories underlying these rules; common ways in which ideas may be protected—from basic form of protection (secrecy and trade secrecy) to exclusive rights granted over inventions (patents) and creative works (copyright), and concluding with rights related to market-based identities (trade and service marks); brief exploration of ways in which debates over intellectual property rights have permeated modern culture.

LAW:8645 Introduction to Quantitative and Computational Legal Reasoning 3 s.h.

Basic principles of probability, statistics, and computational reasoning (including elementary programming) for law students; emphasis on mathematically modest intuition, practical skills, and legal applications; introductory level, no mathematical background beyond high school algebra is assumed. Requirements: no substantial preexisting computer programming or statistical background.

LAW:8649 Foundations of International Law 1-3 s.h.

Introduction to fundamentals of international law; focus on aspects of international law that concern interests in the United States; survey of sources, methodology, and major doctrines of international law within framework of understanding diverse jurisprudential approaches; international law's relationship to U.S. domestic law and institutions; procedural aspects of international law involving international institutions, including the International Court of Justice; foundation course for students interested in international trade, business, family law, human rights, environmental law, and an interest in European Union law.

LAW:8653 Juries and Jury Selection 1-2 s.h.

The law and art regarding juries and jury selection; legal issues arising in jury selection and trial advocacy in context of jury selection; legal issues (challenges to representation of jury venires, changes of venue due to pretrial publicity, challenges for cause to prospective jurors, Batson challenges to exercise of peremptory strikes, anonymous juries, sequestered juries, attorney errors and juror misconduct during jury selection); trial advocacy (drafting and use of jury questionnaires, role and effectiveness of jury consultants, viewing jury selection as part of entire process, effective voir dire techniques, strategy in making for cause challenges, exercising peremptory strikes).

LAW:8658 Jurisprudence 2-3 s.h.

Exploration of questions central to jurisprudence by looking at positions that have been adopted by legal positivist, natural law theory, and sociological models of jurisprudence (i.e., is there more to legal argument than the strategic battle for a favorable judicial ruling? How would one have to conceive of legal reasoning if one were a judge? Are there right answers to legal questions? Do they presuppose a necessary connection between law and morality? Is any exchange of pros and cons merely a spectacle created in order to hide from the dumbfounded public that legal reasoning does not really matter?); comparative dimension provided in readings with background in civil law.

LAW:8666 Law and Development 2-3 s.h.

Origin of development law and institutions that were created in order to advance it, including the World Bank and International Monetary Fund.

LAW:8670 Labor Law 3-4 s.h.

How national labor law regulates labor relations in the private sector; law relating to unionized employees and firms; right of employees to organize into unions; limits of concerted activities by employees; scope and provisions of collective bargaining; enforcement of the collective bargaining agreement; rights of individual employees in collective units and in labor organizations; lawyer's role in dealing with judicial, administrative, and arbitral tribunals involved in enforcing labor law; lawyer's role in complex interrelationships between policy, statute, judicial, and administrative decisions.

LAW:8677 Accounting, Tax, and Business Considerations for Lawyers 1-3 s.h.

Accounting, tax, and business considerations for lawyers and why these are important considerations for lawyers; changes occurring in today's business models; discussions on choosing a legal structure for a business; financial statements basics, detailed example of a financial statement, and discussion on accounting basics expanded; advanced topics in accounting to allow some background on these topics.

LAW:8680 Law and Economics arr.

Introduction to economics analysis of law; how economic reasoning is used to explain and predict the effects of legal rules; fundamental areas of American law (e.g., property, contracts, torts, criminal law); use of economic efficiency as a normative criterion for evaluating legal rules; efficiency compared to various moral concepts to evaluate such rules.

LAW:8683 Law and Economics of Money and Banking 3 s.h.

Money as a legal institution, legal structure and powers of the Federal Reserve System, multiple deposit creation, and the money supply process; tools and goals of monetary policy, and theory of interest rates; legal structure of banking industry including dual banking system, regulation by the Office of the Comptroller of the Currency of national banks under the National Bank Act (with special emphasis on capital regulation), deposit insurance and the Federal Deposit Insurance Corporation, and regulation of bank holding companies by the Federal Reserve.

LAW:8698 Law in the Muslim World 2-3 s.h.

International and comparative law issues relevant to countries in the Muslim world; legal cultures, institutions, rules, actors, processes of several jurisdictions including Afghanistan, Saudi Arabia, Iran, Iraq, Algeria, Nigeria, Palestine, Pakistan; Islamic sharia law as practiced in Sunni and Shiite countries; the role of church versus state, fundamentalism versus secularism, as manifested in the legal system; tension between communitarianism and individualism in modern constitutionalism; intertwining of customary and religious legal practices; first, second, and third generations of human rights; international law on issues such as terrorism, self-determination; women's rights, including polygamy, divorce, child custody, inheritance. Requirements: junior or senior standing.

LAW:8709 Introduction to French Law 2-3 s.h.

Introduction to laws of France, characteristic features, and role of main institutions; civil law, contracts, tort, family law, commercial law, criminal law, labor law; visits to a French law school, Paris Court, and Ecole of Magistrature National (ENM), the National Judge School in Bordeaux. Summer abroad program.

LAW:8711 The Legal Profession 1-3 s.h.

Exploration of various aspects of history, structure, organization and function of legal profession; effective practice strategies; ethical and practical challenges of legal practice in different settings (i.e., working for judges, small and big firms, solo practice, corporations, non-profit organizations, public sector, internationally); readings, interviews, and discussion sessions with practicing attorneys; development of professional portfolios; practice of professional skills including effective communication, professional legal writing, and interviewing.

LAW:8712 Legislation**2-3 s.h.**

Issues related to legislation and legislative process; introduction to legislation, legislative process, legislative advocacy, statutory interpretation, and statutory drafting; students gain an understanding of the role of lawyers in legislative process and formation of public policy.

LAW:8720 Mediation: Theory and Practice**2-4 s.h.**

Essential characteristics; comparison of mediation with litigation and other alternative dispute resolution processes; stages of mediation; confidentiality; enforceability of agreement; ethical problems, particularly lawyer-mediator; student role playing; short writing assignments.

LAW:8726 Mergers and Acquisitions**3 s.h.**

Significant legal and financial aspects of business combination transactions; transaction documents (e.g., stock purchase agreements, asset purchase agreements, merger agreements); valuation of companies and pricing of deals; legal and financial considerations affecting the structuring of deals; tender offers and their regulation under the Williams Act, tender offer rules; fiduciary duties of target board, including Revlon duties and the Unocal standard; anti-takeover devices (e.g., poison pills and staggered boards, deal protection devices, freezeout transactions); state anti-takeover statutes. Prerequisites: LAW:8331.

LAW:8736 Natural Resource Law**2-3 s.h.**

Survey of federal natural resources law; emphasis on current legal issues and focus on judicial resolution of disputes; history of public land law, constitutional issues in federal control of natural resources, environmental planning, wildlife protection, public land management, fisheries and marine resources, onshore and offshore minerals; history and politics of natural resources law, aspects of practicing in this area; various resources that pose different sorts of problems, regulatory responses to these problems used to build a toolkit of regulatory models that can be helpful in solving any resource problem.

LAW:8742 Negotiations**1-3 s.h.**

Nature and theory of negotiations, diverse rhetorics (including the rhetoric of legal argument) relevant to conduct of negotiations, conflict between ethics and effectiveness; readings from game theory, social psychology, anthropology, rhetoric and ethics.

LAW:8751 Nonprofit Organizational Effectiveness I**3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, RELS:6070, SPST:6010, SSW:6247, URP:6278.

LAW:8752 Nonprofit Organizational Effectiveness II**3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, RELS:6075, SPST:6020, SSW:6248, URP:6279.

LAW:8763 Patent Law**2-4 s.h.**

All aspects of U.S. patent law; patent claims, adequacy of disclosure, statutory subject matter, validity, inequitable conduct, infringement, remedies, varied specialized doctrines; focus on recent pronouncements from the Court of Appeals for the Federal Circuit. Recommendations: LAW:8643.

LAW:8766 Remedies in Patent Law**1 s.h.**

Continuation of LAW:8763; in-depth coverage of issues relating to remedies for patent infringement; specific topics may include International Trade Commission (ITC) proceedings, apportionment, lost profits, reasonable royalties, enhanced damages, attorneys' fees, design patent damages, patent marking, standard-essential patents, FRAND agreements, and comparative remedies law. Prerequisites: LAW:8763.

LAW:8770 Payment Law**1-3 s.h.**

Law that governs methods by which businesses and consumers typically pay for goods and services in modern economy; legal rules applicable to traditional paper-based payment system, including negotiable instruments (checks and notes) and bank collection of checks; modern payment methods (credit cards, debit cards, wire transfers); focus on Articles 3, 4, and 4A of the Uniform Commercial Code and related federal law and regulations.

LAW:8789 Private Companies**3 s.h.**

Successful business lawyers are expected to advise clients about the business entity most suitable for their needs and then customize it to fit specific requirements of their business strategy; general focus on one entity—the corporation—and a brief introduction to agency law and general partnerships; a wide number of popular business entities receive little to no coverage and this gap is filled with an introduction to structure and substance of private company forms including limited partnership, limited liability partnership (LLP), and limited liability company (LLC). Prerequisites: LAW:8331.

LAW:8791 Professional Responsibility**2-3 s.h.**

Public and private professional responsibility of lawyers; organization of the profession; its economics, ethics, and sociology.

LAW:8796 Property II**3 s.h.**

Continuation of LAW:8037; limits on landowner's use of property by private agreements, judicial actions, public regulations; problem areas (servitudes, nuisance, eminent domain); constitutional limits on government activities adversely affecting private property, community planning, zoning, other forms of local land use control; discrimination related to land development, housing; effectiveness of private ordering, judicial decisions, legislative enactments, administrative processes for resolving conflicts over use of land resources; relationships between law and other disciplines in forging solutions to land use issues; law as instrument for achieving societal objectives regarding land use.

LAW:8819 Judicial Remedies**3 s.h.**

The law of remedies is the working tool kit for civil litigators, offering various ways to redress a given wrong; remedies to be examined include compensatory damages, injunctive orders, restitution, declaratory judgment, contempt, garnishment, asset tracing, punitive damages, and methods to preserve assets before judgment; cases are drawn from diverse substantive fields, including tort, contract, intellectual property, civil rights, administrative, antitrust, attorneys' fees, and constitutional law.

LAW:8856 Securities Regulation**arr.**

Regulation and sale of securities to the public under the Securities Act of 1933 and state blue-sky laws; remedies provided through the Securities Act; regulation and litigation under the Securities Exchange Act of 1934, which focuses on companies with publicly traded securities. Prerequisites: LAW:8331.

LAW:8877 Sex-Based Discrimination 2-3 s.h.

Survey of sex-based discrimination and legal responses in the United States and worldwide; American context—constitutional guarantees and various statutory guarantees, including Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972; global context—examination of various regions of the world, emphasis on France, South Africa, and countries with majority Muslim populations; issues involving customary law, affirmative action/quotas, and constitutional reform.

LAW:8879 Sports Law 2-3 s.h.

Various legal issues relating to the structure and operation of amateur and professional sports industries; topics include labor law and collective bargaining in professional sports, history and status of collective bargaining efforts by college athletes, antitrust law as applied to professional and intercollegiate sports, the NCAA enforcement process, Title IX as applied to intercollegiate sports, the NCAA principle of amateurism and legal challenges, representation of professional athletes and negotiation of sports contracts.

LAW:8887 State and Local Government 1-3 s.h.

Allocation of decision-making authority in society; allocation between public and private decision makers; allocation among governmental units, and among public institutions; principles and policies that underlie legal doctrines and the relationship of those principles and policies.

LAW:8891 State and Local Taxation 3 s.h.

Limitations on state taxing powers under the United States Constitution, including Commerce, Due Process, and Privileges and Immunities Clauses; subnational jurisdictions, particularly states with an emphasis on sales tax and corporate income taxes, gross receipts taxes, and excise taxes; issues relating to e-commerce.

LAW:8917 Substitute Decision Making for Incapacitated Individuals 1-2 s.h.

Types and forms of substitute decision making for individuals whose decision making capacity is impaired due to conditions such as dementia, mental disabilities, or mental illnesses and who need a surrogate (or substitute decision maker) to make decisions about matters such as finances; health care, personal care, living arrangements; financial powers of attorney; guardianships; conservatorships; advance directives including living wills, health care powers of attorney, out-of-hospital do-not-resuscitate orders (OOH-DNR); representative payees; introduction to probate court procedures and processes.

LAW:8919 Survey of Work Law 2-3 s.h.

Introductory survey of four types of legal regulation of the workplace: labor law, employment discrimination, law of private employment, and law of public employment.

LAW:8929 Taxation of Partnerships 2-3 s.h.

Introduction to federal tax treatment of partnerships and limited liability companies, the most common business entities in use in the United States today; classification of entities as partnerships for federal tax purposes; formation of partnership and subsequent contributions to partnership capital; flow-through tax treatment of partnership operations; tax-sensitive allocations of items of partnership income, deduction, credit and loss; partnership distributions and related tax-sheltering strategies, liquidation or sale of partnership interests; death or retirement of partners, tax treatment of partnerships compared with S corporations. Prerequisites: LAW:8194.

LAW:8933 Tax Practice and Procedure 3 s.h.

Issues relating to proper tax liability of a taxpayer, not necessarily how the IRS collects taxes and administers tax laws; judicial deference to agency guidance; procedural issues related to examination and filing of returns and payment of taxes; attorney-client and other privilege matters; ethical issues related to tax practice; IRS investigatory powers; IRS assessment and collection procedures; assignment of problems and discussion of current issues in tax policy. Corequisites: LAW:8194.

LAW:8936 Estate and Gift Tax 1-3 s.h.

Justification for wealth taxation, effectiveness of current law, and alternative methods of wealth taxation; two key wealth transfer taxes—estate tax and gift tax; emphasis on identification of tax base and taxpaying unit; may include income tax effects which flow from an individual's death, income taxation of grantor trusts, and related income tax issues. Corequisites: LAW:8194.

LAW:8954 Trademarks and Unfair Competition Law 3 s.h.

Law of unfair competition with primary emphasis on trademarks; subjects include policies underlying unfair competition law, creation and establishment of trademark and trademark-like rights, enforcement of those rights, non-trademark concepts of false advertising, rights in one's persona, and the intersection of the First Amendment and trademark law; practical aspects of trademarks including mechanics of the federal registration process; for students who have an interest in trademark and unfair competition law, both specifically and as part of a broader business law practice.

LAW:8981 Trusts and Estates I 1-4 s.h.

Law of succession and trusts; topics include policy basis of inheritance and the changing character of intergenerational wealth transfer; intestate succession; the requirements for executing and revoking wills; the rise of will substitutes; spousal protection against disinheritance; the creation, modification, and termination of trusts; the particular rules applicable to charitable trusts; the fiduciary duties of trustees; the nature of a beneficiary's interest in trust, the range of the trustee's discretion, and the rights of a beneficiary's creditors; recurring construction problems and pitfalls in drafting.

LAW:8987 Veterans Benefits Law 2-3 s.h.

Theory of veterans' benefits law and introduction to skills necessary to represent veteran clients at every stage of the U.S. Department of Veterans Affairs (VA) adjudication process; how many veterans struggle to navigate the complex VA benefits system without assistance of counsel; law that governs administration and adjudication of these benefits; fundamental law of VA claims adjudication process; dispute resolution and federal agency litigation practice; what is required to effectively represent veterans in their appeals for much needed benefits.

LAW:8992 Water Law arr.

Legal schemes for securing and using water rights in surface water and groundwater for private and public uses in the United States; riparian and prior appropriation doctrines of water allocation, groundwater management regimes, federal water management and regulation, and interstate and transboundary allocation devices; evolving role of science, economics, and policy in water allocation law; does not address issues of water quality, which are covered in environmental law.

LAW:9010 Appellate Advocacy I 1 s.h.

Experience based on an assigned fictitious case: writing an appellate brief asserting the client's position, and arguing the case before a panel of students, faculty, community attorneys. Prerequisites: LAW:8032 and LAW:8033.

LAW:9021 Van Oosterhout Baskerville Moot Court Competition 1 s.h.

Single-elimination tournament culminating in the final four advocates arguing before a panel of judges; advocates write a portion of the brief, argue for and against the issue they briefed. Prerequisites: LAW:9010.

LAW:9028 Jessup Moot Court Competition Team 1-2 s.h.

Participation as team member in Jessup International Moot Court Competition; preparation of memorials in fall, travel to February regional rounds; travel to international competition in Washington, D.C., for top two teams. Prerequisites: LAW:9010.

LAW:9033 National Moot Court Competition Team 1 s.h.

Participation by third-year students as law school's representatives in the National Moot Court Competition. Requirements: placement as one of four finalists in LAW:9021.

LAW:9034 National Moot Court Tutorial 2 s.h.

For students participating in the National Moot Court competition; provides a problem and a substantial record, which provide basis for appellate brief and oral argument competition; integrates teaching of substantive law with development of oral and written advocacy skills in preparation and application for the national competition.

LAW:9037 Advanced Moot Court Competition Team 1 s.h.

Advanced Moot court team; members are top advocates from previous year's Van Oosterhout/Baskerville competition. Fall of third year.

LAW:9038 Jessup International Moot Court Competition 1 s.h.

Participation by second-year students in intramural regional- and national-level moot court competition in international law; intensive criticism in appellate brief writing and oral argument. Prerequisites: LAW:9010.

LAW:9041 Vis International Moot Court 1-3 s.h.

Participation for up to four students in the Vis International Moot Court, an annual international moot competition concerning international commercial arbitration under the Vienna Convention on the International Sale of Goods (CISG); under close supervision of instructor, students prepare two briefs, one for the claimant and one for the respondent, are mooted repeatedly by instructor and practicing attorneys (often alumni of the competition), and then participate in multiple rounds of moot court competition in the United States and, ultimately, either Hong Kong or Vienna. Recommendations: one course in international arbitration or international business transactions.

LAW:9046 Moot Court Board 1-3 s.h.

Experience as member of the Moot Court Board administering the Appellate Advocacy Program, researching appellate cases used in the program, judging appellate arguments. Requirements: membership based on performance in LAW:9010.

LAW:9051 National Arbitration Competition Team 1-2 s.h.

Students represent the College of Law at the ABA Regional/ National Arbitration Competitions held in fall of second or third year; team members prepare to argue both sides of a dispute in front of a panel of arbitrators at the competition; topics include a review of basic presentation skills, essential elements of arbitrating a dispute, and proper decorum in front of the panel as well as in-depth practice and analysis of the national case problem assigned; students spend time crafting legal arguments, practicing the effective use of exhibits and arbitration booklets, engaging in opening statements, direct examination of witnesses, cross examination, and closing arguments.

LAW:9060 Trial Advocacy 2 s.h.

Opportunities to develop and refine skills used in preparation and trial of civil and criminal cases; students are "on their feet" during most class sessions, practicing the arts of voir dire, opening statement, direct and cross examination, introduction of exhibits, use of expert testimony, and closing argument; the course culminates with a full-scale trial, from filing of pretrial motions to rendering of a jury verdict conducted by student co-counsel; students receive extensive criticism on the effectiveness of their classroom and final performances, and all class sessions are frequently recorded for review and critiqued by instructors and fellow students. Prerequisites: LAW:8460.

LAW:9061 Advanced Trial Advocacy - Stephenson Competition 1-2 s.h.

Review and expansion of topics presented in the initial trial advocacy course; preparation and application of these principles in the Stephenson trials; introduction to additional advanced problems such as the evidentiary issues raised in the trial problem. Corequisites: LAW:9060.

LAW:9062 Trial Advocacy Board 1-2 s.h.

Administration of Trial Advocacy Program and Stephenson Competition; research and writing in connection with trial problems and readings used in program; critique of performances of trial problems. Prerequisites: LAW:8460 and LAW:9060.

LAW:9066 Stephenson Trial Advocacy Team arr.

Student participation as College of Law representatives in Stephenson Trial Advocacy Competition. Prerequisites: LAW:9061.

LAW:9115 Law Review 1-2 s.h.

Performance of substantive tasks to produce a first-rate scholarly journal; writing a substantial note; comprehensive legal research experience; analysis of complex legal issues with enhanced critical-reasoning skills and command of the legal standard, The Bluebook citation system; selection of students that transfer to UI College of Law after their first year and rising second-year students is based on the Write-On Competition.

LAW:9118 Student Journal Editor - Law Review arr.

Experience on the *Iowa Law Review* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: LAW:9115.

LAW:9124 Journal of Corporation Law 1-2 s.h.

Experience editing articles and writing commentaries for *The Journal of Corporation Law*, a student-operated scholarly publication that examines subjects of current importance to businesses and the bar.

LAW:9127 Student Journal Editor - Journal of Corporate Law arr.

Experience on *The Journal of Corporation Law* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: LAW:9124.

LAW:9142 Transnational Law and Contemporary Problems Journal 1-2 s.h.

Experience researching and writing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

LAW:9145 Student Journal Editor - TLCP Journal arr.

Experience researching, writing, and editing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

LAW:9163 Journal of Gender, Race and Justice 1-2 s.h.

Academic year experience on *The Journal of Gender, Race & Justice*: writing two journal pieces, including a recent development and a note or a comment, and performing office duties. Requirements: second- or third-year law standing.

LAW:9166 Student Journal Editor - Gender, Race and Justice arr.

Experience on *The Journal of Gender, Race & Justice* editorial staff: managing student writing program, overseeing business operations and production, selecting symposium topic and participants, selecting and editing all publications pieces; eligibility based on writing and editing experience.

LAW:9251 Legal Practice Capstone 3-7 s.h.

Preparation for professional settings in which junior attorneys are expected to manage assignments from several different supervisors at once and execute projects in areas of law not formally studied in law school; variety of legal projects covering an array of doctrinal areas; identities of participating faculty members and nature of assigned projects revealed when course commences (e.g., junior attorneys in large and mid-sized law firms often discover day-to-day who their next supervisors are and what their next projects will be). Requirements: J.D. standing and in final year of study.

LAW:9302 Clinical Law Program - Internship arr.

Experience working directly with faculty members on cases and in-house program; full participation in interviewing, fact investigation, negotiation, courtroom proceedings.

LAW:9307 Clinical Law Program - Externship arr.

Experience representing clients through legal assistance offices in eastern Iowa, under supervision of faculty members and staff attorneys.

LAW:9322 Field Placement: Judicial arr.

Close work with a federal district court judge or state appellate judge conducting research and drafting a wide variety of legal memoranda, orders, and opinions; assist in hearings and perform other duties generally associated with a judicial clerkship; weekly meetings with a faculty supervisor to discuss student's work in chambers; participation in biweekly classroom discussions.

LAW:9331 Field Placement: General arr.

Students earn credit working closely with attorneys in a wide range of placements; field placements designed so that students are directly involved in activities characteristically performed by attorneys in a real-world setting; some placements routinely offered and arranged by the law school, others by students and approved by faculty; some placements are local and students take them along with their other classes; other placements are full-time, located across the country and around the world; in addition to field work, students are enrolled in a seminar with other externs.

LAW:9335 Summer Legal Placement 1-3 s.h.

Externship opportunities for direct involvement in activities characteristically performed by attorneys (e.g., research and writing, document drafting, client interviewing and counseling, fact investigation, negotiations, court appearances); in-depth exposure to as many facets of the actual practice of law as practicable in each externship.

LAW:9346 British Legal Methods Clinical Program 3 s.h.

British Law externship; placement in London law office under guidance of barrister or solicitor; seminar and enrollment in course on English legal system taught by faculty of King's College, University of London.

LAW:9413 Health and Elder Law Practicum 1-6 s.h.

Opportunity to participate in research involving current health and elder law and policy issues, in collaboration with public health agencies, legislators, professional organizations, and advocacy organizations.

LAW:9423 Tutorial arr.

Different types of pedagogical techniques.

LAW:9424 Tutorial 1-4 s.h.

Work under faculty supervision; may involve substantive area of the law of jurisprudential ideas as they appear in various intellectual spheres; tutorials.

LAW:9429 Intellectual Property Advocacy 1-4 s.h.

Integrates teaching of substantive intellectual property law with development of oral and written advocacy skills in intellectual property field; builds on earlier learning in preparation for practice of law.

LAW:9444 Tutorial for Foreign-Trained Lawyers 1 s.h.

Introduction to the legal system and legal educational system of the United States; particular emphasis on those aspects of the U.S. system that present a strong contrast with other countries' legal systems, whether from civil or common law traditions; for foreign-trained law students (LL.M., J.D., or S.J.D.) who have not earned a U.S.-based J.D. or U.S.-based LL.M. degree that includes an introduction to U.S. law and legal system.

LAW:9445 Foreign-Trained Lawyer Orientation 1-2 s.h.

Orientation for foreign-trained student to U.S. legal system; introduction to U.S. patterns of legal argumentation, main institutional structures of U.S. legal system, and other distinctive aspects and/or fundamental principles of U.S. law; material drawn from basic areas of law (e.g., constitutional law, civil and criminal procedure, contracts, torts, property).

LAW:9455 Medical Tutorial for Law Students arr.

Participation on medical and/or surgical rounds under supervision of attending physician; didactic sessions on legal, medical, and ethical issues arising from the clinical experience, and issues such as peer review, credentialing, quality assurance, cost containment, AIDS, reproductive technology; recent developments in medical technologies. Cosponsored by Carver College of Medicine. Prerequisites: LAW:8562.

LAW:9460 S.J.D. Tutorial **5 s.h.**

Thesis work under supervision of Doctor of Juridical Science (S.J.D.) committees; dissertation committee chairs conduct an irregular series of meetings to learn about and discuss issues common to research and writing of each thesis involved; students develop full thesis proposals and draft individual chapters; forum provided for workshopping student work and development of students' abilities to discuss and critique legal scholarship; for all S.J.D. students during their two semesters of residency at the College of Law.

LAW:9473 Writing Tutorial **arr.**

Writing project on a subject or topical area specified by the supervising faculty member; group meetings; writing tutorial.

LAW:9481 Supplementary Writing **arr.**

Supplemental writing project that is related to a student's course, but goes beyond the requirements for the course, and is supervised by the faculty member who teaches the course.

LAW:9486 Directed Research and Writing **arr.**

Research and writing project unrelated to any substantive course, supervised by a faculty member.

LAW:9490 Independent Research Project **arr.**

Work under faculty supervision; research.

LAW:9491 Independent Research and Writing **arr.**

Independent research and writing under thesis adviser/committee chair. Requirements: S.J.D. enrollment.

LAW:9503 Advanced Immigration Law and Policy **arr.**

Examination of issues arising out of contemporary problems of immigration law and policy; topics vary, may include critical analysis of initiatives for national, state, and local immigration reform; traditional class-based component, experiential component, advanced legal research component, and rigorous writing requirement. Requirements: LAW:8577 or legal clinic experience.

LAW:9509 Advanced Problems in International Environmental Law **arr.**

Research and writing seminar exploring selected topics that may be encountered in practice; topics vary.

LAW:9511 Advanced Problems in International Law and Policy **arr.**

Relationships between international law and several political visions of a world order; the United Nations Charter; other visions that have historically characterized United States, Western European, Russian, Chinese, Islamic, and other perspectives; how several of these historical perspectives appear to be at work in current conflicts involving U.N. Security Council, ISIS and other terrorist organizations, Ukraine, South China Sea, European Union, Eurozone; conflicts and potential for international law to aid in their resolution.

LAW:9518 Advanced Topics in Corporate Law **arr.**

Wide range of topics; theory of the firm, fiduciary duties, corporate counseling issues, history of corporate law, and so forth. Requirements: one law or business course in corporate law.

LAW:9528 Advanced Topics in International Law **arr.**

Contemporary problems of public international law and policy; issues arising from armed conflict, use of force, pacific settlement of disputes; human rights law and policy (individual civil, political, economic, social, and cultural rights; group rights such as self-determination, development, environment, peace); trade and development; environmental law and policy (e.g., climate change, species extinction, pollution).

LAW:9532 Agricultural Law **arr.**

Agricultural law as a complex and highly integrated field with a number of unique characteristics; examination of the field's defining laws and controversies; focus on current issues of significance including environmental regulation of agriculture, financing and economic viability of small- and medium-scale operations, discrimination against minority and female farmers, labor protections for farm workers, animal welfare, food safety, and biotechnology; students critically engage with course materials and develop well-rounded arguments for and against specific policies and legal positions.

LAW:9537 Appellate Adjudication Seminar **3-4 s.h.**

Introduction to skill and art of writing appellate judicial opinions; brief, preliminary study of appellate jurisdiction and procedure; group responsibility for deciding a number of cases pending before regional appellate courts (e.g., the Iowa Supreme Court, the United States Court of Appeals for the Eighth Circuit); students study briefs and conduct additional research as appropriate, conference cases sitting as a mock appellate court, assign and prepare opinions, solicit votes, and write one or two opinions.

LAW:9549 Capital Punishment **arr.**

Overview of the death penalty as presently applied in America; moral issues; long-term trends limiting the use of the death penalty in the United States and abroad; legal issues and Eighth Amendment jurisprudence that has developed since the 1960s regarding limits on the exercise of juror discretion, jury selection, proportionality, the execution of minors, racial discrimination, *mens rea* requirements, capital appeals and collateral attacks, and death penalty lawyering; critique of death penalty bills proposed in recent years for Iowa.

LAW:9550 Capitalism **arr.**

Economic and moral aspects of capitalism as a system for organizing a society's economic activity; major topics including the beginnings of capitalist theory in Smith, Marxist critiques of capitalism in 19th century, capitalism and its critics in the Gilded Age and Progressive Era, the Great Depression and Keynesianism, modern defenses and criticisms of capitalism in Hayek, Habermas, Friedman, Rawls, and others.

LAW:9554 Compliance, Ethics, and Risk Management **arr.**

Public and private organizations—including corporations, nonprofits, universities, and government agencies—are responsible for ensuring that their personnel comply with legal and regulatory requirements; organizations must find mechanisms to develop strategies and cultures of compliance; students develop an understanding of the field of organizational compliance and issues that compliance professionals are responsible for overseeing, establish a strong foundation in behavioral and traditional legal ethics, and develop persuasive arguments regarding strengths and weaknesses of compliance efforts undertaken by organizations. Corequisites: LAW:8331.

LAW:9559 Corporate Ethics **arr.**

Examination of ethical issues that businesses and their attorneys confront in multiple contexts; particular emphasis on analyzing the meaning of ethical behavior, approaches to ethical decision making, issues of sustainability, development of social enterprise business models, and attorney's role in counseling corporate clients on ethical issues. Prerequisites: LAW:8331.

LAW:9573 Cultural Property/Heritage

arr.

Concept of cultural property, measures for its protection, impact of these measures on the transfer of cultural items; traditional art and architecture, biological and fossil material, human remains; contexts in which issues have arisen, such as stolen cultural property, property acquired during armed conflict and in colonial settings, and property collected in the field or excavated; international, national, and state law, including UNESCO convention on illicit transfer of cultural property, U.S. Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act; how developing professional ethics codes affect the concept of cultural property.

LAW:9575 Current Trends in Higher Education Law

arr.

Introduction to the practice of law in and for a complex academic institution; selected current legal issues confronting attorneys in such an environment; doctrinal issues prevalent in a university setting; focus in a substantial measure on real or hypothetical problems considered in light of background reading rather than on doctrinal analysis.

LAW:9582 Deals

arr.

Economic structure of complex commercial transactions as memorialized in agreements including bank credit facilities, indentures, underwriting agreements, other documents governing equity financings and financings involving convertible or preferred securities, venture capital agreements, securitization documents, business combination agreements, joint venture and shareholders agreements, limited liability company operating agreements, project finance documents; commercial agreements and how sophisticated parties order their private relationships to achieve efficient results. Prerequisites: LAW:8331.

LAW:9591 Family Law in the World Community

arr.

Family law from a global perspective; treatment of family law problems in varied legal systems; application of international treaties and conventions to issues such as child custody, adoption and foster care, education and child labor, juvenile crime and punishment, child trafficking and exploitation, migrant and refugee children, child soldiers.

LAW:9631 Higher Education and the Law

arr.

Introduction to the most pressing legal issues facing colleges and universities today: free speech on campus; academic freedom and tenure; diversity; student discipline; student privacy, safety, and well-being; Title IX; and intercollegiate athletics; a major goal is to consider the policy questions associated with institutional responses to these legal issues.

LAW:9639 History of Regulation of Smoking and Tobacco

arr.

Regulation of smoking and tobacco use; history, beginning with 19th and early 20th centuries; state statutes and case law; OSHA, EPA, and FDA regulations; class action litigation, involvement of law firms in formulating tobacco company strategies, use of medical studies, economic history of the tobacco industry.

LAW:9656 Topics in 19th-Century American Legal History

arr.

Exploration of selected focus topics, may include developments in the law of the home and the law of the workplace (free labor, worker immigration, apprenticeship, indentured labor, slavery); women's legal history; land issues and various Homestead Acts; Blackstone in America; Reconstruction of the Constitution after the Civil War; The National Archives—which houses American legal historical documents—displays the phrase, "What is past is prologue;" legal history that explains how we got to the legal present and to understand what is the law, you have to know how something got to be the law. Same as HIST:7256.

LAW:9681 Elder Law

arr.

With the aging population, elder law has become one of the fastest growing areas of law practice; examination of legal, policy, and planning issues related to aging in America; topics include planning for incapacity, guardianship, end-of-life planning (advance medical directives), social security, Medicare and Medicaid, planning for catastrophic illness and long-term care, elder abuse and neglect; exploration of ethical issues dealing with elderly and adult children of elderly.

LAW:9692 Innovation, Business, and Law Colloquium

arr.

Varied topics; antitrust, intellectual property, corporate and securities law, and the interfaces between those disciplines; readings, discussion.

LAW:9701 Terrorism, ISIS, and International Criminal Law

arr.

Available legal responses to ISIS; topics include the law of genocide, war crimes (including gender crimes), crimes against humanity, terrorism, human trafficking, money laundering, the International Criminal Court, and alternatives to prosecution including national truth commissions; strengths and weaknesses of international criminal law as a response to mass atrocity; practical considerations that limit and permit the effective functioning of this burgeoning legal experiment.

LAW:9708 International and Comparative Labor and Employment Law

2-3 s.h.

Survey of labor and employment laws and norms developed and promulgated by the International Labor Organization (ILO), the European Union, free trade agreements, and corporate codes; comparative focus on laws of the United States, Germany, and China—three leading world economies with vastly different labor and employment law systems; how to make informed questions, including to local counsel, when cross-border, employment-related legal issues are encountered; why countries have different systems of labor and employment protection despite the fact that they all try to solve similar problems; how the United States is, or is not, unique.

LAW:9717 Iowa Medical Innovation Group Seminar

arr.

Interdisciplinary seminar intended to simulate the experience of product development, including potential business and legal issues; over the course of a year a team of students, with at least one law student on each team, will originate an idea for a medical device, design it and produce figures or a prototype, design a business model for marketing it, and evaluate legal issues and prepare draft legal documents; law students will analyze and counsel team members on intellectual property and business law issues and prepare draft contracts, licensing agreements, and materials for procuring intellectual property rights.

LAW:9723 Seminar on Islamic Law and Government**3 s.h.**

Islamic legal and political legacy from formative period until modern time; critical analysis of logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with Caliphate system and ending with modern nation-state models. Same as RELS:6723.

LAW:9739 Topics in the Philosophy of Law**arr.**

Opportunity to explore certain questions in law and philosophy at greater depth; topics vary, ranging from foundational questions to issues with strong practical implications for public policy; readings specifically selected to fit topic area.

LAW:9761 Law and the Trump Presidency**arr.**

Legal issues raised by the Trump administration that have drawn unusual public attention, ranging from matters related to immigration law, national security law, constitutional law, criminal law, campaign finance law, tax law, and administrative law, among other fields; oftentimes, issues raised lack clear legal answers or even relevant case; students study a selection of these novel issues as determined by current events and participant interest; includes substantial research and writing component; students lead a class discussion around their chosen research topic.

LAW:9803 Law and Social Science**arr.**

Fundamental legal concepts and theories built on empirically testable assumptions about human behavior and decision making; testing common sense assumptions against relevant psychological and social neuroscience research; focus on domains of criminal law and criminal procedure.

LAW:9811 Law of War, Peace, and Military Affairs**arr.**

How does the law seek to restrain use of force in armed conflict? When may sovereign states lawfully take up arms? Once war begins, what methods may states and soldiers employ? How does and should the law of war deal with non-state actors, notably terrorists and private military contractors? Must the world reassess its answers to these questions in light of geostrategic developments since 9/11? When and why is a soldier's obedience to illegal orders an acceptable excuse? Is the Nuclear Non-Proliferation Treaty a success or failure?

LAW:9826 LL.M. Seminar**arr.**

Basic research and analytical methodologies for the international and comparative law fields; workshop approach to project proposals, drafts.

LAW:9829 Media Law**3 s.h.**

Overview of law that applies to mass media, citizen media, and social media; how law has attempted to define "the Media," and how it has distinguished between distribution platforms in treatment of media rights and obligations; American press and notions of press freedom at time of founding; tracking evolution of law governing injuries inflicted by speakers beginning with common-law treatment of libel and slander to constitutionalization of those torts; examination of law that applies to various journalistic tools; problems of jurisdiction and choice of law posed by online news; examining market influence on content; comparing American system with other countries approaches to media law.

LAW:9838 Selected Topics in Comparative Law**arr.**

Selected focus topics in different offerings.

LAW:9849 Nonprofit and Philanthropic Organizations**arr.**

Issues in law and policy relating to philanthropic and nonprofit institutions; creation, role, nature, and history of nonprofit entities; tax exemption, tax treatment (including property and donor tax issues); political and legislative activities; roles of members, directors, officers; problems of external regulation, accreditation, ethics; special issues for religious organizations, community foundations, private foundations, universities; development of philanthropic and nonprofit activity in foreign jurisdictions.

LAW:9855 Policy Lab Seminar**arr.**

Application of legal skills to real world policy problems; work in teams to investigate a live issue, conduct necessary research, talk to stakeholders, prepare a legal work product (proposed legislation, regulation, doctrinal changes) and a policy justification for that proposal; focused instruction on a specific policy space, general instruction in tools and methods used to analyze policy and design solutions; independent research on particular issues within that space; presentations; working through challenges that arise during process.

LAW:9863 Patent Prosecution Seminar**3-4 s.h.**

Drafting seminar on patent application preparation and prosecution; student drafting exercises and presentations on advanced patent law topics; administrative rules and procedures governing practice before the U.S. Patent and Trademark Office; for students who plan to practice patent law. Prerequisites: LAW:8643.

LAW:9874 Principles of Contract Drafting**3 s.h.**

Principles of drafting business contracts; focus on structure of contracts, how to draft each of the parts of a business contract, and how to translate the needs of the business into clear and understandable contractual language; examination of typical business contracts (e.g., nondisclosure agreements, letters of intent, purchase agreements, and other types of agreements); students complete drafting exercises and a series of larger contract drafting projects.

LAW:9882 Public Health Law**arr.**

Introduction to scope, function, and history of governmental activities and programs encompassed by public health regimes (primarily in the United States); legal and constitutional powers and duties of states to create prerequisites for health of population as a whole; limitations on exercise of that power to restrict individuals interests (inter alia) in liberty, autonomy, privacy, and property; tensions and conflicts that arise when collective action on behalf of public/common good constrains what the state deems to be acceptable risks triggered by actions of private individuals.

LAW:9912 Selected Issues in Family Law**arr.**

In-depth look at an issue or set of issues in family law; relevant cases, statutes, scholarship; class visits or on-the-job observations with community members who play roles in the family law process being examined.

LAW:9920 Federal Criminal Sentencing**arr.**

Sentencing as a key stage of the criminal justice system; purposes of sentences, guilty pleas, and plea bargaining; procedural rights during the sentencing process; types of sentencing statutes, federal guidelines, and the federal death penalty; supervised release, probation, and revocation of supervised release and collateral; consequences and sanctions.

LAW:9941 State Constitutional Law

Power of state courts to independently interpret state constitutional provisions that are identical or similar to the federal counterparts; various approaches taken by state courts with respect to this issue; in-depth analysis of cases where a state court has departed from the federal interpretation. Prerequisites: LAW:8280.

LAW:9950 S.J.D. Continuous Enrollment **1 s.h.**

Intended for S.J.D. students working on their dissertation with no mandatory classes left to take; continuous registration is a College of Law policy and students should register for continuous registration only if they are not going to register for any other tuition and fee-assessing courses. Requirements: S.J.D. enrollment, completion of required course work, and promotion to candidacy.

LAW:9959 Supreme Court Seminar

Supreme Court practice, procedure, jurisdiction; the art of opinion writing; in-depth analysis of cases on the court's pending docket; writing briefs, conducting research, conferring cases sitting as a mock Supreme Court, assigning and preparing opinions, soliciting votes of colleagues; preparation of two opinions.

LAW:9990 Wrongful Convictions and the American Criminal Justice System

Over 300 innocent persons in the United States have been exonerated through DNA evidence after being convicted of crimes they did not commit since 1989; how wrongful convictions occur, how they are remedied, how future injustices can be prevented; introduction to criminal appeals and postconviction proceedings; examination of cases of wrongful convictions; common factors that contribute to conviction of innocent; challenges of proving innocence under statutory and constitutional law; how the system can be reformed to prevent wrongful convictions.

Law Study Abroad Courses

LWAB:8230 Program in Comparative Law in Bordeaux, France

Intensive course work in France taught by professors from Iowa and France. Five-week courses in May and June.

LWAB:8240 London Law Consortium

Study abroad program for students from seven law schools (Iowa, Georgia, Utah, Kansas, Missouri-Columbia, Indiana-Bloomington, Chicago-Kent); American and British law taught by faculty drawn from the seven schools and British universities; clinical law program, work with British barristers and solicitors.

LWAB:8250 Law Study Abroad at Peking University School of Transnational Law

Exchange study program at Peking University of Transnational Law in China.

LWAB:8825 International and Comparative Study Abroad

One-week course in London, England.

LWAB:9223 Law Study Abroad at Catolica University

Exchange student study at the University of Católica in Lisbon, Portugal.

LWAB:9226 Law Study Abroad at Radboud University Nijmegen

Exchange student study at Radboud University in Nijmegen, Netherlands.

LWAB:9230 Law Study Abroad at Ewha Womens University

Exchange student study at Ewha Women's University in Seoul, South Korea.

LWAB:9234 Law Study Abroad at Korea University

Exchange student study at Korea University in Seoul, South Korea.

LWAB:9238 Law Study Abroad at National University Ireland

Exchange student study at National University Ireland, Galway, Ireland.

LWAB:9242 Law Study Abroad at Pontifica Comillas University

Exchange student study at Pontifica Comillas University, Madrid, Spain.

LWAB:9246 Law Study Abroad at the University of Pristina

Exchange student study at the University of Pristina, Kosovo.

Juris Doctor, J.D.

The Juris Doctor (J.D.) is a professional degree awarded by the College of Law. The University of Iowa College of Law is approved by the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association.

The first year of the J.D. program offers the personal connection and attention students need to develop a strong intellectual foundation for legal thinking and writing. The College of Law has one of the lowest student-faculty ratios of any law school. Professors have an open-door policy, and they serve as models for the kind of highly collaborative, rigorously professional behavior that prepares students to serve as counselor to their clients. Students get intensive, individualized instruction from legal writing faculty; the College of Law is one of the few law schools in the nation with a full-time faculty dedicated solely to a student's growth as a legal writer.

In the second and third years, students focus on the areas of law that most interest them, drawing from a rich menu of mainstream, specialized, and clinical courses. A wide array of opportunities provides experiential learning: moot court competitions, the Field Placement and the Clinical Law programs that allow students to take the lead with real clients, or allowing students to write for one of the four student-run scholarly journals. The Field Placement program, in particular, provides a wide range of placements for students still in law school. Students have worked in U.S. District Courts, legal aid centers, federal public defenders' offices, and nongovernmental organizations (NGOs) around the world. Students also may add distinction to their résumés by participating in study abroad or exchange programs.

Details about applications and admission to the program are available on the College of Law website.

Cocurricular Programs

Students enrich their course of study by participating in the college's cocurricular programs, which include Moot Court, the Trial Advocacy Program, and four student-produced journals.

Moot Court

In the Moot Court appellate advocacy programs, students draft appellate briefs, build expertise with citation form, develop research skills, and strengthen their persuasive abilities through oral arguments.

Trial Advocacy

The Trial Advocacy Program is a student-run, faculty-supervised program in which students develop and refine skills used to prepare and try civil and criminal cases. The heart of the program is LAW:9060 Trial Advocacy, a 2 s.h. course taught by law school faculty, federal and state judges, and experienced trial attorneys. Students are on their feet during most class sessions, practicing the arts of jury selection, opening statement, direct and cross examination, introduction of exhibits, use of expert testimony, and closing argument. The course culminates with a full-scale trial—from the filing of pretrial motions to the rendering of a jury verdict—conducted by student co-counsel before a visiting judge and a jury of laypersons.

The Stephenson Competition is named after Judge Roy L. Stephenson, a U.S. District Court and Eighth Circuit Court of Appeals judge and a 1940 graduate of the College of Law. Students who demonstrate superior ability in advocacy skills

during the trial advocacy courses participate in a series of mock trials judged by local members of the bench and bar. Individuals selected from the competition represent the University of Iowa in the national trial competition.

Iowa Law Review

Since its inception in 1915, the *Iowa Law Review* has served as a scholarly legal journal, noting and analyzing developments in the law and suggesting future paths for the law to follow. Students have managed the review since 1935, editing and publishing articles by professors and students. To learn more, visit the Iowa Law Review website.

Journal of Corporation Law

The *Journal of Corporation Law* is the nation's oldest and most cited student-published legal periodical specializing in corporate law. The journal's scope includes antitrust, intellectual property, labor law, securities, taxation, employment discrimination, insurance, products liability, and regulated industries, as well as traditional corporate topics. Selected articles submitted by practitioners and academics are published in each of four annual issues. See the Journal of Corporation Law website.

Journal of Gender, Race & Justice

The *Journal of Gender, Race & Justice* pushes the boundaries of legal scholarship and theory in its focus on social justice issues. The journal hosts a symposium at the College of Law every other year, bringing together nationally renowned legal scholars and practitioners to discuss the relationships among the law and race, gender, sex, sexual identity, economic class, ability, and other identity characteristics. The journal publishes an annual volume of legal works that includes symposium papers, papers from conferences outside the college, and articles written by Iowa law students. To learn more, visit the Journal of Gender, Race & Justice website.

Transnational Law & Contemporary Problems

Transnational Law & Contemporary Problems addresses issues and problems that transcend traditional political boundaries, that are of interest to the international and comparative law community, and that are not commonly found in other journals and reviews. One issue takes the form of a symposium addressing specific topics; this issue has a guest editor who is a legal scholar noted for work on the symposium topic. The second issue is submission based. Every other year the journal organizes and sponsors a symposium on a contemporary international issue; past topics include climate change, the European Union's sovereign debt crisis, and war crimes. For more information, visit the Transnational Law & Contemporary Problems website.

Requirements

To be eligible for a J.D. degree, a student must:

- meet the credit hour requirements;
- meet the length of study requirements;
- achieve a cumulative g.p.a. of at least 2.1;
- take and complete all required courses;
- satisfy the writing requirements; and
- satisfy the experiential course requirement.

First-Year Curriculum

The first-year curriculum emphasizes development of analytical skills, a sense of the role of legal institutions in society, and essential writing skills. Each course in the first-year curriculum shares these emphases and conveys substantive knowledge about a particular area of the law.

First-year students take the following courses.

Code	Title	Hours
Fall Semester		
LAW:8017	Contracts	4
LAW:8026	Introduction to Law and Legal Reasoning	1
LAW:8032	Legal Analysis Writing and Research I	2
LAW:8037	Property	4
LAW:8046	Torts	4
Spring Semester		
LAW:8006	Civil Procedure	4
LAW:8010	Constitutional Law I	3
LAW:8022	Criminal Law	3
LAW:8033	Legal Analysis Writing and Research II	2
Elective		3

The two-semester sequence LAW:8032 and LAW:8033, Legal Analysis Writing and Research (LAWR), is designed to equip students with effective skills in legal analysis, writing and oral communication (oral advocacy), and research.

Second- and Third-Year Curriculum

Second- and third-year courses cover the range of specialties within the legal profession, allowing students to explore and follow their professional interests in a particular career specialization, to write for one of the school's four student-run scholarly journals, to pursue combined degrees in law-related graduate programs, or to simply obtain the widest possible exposure to the legal landscape.

All second- and third-year students must complete the following work.

Code	Title	Hours
LAW:8280	Constitutional Law II	3
One course on legal ethics		
Experiential course requirement		
Four writing units beyond the writing requirements of the first year		

Combined Programs

J.D./Graduate Degrees

The College of Law and the Graduate College offer several combined degree programs in which students work toward the J.D. degree and a graduate degree concurrently. Students in combined J.D./graduate degree programs pay tuition at the College of Law rate if the tuition is higher for the J.D. program than for the graduate program. An exception is made for students who are not enrolled in College of Law courses or in other courses that will be applied to the J.D. degree during a fall or spring semester or a summer session. Combined J.D./

graduate degree students are charged tuition at the College of Law rate for at least six semesters.

Master of Laws, LL.M.

The Master of Laws (LL.M.) is designed for two types of students:

Legal Practice Track: For foreign-trained jurists who seek a comparative introduction to, and specific training, in aspects of United States law and legal institutions, and a path to state bar admission. Students benefit from the College of Law's legal analysis, writing, and research course, and core courses including contracts, property, torts, and professional responsibility. An extended orientation provides an introduction to United States law.

Research Track: For foreign-trained jurists or graduates of J.D. programs in the United States who wish to deepen their understanding of law and are interested in research. The program encourages close collaboration with renowned experts in comparative law; anti-competition law; law and economics; law and society; international law, including the law pertaining to international business transactions and/or human rights; and business and innovation.

The LL.M. program admits fewer applicants so that students receive substantial attention from the faculty. Admission is competitive. All applicants must present evidence of high academic potential and strong recommendations, especially from law professors who supervised their work in classes or seminars.

Requirements

The Master of Laws program requires that students successfully complete a minimum of 24 s.h. of credit, as approved by their faculty advisor. Course work is selected from the College of Law's general course offerings and from LL.M.-specific courses.

Legal Practice Track

This track is open to foreign-trained lawyers who do not have a J.D. earned in the United States. Students enroll in the LL.M. orientation to the U.S. legal system course in two parts (2 s.h.); a course in professional legal writing (2 s.h.); a course in professional responsibility (3 s.h.); and at least 6 s.h. of basic bar exam courses, such as contracts, torts, or constitutional law. This track is designed to qualify students to take the bar exam in states that allow graduates of LL.M. programs to complete the bar exam.

Research Track

This track is open to both foreign-trained students and students who hold a J.D. degree earned in the United States. LL.M. students without a J.D. degree must take the LL.M. orientation to the U.S. legal system course in August before the start of the fall semester (1 s.h.). Students take the LL.M. seminar, a research and writing course in which they write a research paper on a topic chosen with the approval of their advisor (for at least 1 s.h.). This track is especially suitable for those seeking to enter into an academic career or one that primarily involves policy formulation or research.

Students who earned a J.D. in the United States and international students who have been trained in another common-law jurisdiction, whose English competence is sufficiently high, and who choose the research track are required to undertake a more ambitious research project (4 s.h.) intended to lead to the production of a publishable paper.

Others suitably qualified also may attempt the longer research paper with their advisor's approval.

With the exception of the LL.M. orientation course and the LL.M. seminar, courses are taken with other J.D. students from law course offerings, especially offerings on U.S., international, and comparative law. This method of instruction ensures a very effective comparative experience through broad contact with U.S. law students and professors, and U.S.-trained students similarly benefit from close contact with foreign-trained lawyers.

Master of Studies in Law, M.S.L.

The Master of Studies in Law (M.S.L.) degree is primarily intended to educate students and professionals in other fields who do not wish to practice law but who need to recognize and respond effectively to legal issues arising in their work. Individuals who have completed their B.A. or B.S. degree may choose to better position themselves in the job market. Others may be on an established career path but seek to increase their skill set and enhance mobility and promotion opportunities.

The M.S.L. program provides professionals with an overview of the legal system as a whole, as well as an introduction to some of the legal issues that they are likely to confront in their fields. Students take existing courses in the College of Law alongside J.D. students.

The degree may be completed in as little as one year of full-time study or in not more than four years of part-time study. The M.S.L. program does not qualify graduates to practice law.

Requirements

The Master of Studies in Law program requires 30 s.h. of credit. With law school approval, M.S.L. students may take up to 9 s.h. in related course work from other colleges across campus. Students complete common requirements and select a specialty track. Consult the College of Law for track information.

Common Requirements

All students must take the following.

Code	Title	Hours
Both of these:		
LAW:8026	Introduction to Law and Legal Reasoning	1
One or more College of Law writing seminars, independent studies, or tutorials		2
Two of these:		
LAW:8017	Contracts	4
LAW:8037	Property	4
LAW:8046	Torts	4

Admission

Applicants must submit an application for admission; a short statement detailing their reasons for pursuing the M.S.L. degree; a current résumé; official transcripts from all institutions students have attended; two letters of recommendation; and an official ACT, SAT, Graduate Record Examination (GRE) General Test, Graduate Management Admission Test (GMAT), or Law School Admission Test (LSAT) score. International students whose first language is not English also must demonstrate English language proficiency by obtaining a satisfactory score on the Test of English as a Foreign Language (TOEFL).

Application materials are reviewed by the M.S.L. Faculty Oversight Committee.

Doctor of Juridical Science, S.J.D.

The Doctor of Juridical Science (S.J.D.) program is intended for students who wish to conduct original and advanced legal research in law under faculty supervision. S.J.D. students are expected to write a dissertation.

Requirements

The Doctor of Juridical Science program includes five requirements for earning the S.J.D. degree.

Year of Residency

Doctor of Juridical Science students must spend at least one academic year (two semesters) in residence in the S.J.D. program at the College of Law. The course of study in that year differs depending on whether a student already has an LL.M. or an equivalent master's-level degree.

Students who already have an LL.M. or equivalent master's-level degree must complete 18 s.h. of credit during their first year of residency. They must enroll in the S.J.D. tutorial (5 s.h. each semester; 10 s.h. total) to conduct research and writing under the supervision of their S.J.D. dissertation committee. The work in the S.J.D. tutorial focuses on formulating a detailed dissertation proposal, beginning research for and writing of portions of the dissertation, and completing one or more chapters.

Students are expected to write a dissertation of publishable quality making a significant and original contribution to legal scholarship. The dissertation should be a book-length manuscript or a series of related articles of equivalent intellectual ambition and scope.

The balance of the required 18 s.h. will be earned through research and writing related to a student's dissertation, supervised by the student's S.J.D. chair. However, at the discretion of a student's S.J.D. committee, some of the semester hours may be allocated to courses or seminars that the committee feels a student needs to strengthen the ability to write a successful dissertation.

Students who do not already have an LL.M. or equivalent master's-level degree must complete 24 s.h. of credit during their first year of residency. Students must complete 18 s.h. as indicated above and courses that provide an introduction to the U.S. legal system and require significant research and writing in preparation for the thesis.

Admission to S.J.D. Candidacy

Admission to candidacy is a formal step that must be achieved before a student has the right to continue in the S.J.D. program to complete a dissertation and is determined by the student's committee on the basis of the work done during the student's year of residency in the program.

As part of the assessment process, the S.J.D. committee holds an oral examination toward the end of a student's year of residency that focuses on the work the candidate has completed on the dissertation, the candidate's general knowledge and understanding in relation to the subject matter of the dissertation, and the candidate's further plans for completion of the dissertation. If the committee is not able to admit the student to S.J.D. candidacy at the conclusion of the first year of residency, the committee may give an

extension of up to one calendar year if it finds a sufficient basis to believe that the student likely will be able to satisfy the necessary standard within that time.

Presentation of Dissertation Work

Each student is required to make at least one substantive presentation of dissertation work at a meeting of the S.J.D. tutorial to a specially constituted group of faculty, or in a public meeting, as arranged with the student's S.J.D. committee.

Completion of the Dissertation

Students admitted to S.J.D. candidacy continue to enroll in one s.h. of dissertation credit, which provides access to University resources, including the Law Library. However, students admitted to S.J.D. candidacy are free to complete their dissertation wherever they wish. In any event, they must continue to coordinate with their committee and continue to register each fall and spring semester as an S.J.D. candidate in the college.

Oral Defense of the Dissertation

Before a student's S.J.D. committee decides whether to approve the student's completed dissertation, the student must successfully defend the dissertation in an oral defense led by the committee. A student must complete the dissertation and have it approved by the committee within five calendar years from the date of admission to S.J.D. candidacy.

Admission

To be admitted to the S.J.D. program, students typically first complete the LL.M. degree at the University of Iowa or a similar masters-level degree at another law school, either in the United States or at an English language law school with academic standards equivalent to those of highly ranked U.S. LL.M. programs. In appropriate circumstances, the admissions committee will consider applications from excellent students without an English language master's-level degree who wish to proceed directly to work on their S.J.D. degree. All applicants must show strong evidence of scholarly research and writing abilities.

For more information, visit the S.J.D. application process web page.

University of Iowa Center for Human Rights

Director, Center for Human Rights

- Adrien K. Wing

Associate Director, Center for Human Rights/Director, Human Rights Certificate Program

- Gregory E. Hamot

Assistant Director, Center for Human Rights/Associate Director, Human Rights Certificate Program

- Amy Weismann

Undergraduate certificate: human rights

Website: <https://uicr.uiowa.edu/>

Human rights concern the inherent dignity of all human beings and the promotion and protection of that dignity regardless of race, color, gender, sexual orientation, religion, culture, nationality, birth, or other status. The Certificate in Human Rights broadens students' understanding of human rights issues and helps them learn how to use an interdisciplinary approach to identify solutions.

Course work for the certificate is drawn from units across the University of Iowa. It prepares students to examine societal problems critically and to design specific solutions to human rights dilemmas in a wide range of areas, such as civil governance, the situations of women and racial and sexual minorities, child welfare, socioeconomic development and well-being, hunger and poverty, education, health, immigration, ecological sustainability, and mass violence.

The Certificate in Human Rights is administered and awarded by the College of Law [p. 1502].

Programs

Undergraduate Program of Study Certificate

- Certificate in Human Rights [p. 1524]

Courses

University of Iowa Center for Human Rights Courses

HRTS:2115 Introduction to Human Rights 3 s.h.

Analysis and evaluation of the international human rights program; relationship between human rights and international law. Same as IS:2115.

HRTS:3905 Topics in Human Rights 1-3 s.h.

Examination of emerging human rights issues from an interdisciplinary and international perspective. Same as IS:3905.

HRTS:3906 Global Crises and Human Rights 3 s.h.

Exploration of human rights in context of global challenges; multidisciplinary; topics may include military conflict, nuclear war, human trafficking, environmental disasters, and other international human rights crises.

HRTS:3910 Human Rights Advocacy 3 s.h.

Theoretical foundations and critical issues for international human rights advocacy and international humanitarian movements. Same as IS:3910.

HRTS:3915 Human Rights and the Arts 3 s.h.

Ways in which violations of and struggle for human rights have affected and been affected by literary, musical, visual, architectural, and theatrical/dramatic arts in various countries past and present; art considered as expression, as market of identity, and as historical document.

HRTS:3920 Seminar in Human Rights Praxis: Supervised Internship arr.

Supervised internship in human rights praxis; focus on field-based advocacy and human rights frameworks.

Human Rights, Certificate

The undergraduate Certificate in Human Rights requires 18 s.h. of credit. The certificate program is open to current University of Iowa undergraduate students and to all individuals who hold a bachelor's degree and are not enrolled in a UI graduate or professional degree program. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. They may count a maximum of 6 s.h. of transfer credit toward the certificate with approval from the certificate program's faculty advisory group.

Individuals must declare their intent to earn the certificate. They must consult with the Certificate in Human Rights advisor to complete a plan of study; see the Certificate in Human Rights website for details.

The Certificate in Human Rights requires the following course work.

Code	Title	Hours
Philosophical Foundations and Contemporary Issues in Human Rights		
All of these:		
HRTS:2115/IS:2115	Introduction to Human Rights	3
HIST:4101	History of Human Rights	3
PHIL:3430	Philosophy of Human Rights	3
Human Rights in Practice		
All of these:		
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
One of these (contact the certificate advisor for more information):		
HRTS:3920	Seminar in Human Rights Praxis: Supervised Internship	3
HRTS:3905/IS:3905	Topics in Human Rights (this course must be taken three times for 1 s.h., each with a different topic)	3

Contact the certificate program advisor to learn about additional University of Iowa courses that relate to human rights. Individual students who would like to make substitutions for required courses must meet with the certificate program advisor; then they must submit a petition form to the program's faculty advisory group.

Carver College of Medicine

Vice President for Medical Affairs and Dean

- Jay Brooks Jackson

Executive Dean

- Patricia L. Winokur

Senior Associate Dean, Medical Education

- Christopher S. Cooper

Associate Dean, Faculty Affairs and Development

- Lois J. Geist

Associate Dean, Cultural Affairs and Diversity Initiatives

- Sherree A. Wilson

Associate Dean, Information Technology

- Boyd Knosp

Associate Dean, Graduate Medical Education

- Mark C. Wilson

Vice Dean, Clinical Affairs

- Douglas J. Van Daele

Associate Dean, Graduate and Postdoctoral Studies

- Daniel T. Tranel

Associate Dean, Research

- Robert C. Piper

Assistant Deans

- David P. Asprey, James Y. Choi, Steven R. Craig, Amy Lee, Denise A. Martinez, David J. Moser, Greg Nelson, Amal Shibli-Rahhal

Undergraduate majors: medical laboratory science (B.S.); nuclear medical technology (B.S.); radiation sciences (B.S.)

Undergraduate certificate: EMT paramedic program

Professional degrees: M.C.A.; M.D.; M.P.A.S.

Graduate degrees: M.A.; M.M.E.; M.S.; D.P.T.; Ph.D.

Website: <https://medicine.uiowa.edu/>

The Roy J. and Lucille A. Carver College of Medicine is an integral part of the University of Iowa. It contributes to the education of thousands of University students, is home to ground-breaking research in a wide array of disciplines, and provides a statewide health care resource.

The Carver College of Medicine is the only college in Iowa that offers a curriculum leading to the Doctor of Medicine. It also offers a Bachelor of Science in medical laboratory science, nuclear medicine technology, and radiation sciences (see Undergraduate Programs of Study [p. 1525] in this section of the Catalog) as well as Master of Science and Doctor of Philosophy degrees in several disciplines; the Master in

Medical Education; and the Doctor of Physical Therapy (see Graduate Programs of Study [p. 1525] in this section of the Catalog). In addition, the Carver College of Medicine offers professional degrees: the Doctor of Medicine and the Master of Physician Assistant Studies (see Professional Programs of Study [p. 1525] in this section of the Catalog).

Doctor of Medicine and other health sciences students have a number of opportunities to gain experience in medical clinics, community hospitals, and a major academic medical center. M.D. graduates may pursue further training in the specialties of family medicine, internal medicine, surgery, and pediatrics at one of 13 University of Iowa-affiliated residency programs in six Iowa cities. The college also participates in the education of students in the Colleges of Dentistry, Nursing, Pharmacy, and Public Health and in the life sciences and health-related programs of the College of Liberal Arts and Sciences, the College of Engineering, and the Graduate College.

Health professionals from throughout the Midwest take part in the college's year-round continuing medical education programming, updating their knowledge and skills through refresher courses, clinics, and conferences. The college also offers a variety of services that support Iowa physicians and community hospitals.

In addition to providing education and resources for physicians and other health care organizations, the college addresses broad public issues of distribution and organization of health care services. Its faculty members advise and serve on national, state, and regional health planning councils, health boards, and various health agencies.

Accredited by the Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges, the Carver College of Medicine meets the requirements of all state licensing boards. Its M.D. diploma admits the holder to all privileges granted to graduates of all medical colleges before such boards. All other professional programs administered by the college are accredited by their respective accrediting bodies.

Doctor of Medicine (M.D.)

The Doctor of Medicine is a four-year program that prepares students to practice primary care medicine and to pursue further education and training in specialized areas of medicine. For a description of the M.D. curriculum and information about admission to the program, financial support, and academic rules and procedures, see Doctor of Medicine [p. 1555] in the Catalog.

Programs

Undergraduate Programs of Study

The Carver College of Medicine offers a Bachelor of Science with majors in medical laboratory science, nuclear medicine technology, and radiation sciences. The medical laboratory science major is offered through a partnership with Allen College, in Waterloo, Iowa. See Medical Laboratory Science [p. 1571], Nuclear Medicine Technology [p. 1589], and Radiation Sciences [p. 1631] in the Catalog. In addition, the college offers an undergraduate certificate; see the EMT Paramedic Program [p. 1529] in this section of the Catalog.

Graduate Programs of Study

The Carver College of Medicine offers graduate programs leading to the M.S. in pathology [p. 1605]; departmental participation and teaching that leads to the Graduate College's M.S. and Ph.D. in biomedical science [p. 1428] with biochemistry, cell and developmental biology, free radical and radiation biology, microbiology, molecular physiology and biophysics, and pharmacology subprograms; the Ph.D. in physical rehabilitation science [p. 1610]; the Master in Medical Education [p. 1568] (M.M.E.); and the Doctor of Physical Therapy [p. 1610] (D.P.T.).

It also offers a combined M.D./Ph.D. degree through the Medical Scientist Training [p. 1574] Program; see Combined Programs [p. 1557] in the Doctor of Medicine section of the Catalog.

Many of the college's faculty members participate in the Graduate College's interdisciplinary programs in genetics [p. 1456], immunology [p. 1462], molecular medicine [p. 1481], and neuroscience [p. 1482].

Professional Programs of Study

The Carver College of Medicine offers the Doctor of Medicine [p. 1556] degree, the Master of Physician Assistant Studies [p. 1621] (M.P.A.S.), and the Master of Clinical Anatomy [p. 1538] (M.C.A.).

Undergraduate Rules and Procedures

Undergraduate study in the Carver College of Medicine is guided by the following academic rules and procedures.

Health Insurance, Immunizations

All health professions students are required to provide proof of health insurance coverage annually. Contact the University Benefits Office or visit its website.

All health sciences students must show proof of health examinations and screenings annually. For more information, contact Student Health & Wellness and see Requirements and Forms on its website.

Application for Degree

Students who want to be considered for graduation must submit a Degree Application with the Office of the Registrar through MyUI before the deadline for the session in which the degree is to be conferred. Students who have fulfilled the requirements for a minor must indicate this on the degree application form filed through MyUI so that completion of the requirements for the minor can be verified and noted on their transcript.

Academic Recognition

The University of Iowa and the Carver College of Medicine recognize academic achievement every fall and spring semester.

Graduation with Distinction

Graduating students may be recognized for their scholastic achievement upon recommendation by their academic program and with the dean's approval. Graduation with distinction, high distinction, or highest distinction is determined by both the cumulative and the University of Iowa grade-point average. Highest distinction requires a g.p.a. of

3.85 or higher; high distinction requires a g.p.a. of 3.75 to 3.84; and distinction requires a g.p.a. of 3.65 to 3.74.

To graduate with distinction, students must have completed a minimum of 60 s.h. of graded course work at the University of Iowa. Both S (satisfactory) and A-F (letter) grades are included in the total semester hour total. However, S grades are not calculated into the grade-point average. Radiologic technology certificate course grades are not included in the grade-point average and are not considered graded course work.

Students graduating with distinction have a notation added to their transcript and diploma. To be recognized for distinction, students must have completed 45 of their final 60 s.h. and earned the required grade-point average before their final semester of graduation.

Dean's List

Undergraduate students who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester. Students may qualify for the Dean's List with fewer than 12 s.h. of graded credit if deemed appropriate by the college.

President's List

University of Iowa undergraduate students who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

Financial Support

Students are eligible to apply for undergraduate financial aid. Scholarships, grants, loans, and part-time job placement are administered by the University's Office of Student Financial Aid. Part-time work in related areas is sometimes available.

Registration, Credit, Grading

Registration

Information about tuition and fees, registration, and deadlines is available from the Office of the Registrar. Students who add or drop a course after registration or who register late are assessed a fee. Each course dropped after the deadline results in a W (withdrawn) on the transcript (see Changes in Registration below). Students are not allowed to register for full-semester courses after the second week of the semester or the first week of the summer session. Students must register for off-cycle courses before the first day of the course.

The maximum permitted registration for fall and spring semesters is 18 s.h. per semester. The maximum registration for summer session varies: 4 s.h. for the four-week session; 9 s.h. for the eight-week session; 9 s.h. for the six- and eight-week sessions combined; 12 s.h. for the four-week session and the eight-week session; and 12 s.h. for the four-, six-, eight-, and twelve-week sessions combined. Students may register for a maximum of 16 s.h. of fall semester or spring semester course work during early registration. Students must obtain permission from the head of the division to register for more than the maximum semester hours allowed.

Changes in Registration

Students may change their registration on MyUI. After the start of the semester, students must first initiate an add or drop on MyUI and then contact their academic advisor for permission. Additional approvals may be necessary. Changes in registration to off-cycle courses and internships may require a Change of Registration Form.

Courses may be added with the approval of the advisor at any time during the first one-fifth of the course. They may be dropped at any time during the first two-thirds of the course. Approval is required from the dean of the Carver College of Medicine for all other changes in registration and is granted only in extraordinary circumstances. Students are assigned a mark of W (withdrawn) for any course dropped after the first one-fifth of the course. Students whose drop of one or more courses results in a registration of 0 s.h. for the semester must follow the procedure for withdrawal from the University instead of the add/drop procedure.

Students who have registered for courses offered for variable or arranged credit may change the number of semester hours with the signatures of the instructor, the advisor, and the head of the division at any time before the end of the first two-thirds of the course.

Other changes in registration (such as to audit for zero credit) may be made only during the first one-fifth of the course.

It is the student's responsibility to obtain the required permissions and to understand any consequences that may happen by processing the drop. Information regarding permissions and consequences will be posted on MyUI, but the student should contact their advisor with any questions. See Drop or Withdraw Tuition Responsibility on the Office of the Registrar website.

The Course Deadlines look-up provides course specific deadlines. The cut-off time for obtaining any permissions on deadline days is 4:30 p.m. Students have until 11:59 p.m. to process a drop in MyUI if they have obtained all required permissions by 4:30 p.m.

Withdrawal of Registration

Removing all courses from a schedule (even if only registered for one course) is considered a withdrawal of registration. Students may withdraw their registration without academic penalty at any time before the end of the first four-fifths of the course, but no credit is subsequently given. Later withdrawal results in automatic assignment of an F. Students who withdraw are not reinstated after the deadline for that session.

It is the student's responsibility to obtain the required permissions and to understand any consequences that may happen by processing the withdrawal. Information regarding permissions and consequences will be posted on MyUI, but the student should contact their advisor with any questions. See Drop or Withdraw Tuition Responsibility on the Office of the Registrar website.

Auditing Courses

Students may register to audit a course with approval of the appropriate program director and course instructor. In addition to obtaining these signatures, students must register for zero credit in the course to be audited. The mark of AUS (audit successful) is assigned if a student's attendance and performance are satisfactory; if they are unsatisfactory, the mark of AUU (audit unsuccessful) is assigned. Courses completed with a mark of AUS do not meet any college

requirement and carry no credit toward graduation. Auditing may not be used as a second-grade-only option.

Courses Offered by Other University of Iowa Colleges

Students who enroll in courses offered by other University of Iowa colleges are governed by those colleges' rules in matters regarding the courses. See Policy Governing Undergraduate and Professional Students Enrolled in Courses Outside Their Own College or Degree Program on the College of Liberal Arts and Sciences website.

In-Residence Requirement

The in-residence requirement may be met by earning the final consecutive 30 s.h. in residence at the University of Iowa, or 45 of the last 60 s.h. in residence, or an overall total of 90 s.h. in residence.

Nonresident instruction includes course work and correspondence study at other colleges, universities, and institutions. Undergraduate course work in other University of Iowa colleges counts toward in-residence requirements.

Because the Carver College of Medicine partners with Allen College for the medical laboratory science major, students are not held to the University of Iowa in-residence requirement.

Duplication and Regression

Duplication occurs when students take the same course more than once or when they take a course that duplicates the content of a course they already have completed satisfactorily. Regression occurs when students take a course that is less advanced or at a lower level than one in the same subject that they already have completed satisfactorily. Duplication and regression are assessed by the registrar. Semester hours earned by duplication or regression do not count toward graduation.

Minimum Grade Requirement

Students must earn a g.p.a. of at least 2.00 each semester in all college work attempted, all work undertaken at the University of Iowa, and all graded work attempted after admission to the Carver College of Medicine. Students enrolled in a program that uses the pass/fail/honors grading system must pass all courses required to complete the program.

Students must earn a C or higher in professional specialty (modality) courses.

Grading Procedures

Grading procedures vary from program to program. Students should consult individual program policy statements for information.

Pass/Nonpass

Students have the option of taking elective courses pass/nonpass (P/N) with the permission of the course instructor and/or the department offering the course. Students may register for the P/N grading option from the first day of classes until the last day for undergraduates to add a course; see Academic Calendar on the Office of the Registrar website.

To register for a P/N course, the student must print the Grading Option Change Form, have it signed by the course instructor and the academic advisor, and submit the

completed form to the UI Service Center before the published deadline.

Semester hours graded P/N are not used in computing a student's grade-point average. Semester hours graded P count toward graduation; those graded N do not. The college accepts a maximum of 15 s.h. of University of Iowa credit graded P toward the bachelor's degree, and it accepts a maximum of 30 s.h. of credit graded P and/or S from all sources (UI and transfer credit) toward the bachelor's degree. Students must be in good academic standing to be eligible for the pass/nonpass option.

Satisfactory/Fail or Satisfactory/Unsatisfactory

A number of courses only use satisfactory/fail (S/F) or satisfactory/unsatisfactory (S/U) grading. All students registered for these courses receive a grade of S, F, or U. Students do not need special forms or permission in order to register for S/F or S/U courses.

Semester hours graded S or U are not used in computing a student's grade-point average, but semester hours graded F are used in grade-point average computation. Semester hours graded S count toward graduation; semester hours graded F or U do not.

Students may use course work graded S to fulfill General Education Program requirements and/or the requirements of their major, a minor, or a certificate. The college accepts a maximum of 15 s.h. of University of Iowa credit graded S toward the bachelor's degree, and it accepts a maximum of 30 s.h. of credit graded P and/or S from all sources (UI and transfer credit) toward the bachelor's degree.

Second-Grade-Only Option

Repeating courses for the second-grade-only option is allowed in extraordinary circumstances. To repeat a course for the second-grade-only option, students must obtain the permission of the course instructor, the program director, and the dean before the end of the first one-fifth of the course. Both grades remain on the permanent record, but only the second one is used to calculate grade-point average and credit earned. Students using the second-grade-only option for courses that are not part of their major must follow the procedure for the college that offers the course.

Since clinical skills development is impacted by course sequence and many courses are prerequisites to others, it may not be possible to repeat a course. If course sequencing will have an impact on program progression, the decision will be made by the program faculty and/or the promotions committee.

On the permanent record, the second-grade-only option appears as a pound symbol (#), showing that the first grade has been replaced by the second grade in grade-point average calculations, and that only the hours from the second registration have been counted as hours earned.

Students must request the second-grade-only option before the last day of class in order for the second grade to appear on the next grade report. The request also may be made after the close of the semester. The second-grade-only option cannot be applied to course work for which a student has already been awarded a UI degree.

Incomplete

A grade of I (incomplete) may be reported if the reasons for inability to finish the course satisfactorily are acceptable to

the program director and the course instructor. There also must be evidence that the course work will be finished within a reasonable length of time, usually by the end of the next academic session. Incompletes not removed by the deadline for submission of final grades for the next session result in the assignment of a grade of F. A student must work with the instructor so that an incomplete grade may be rectified by official action.

Reports to Students

Instructors notify any student whose work falls below the minimum acceptable level once the problem is recognized. Grades are reported on a student's transcript, following University protocol. No formal midterm reports are given.

Degrees and Minors

Two Bachelor's Degrees

Students who want to earn two bachelor's degrees, each from a different college, must communicate the request to their academic advisor, who will then contact the University's Office of Admissions. Interested students must complete the degree requirements for both majors, including the residency requirements.

Second Bachelor's Degree

Students who already hold a bachelor's degree and wish to earn an additional bachelor's degree must complete at least 30 s.h. consecutively in the Carver College of Medicine and must meet college and program degree requirements. Individuals interested in earning a second bachelor's degree must apply for admission to the degree program at the University's Office of Admissions.

Minors

Students graduating from the Carver College of Medicine may earn a minor or minors in any degree-granting department or program in the college outside of their major department or in another college of the University by meeting that department's requirements for the minor.

Academic Progress, Probation, Dismissal

Students are expected to maintain satisfactory academic and professional standards and to demonstrate reasonable progress toward the Bachelor of Science. Students who fail to maintain satisfactory academic progress or professional standards of behavior as determined by their program may be placed on probation or dismissed from the program. Probation serves as a warning that students will not graduate unless their academic performance and/or professional behavior improves.

Students on probation are restored to good standing by the program director upon evidence that the problem has been corrected. Such action is usually taken at the end of a semester or session. Entering students may be admitted on probation if they fail to meet the minimum stated standards for admission.

Continued unsatisfactory scholarship or unprofessional behavior may result in dismissal from a program. Students dismissed from a program must reapply for admission through the regular, established program admissions process, following review by a faculty committee, at least four months before the requested date of readmission.

Students placed on probation or dismissed from a program are notified by email; copies are placed in their files. An academic probation notation is placed on the transcript.

Students on academic probation are restored to good standing after they successfully complete a total of 9 s.h. either in one semester or cumulatively. Their University of Iowa cumulative and semester grade-point averages must be equal to or exceed 2.00. Students on academic probation who fail to meet the grade-point average requirement in the designated time frame for restoration to good standing are subject to dismissal.

Students are expected to attend classes regularly. Students who miss classes or examinations because of illness are expected to present evidence that they have been ill. Any other absences must be approved in advance by the course instructor.

Any offense against good order committed by a student in a classroom, clinical setting, or laboratory may be dealt with by the instructor or referred to the program director. The instructor reports in writing any disciplinary action taken against a student to the program director. Repeated or exceptional instances are reported to the dean.

Academic Misconduct

Plagiarism and Cheating

All cases of plagiarism and cheating in the Carver College of Medicine are reported to the dean with a statement of relevant facts. The program director and the instructor may submit recommendations for appropriate disciplinary action.

The individual instructor may reduce the student's grade, including assignment of the grade of F in the course. A report of this action is sent to the student, the program director, and the dean.

The dean, or a faculty committee appointed by the dean, may impose the following or other penalties, as the offense warrants: disciplinary probation, requirement of additional hours for the degree, suspension from the program for a period of time, or recommendation of expulsion from the program.

Appeals Procedure

Students who want to appeal a decision should appeal in writing to the dean within two weeks after the date of receipt of the decision in writing.

EMT Paramedic Program

Emergency Medical Technology (EMT) Paramedic Program

Website: <https://uihc.org/paramedic-education-program>

This nationally accredited 1,160-hour full-time program leads to certification as a paramedic in Iowa and on the National Registry. The full-time program is conducted in three segments and consists of 16 weeks of intensive classroom training at the University of Iowa Hospitals and Clinics, five days a week. The second segment consists of 280 hours of supervised clinical experience in a hospital setting. A minimum of 360 hours of supervised paramedic field time internships with a paramedic-level ambulance service rounds out the training program. Internships are available at a number of approved sites in Iowa.

Students obtain credentials in advanced cardiac life support provider, advanced medical life support, geriatrics education for EMS, neonatal resuscitation program (NRP), pediatric advanced life support provider, pediatric education for pre-hospital professionals provider, and pre-hospital trauma life support provider.

The program is conducted twice each year, beginning in January and August.

Goals

The goal of the Emergency Medical Services Learning Resources Center's (EMSLC) paramedic education program is to facilitate a student's development of cognitive and technical competencies to an entry-level paramedic.

Upon completion of the program, students demonstrate:

- the ability to comprehend, apply, and evaluate the clinical information relative to their role as an entry-level paramedic;
- the technical proficiency in all skills necessary to fulfill the role of an entry-level paramedic; and
- personal behaviors consistent with professional and employer expectations for an entry-level paramedic.

Curriculum

The program adheres to the National Emergency Medical Services Educational Guidelines as defined by the National Highway Traffic Safety Administration (NHTSA) throughout the program. Students who successfully complete the program are eligible to take the National Registry paramedic examinations.

Accreditation

The Emergency Medical Services Learning Resources Center at the University of Iowa Hospitals and Clinics is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Facilities

The Carver College of Medicine consists of twelve buildings containing 1.6 million square feet of space with one building (College of Medicine Administration Building) dedicated to administrative departments only. The other eleven buildings house research activities which include research centers, programs and institutes, as well as the Core Research Facilities which are a collection of centralized laboratories dedicated to developing and providing state-of-the-art research resources to facilitate biomedical research. They are available on a fee-for-service basis to the entire health sciences community along with outside entities.

The Medical Education Research Facility houses medical education space and research laboratories, including the Holden Comprehensive Cancer Center and the Institute for Vision Research. It also contains the college's four learning communities. The communities group students who are at different stages in their medical education, encouraging peer-to-peer learning and emphasizing leadership and community service. Each learning community features small-group rooms, study and social spaces, computer workstations, a kitchen area, and staff offices. The Medical Education Research Facility also houses the Performance-Based Assessment Program, which evaluates students' clinical

and communication skills by reviewing simulated physician-patient encounters recorded in mock patient examination suites.

Students acquire clinical skills experience at the 761-bed University of Iowa Hospitals and Clinics, the Iowa City VA Health Care System, and in affiliated hospitals and ambulatory care centers throughout Iowa. University of Iowa Hospitals and Clinics serves as a tertiary care center for Iowa and portions of adjoining states. Many patients are referred to University of Iowa Hospitals and Clinics for care and treatment not available in their home communities.

Eckstein Medical Research Building is the home of the Iowa Institute of Human Genetics Genomics Division, Viral Vector Core Facility, Flow Cytometry Facility, and the Biomedical Research Store.

The five basic science departments are housed in the Bowen Science Building and include the Departments of Anatomy and Cell Biology, Biochemistry, Microbiology and Immunology, Molecular Physiology and Biophysics, and Pharmacology.

The Medical Education Building houses research and educational space for the Department of Physical Therapy and Rehabilitation Science. It also houses research space for the Department of Psychiatry and is the home of the Office of Consultation and Research in Medical Education (OCRME). OCRME is staffed by education specialists from a range of disciplines who serve the faculty, staff, and administrators in all Carver College of Medicine programs. The office provides educational consultation, initiates and cooperates in educational research endeavors, and conducts faculty development activities.

There are teaching laboratories located in the Medical Education Building, the Bowen Science Building, and the Medical Research Facility.

Other buildings that house a wide range of College of Medicine departments, administration, and research activities are the Carver Biomedical Research Building, Westlawn, Medical Laboratories, the Medical Research Facility, the Medical Research Center, and the Multi-Tenant Facility.

The newest building, completed in 2014, is the Pappajohn Biomedical Discovery Building. The Iowa Neuroscience Institute is located on the first and second floors of the building. Third and fourth floors house the Fraternal Order of Eagles Diabetes Research Center and the Abboud Cardiovascular Research Center, on the fifth floor is the Auditory Research Group, and on the sixth floor is the Lung Biology and Cystic Fibrosis Research Center. The Iowa Institute for Biomedical Imaging is on the lower basement levels housing the 7 Tesla MRI scanner (one of few such devices in the U.S.), 3T along with several smaller devices, and a 3-D visualization lab. All researchers in this building are chosen by the Pappajohn Biomedical Institute in which scientists from across the University collaborate to explore high-risk/high-yield scientific questions in the life sciences with the goal of advancing treatments for a wide array of human diseases.

Interdisciplinary Programs and Centers

The college's interdisciplinary programs and centers draw strength from college faculty members and the facilities available to them, without regard to departmental units or to the distinction between graduate and postgraduate training. For more information, contact the vice dean for research.

The following centers are subdivisions of the Carver College of Medicine.

Alzheimer's Disease Research Center

The Alzheimer's Disease Research Center studies Alzheimer's disease and related neurological conditions from the viewpoint of neuroanatomy, neuroimaging, neuropsychology, and neurochemistry. The center's purposes are to improve the diagnosis and treatment of these conditions, to disseminate information on new research to the public, and to contribute to a better understanding of the neural basis of cognition.

Carver Genetic Testing Laboratory

The John and Marcia Carver Nonprofit Genetic Testing Laboratory provides genetic testing for rare eye diseases, especially diseases so rare that commercial tests are unavailable for them. The laboratory's test results provide information to patients and their families while keeping the tests affordable.

Holden Comprehensive Cancer Center

The Holden Comprehensive Cancer Center (HCCC) coordinates the efforts of University of Iowa faculty and staff in research, education, and clinical programs related to all aspects of cancer. The HCCC is recognized by the National Cancer Institute as an NCI-designated cancer center and has "comprehensive" status, a designation that recognizes the depth and breadth of interdisciplinary cancer research activity taking place at the University of Iowa.

Iowa Mental Health Clinical Research Center

The major emphasis of the Iowa Mental Health Clinical Research Center is the study of schizophrenia. The center provides the facilities for research linking the clinical picture of the illness with its underlying neurobiology. The center's seven research units conduct the necessary integrative and interdisciplinary research to advance knowledge about the disease.

UI Heart and Vascular Center

The UI Heart and Vascular Center coordinates research and training programs related to cardiovascular diseases. It encompasses several programs: Program Project Grant on Integrative Neurobiology of Cardiovascular Function, Program Project Grant on Cerebral Blood Vessels, Program Project Grant on Oxidative Mechanisms in Vascular Disease, Program Project Grant on Genetic and Signaling Mechanisms in the Central Regulation of Blood Pressure, Program Project Grant on Airway Physiology and Pathophysiology in a Porcine CF Model, Program Project Grant on Gene Therapy for Cystic Fibrosis Lung Disease, a Leducq Foundation Consortium grant, and a Cystic Fibrosis Foundation research and development program. It also coordinates several training programs and a program of other interdisciplinary research supported by a number of individual project grants. The center occupies two floors of cardiovascular research laboratories and administrative offices in the Medical Research Center.

Courses

- Carver College of Medicine Courses [p. 1531]
- EMT-Paramedic Program Courses [p. 1533]
- Orthoptics Teaching Program Course [p. 1534]

Most Carver College of Medicine courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections. The college also offers the following nondepartmental courses.

Carver College of Medicine Courses

MED:1100 Introduction to Health Care Professions 3 s.h.

Introduction to current U.S. health care system and changes that are likely in the near future; information about distinct health care professions grouped by discipline (e.g., nursing, pharmacy, public health), and less traditional career pathways in health care fields; how health care professionals across disciplines coordinate to deliver better health care; instruction by prominent health care faculty at the University of Iowa; for students considering a career in the health care field.

MED:3740 End-of-Life Care for Adults and Families

3 s.h.

End-of-life issues in care of adults, older adults, and their families. Same as ASP:3740, NURS:3740, PHAR:3740.

MED:5300 Health Informatics I

3 s.h.

Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IE:5860, IGPI:5200, SLIS:5900.

MED:8001 Medical Elective

arr.

MED:8003 Clinical Clerkships

arr.

MED:8005 Medical Student Research Fellowships 0 s.h.

MED:8010 Introduction to Medical Education at Iowa 0 s.h.

Introduction to first-year fall courses; advanced concepts in anatomy, biochemistry, cell biology, and clinical reasoning skills; for M.D. students.

MED:8021 Community Health Outreach I 0-1 s.h.

Presentations and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

MED:8022 Community Health Outreach II 1-2 s.h.

Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

MED:8023 Community Health Outreach III 1-2 s.h.

Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

MED:8028 Introduction to U.S. Health Care System

1 s.h.

Structure, function, and finance of U.S. health care system; access, cost, quality, finance mechanisms, reform process.

MED:8070 The Examined Life: Writing and Medicine

1 s.h.

Literature, essays, poetry; discussion of participants' writing; students prepare portfolios of their own writing.

MED:8071 Career Life Planning 1 s.h.

Students' individual interests, values, and decision-making processes important in selecting a specialty, engaging in the match process, and integrating oneself into the medical profession; personal career development, culture and climate in which physicians work and learn.

MED:8073 Biomedical Innovation 1 s.h.

Introduction to all phases of medical device/technology development; development of knowledge of entire medical innovation process through didactic sessions, faculty, interactions, and interdisciplinary collaboration; interdisciplinary approach; research and development of a novel medical device, therapy, or model of care. Requirements: M.D. enrollment.

MED:8074 Research Skills Seminar 1 s.h.

Seminar series designed to bridge gap from undergraduate and medical student experiences to research during residency and beyond; topics include identification of projects and mentors, leadership, collaboration, translation, evidence-based medicine, project development, statistical analysis, presentation, publication, and career progression.

MED:8076 Bioethics and Humanities Seminar 1 s.h.

Broad range of topics in bioethics and medical humanities, including philosophical principles, clinical ethics, research ethics, medical professionalism, narrative ethics, and historical and cultural aspects of medicine. Requirements: enrollment in Carver College of Medicine Humanities Distinction Track.

MED:8077 Personal-Professional Compass 1 s.h.

Provides help for medical students to understand, articulate, and integrate personal and professional values and goals while making their way through medical school; promote student growth as humanistic professionals through written reflections on personal experience, readings from medicine and the humanities, and discussions with peers and mentors; preparation to write an authentic and compelling personal statement for residency applications. Requirements: M.D. enrollment.

MED:8081 Global Health Issues I 1 s.h.

Core issues in the current field of global health, including history of global health, health and development, social determinants of health, measuring health and disease, disparities in the American health care system, poverty and health, gender issues and reproductive health, child health, immigrant and migrant health issues, and introduction of major players in global health. Requirements: M.D. enrollment.

MED:8082 Global Health Issues II 1 s.h.

Core issues in the current field of global health, including health care as a human right, why the Third World is the Third World, communicable disease issues, outbreaks and pandemics, noncommunicable issues, malnutrition and obesity, cultural context of health care, violence as a health issue, and emergency response and transition to development. Prerequisites: MED:8081. Requirements: M.D. enrollment.

MED:8083 Global Cross-Cultural Elective arr.

Cross-cultural medical program with focus on health care problems of a domestic or international community; individually arranged.

MED:8084 Global Health Seminar 1 s.h.

Presentations by faculty members, University special guests, and alumni on their current work in global medicine/global health; implementation of global health concepts. Requirements: M.D. enrollment.

MED:8121 Clinical and Professional Skills I 3 s.h.

Introduction to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement of classroom experiences into context of patient care through the Early Clinical Experiences (ECE) program; interaction with students from other health sciences colleges to explore the interprofessional approach to caring for patients. Requirements: M.D. enrollment.

MED:8122 Medicine and Society I 3 s.h.

Delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; application of health and risk assessment to individual patients and self. Requirements: M.D. enrollment.

MED:8123 Foundations of Cellular Life 5 s.h.

Genetics, embryology, molecular biology, biochemistry, cell biology and histology; molecular events required for cellular life; how cells grow and interact to form basic tissues of human body; necessary framework to explore six mechanisms of health and disease. Requirements: M.D. enrollment.

MED:8124 Mechanisms of Health and Disease I 8 s.h.

Normal and healthy processes within and among mechanisms of oxygenation, metabolism, and genetics/development; first in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.

MED:8131 Clinical and Professional Skills II 4 s.h.

Interpersonal skills, lifelong learning, interviewing skills, physical examination skills, ethical issues in patient care, and basic approach to patients in terms of prevention, treatment, and follow-up care. Second in a sequence during preclinical semesters of medical school and continuing as an integrated strand throughout curriculum. Requirements: M.D. enrollment.

MED:8132 Medicine and Society II 4 s.h.

Knowledge and skills related to health promotion and disease prevention from a medicine and society perspective, including impact of behavior, environment, culture, and socioeconomics; identification of major public health problems associated with mechanisms of health and disease. Second in a sequence during preclinical semesters of medical school and continuing as an integrated strand throughout curriculum. Requirements: M.D. enrollment.

MED:8133 Mechanisms of Health and Disease II 7 s.h.

Normal and healthy processes within and among mechanisms of Immunology/Inflammation, locomotion/integument, and neuropsychiatry; second in a series on mechanisms of health and disease. Requirements: M.D. enrollment.

MED:8134 Mechanisms of Health and Disease III 11 s.h.

Abnormalities or disruptions leading to disease within and among mechanisms of oxygenation, metabolism, and genetics/development; third in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.

MED:8199 First-Year Special Study arr.

First-year special study. Requirements: M.D. enrollment.

MED:8215 Foundations of Clinical Practice IV ICD arr.

Basic diagnostic considerations in each of medicine's clinical disciplines, as required of primary care providers. Requirements: second-year M.D. enrollment.

MED:8221 Clinical and Professional Skills III 4 s.h.

Advanced clinical reasoning skills through focused patient encounters and interactions with special patient populations; emphasis on integration and use of concepts for cost conscious, patient-centered, interdisciplinary care. Requirements: M.D. enrollment.

MED:8222 Medicine and Society III 4 s.h.

Health services organization and delivery; emphasis on community dimensions of medical practice and patient safety. Requirements: M.D. enrollment.

MED:8223 Mechanisms of Health and Disease IV 10 s.h.

Abnormalities or disruptions leading to disease within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry; fourth in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.

MED:8224 Mechanisms of Health and Disease Keystone 7 s.h.

Transition between classroom instruction in mechanisms of health and disease and clinical practice; foundational information from mechanisms of health and disease sequence approached from perspective of what is commonly encountered in clinics; application of information to making diagnostic and management decisions of common important clinical problems. Requirements: M.D. enrollment.

MED:8299 Second-Year Special Study arr.

Second-year special study. Requirements: M.D. enrollment.

MED:8300 Clinical Beginnings 1 s.h.

Orientation to third-year clerkships; technical skills, simulated patient activities, competence with the physical exam.

MED:8301 Community-Based Primary Care arr.

Introduction; clinical activities, work with community agencies and resources, didactic and conferences. Requirements: M.D. enrollment.

MED:8320 Transition to Clerkships 1-2 s.h.

Two weeks of skills training prior to start of core clinical clerkships. Requirements: M.D. or M.P.A.S. enrollment.

MED:8401 Medicine, Literature, and Writing arr.

Insights, freedom, joy, responsibilities, and challenges of a life in medicine; reading, discussion, individual creative writing.

MED:8403 Teaching Skills for Medical Students 4 s.h.

Practical teaching techniques; opportunity for students to develop teaching skills before they become medical residents.

MED:8404 Advanced Teaching Skills for Medical Students 2 s.h.

Opportunity to expand knowledge and experience in medical education; investigation of medical education in students' specialty of interest through literature research and interaction with faculty; primary focus is to design and successfully complete a faculty approved project. Prerequisites: MED:8403. Requirements: fourth-year M.D. enrollment.

MED:8405 Leadership for Future Physicians 2 s.h.

Formal training in multiple aspects of leadership; offers future leaders in health science specialties an earlier opportunity to consider leadership abilities and perspectives; for fourth-year medical, physician assistant, nursing, pharmacy, public health, and dental students. Requirements: health science enrollment.

MED:8410 Quality Improvement and Patient Safety**2 s.h.**

Students work with faculty and staff involved in quality improvement and patient safety (QI/PS) at University of Iowa Hospitals and Clinics (UIHC); readings, didactic sessions, and hands-on activities to advance knowledge and practice of QI/PS in health care; activities include review of ongoing QI/PS projects at UIHC, application of QI/PS methodologies to project development and analysis, individual and team-based simulations, interdisciplinary collaboration and communication, participating in conferences related to QI/PS, and reflecting on these experiences with peers. Same as NURS:3728.

MED:8411 Foundational Science and Drug Therapy**2 s.h.**

Advanced medical students partner with advanced pharmacy students and work together to devise evidence-based treatments for patients suffering from common illnesses; foundational science concepts from each student's respective discipline—including mechanisms of health and disease and principles of pharmacokinetics and pharmacodynamics—are used to design and explain proposed treatments; two weeks, case-based.

MED:8412 Improvisation: A Life Skill**4 s.h.**

Drawing from interpersonal communication techniques, experiences that help students communicate more empathically with their patients, patients' families, and other health care team members in order to create a safe and trusting exchange.

MED:8480 Global Health Clerkship**arr.**

Cross-cultural medical program at an international site; focus on health care problems of a specific community; individual educational objectives set in advance.

MED:8499 Individually Arranged Medicine Elective**arr.**

Individually arranged elective through the Office of Student Affairs and Curriculum.

MED:9701 Instructional Design and Technology**3 s.h.**

Skills and techniques necessary for analysis, design, development, implementation, and evaluation of effective instruction.

MED:9702 Clinical Teaching in Medical Education**3 s.h.**

Principles and methods for teaching individuals and small groups in outpatient and inpatient settings. Prerequisites: MED:9701 or PSQF:6205. Recommendations: educational psychology course.

MED:9703 Educational Research and Evaluation**3 s.h.**

Research design and program evaluation; approaches relevant to medical education.

MED:9711 Teaching Methods in Medical Education**3 s.h.**

Principles and methods for teaching in large and small classrooms. Recommendations: educational psychology course.

MED:9712 Introduction to Educational Measurement in Medical Education**3 s.h.**

Classical test theory; overview of medical education assessment methods; practical information for designing and critiquing assessments.

MED:9713 Assessment in Medical Education**3 s.h.**

Medical education assessment methods; research methods and literature that support current practices; research project. Prerequisites: MED:9712.

MED:9714 Current Issues in Medical Education**3 s.h.**

Selected issues, policies, and research.

MED:9720 Portfolio Project**3 s.h.**

Production of individual student portfolios used to integrate knowledge across courses; capstone activity.

MED:9721 Study in Faculty Development**3 s.h.**

Academic credit for approved project or other assigned activities for students in the Teaching Scholars program.

MED:9722 Independent Study**arr.****MED:9724 Leadership in Medicine****3 s.h.**

Introduction to basic leadership and management theories pertaining to a health care setting; focus on the history of leadership development, various components of leadership, and how these components can be used to be a successful leader/administrator. Requirements: Master in Medical Education degree program enrollment.

MED:9725 Simulation in Medical Education**3 s.h.**

Appropriate use of various types of simulation in medical education; how to design, deliver, and debrief a simulation activity; literature supporting use of simulation in medical education. Requirements: Master in Medical Education degree program enrollment.

MED:9726 Curriculum Development in Medical Education**3 s.h.**

Curriculum development using knowledge and experience gained from MED:9701, MED:9702, and MED:9711; identification of an area/topic for creation of curriculum; conduction of a needs assessment to identify topics and/or components of curriculum; creation of plan with curriculum goals, learning objectives, methods for evaluation; development of preliminary planning and aspects of implementation and evaluation phases of the model.

MED:9727 Teaching and Assessing Communication Skills in Medical Education**3 s.h.**

Explores broad issues related to both teaching and assessing clinician-patient communication skills in medical education; review literature on best practices in clinician-patient communication and on teaching and/or assessing skills among medical learners; explore observation and feedback as key technique in addressing communication skills through observation of peers and learners; video recording of interactions with patients.

Hospital Certificate Programs of Study

The following courses are conducted by University of Iowa Hospitals and Clinics staff.

EMT-Paramedic Program Courses

EMTP:3101 Emergency Medical Technician - Paramedic I**0 s.h.**

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Requirements: certification as an emergency medical technician-basic.

EMTP:3102 Emergency Medical Technician - Paramedic II**0 s.h.**

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Prerequisites: EMTP:3101.

EMTP:3103 Emergency Medical Technician - Paramedic III 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Prerequisites: EMTP:3101.

Orthoptics Teaching Program Course**OTP:4902 Orthoptics Program 0 s.h.**

Clinical science of binocular vision, ocular motility, and related eye disorders; practical, theoretical training in the Department of Ophthalmology and Visual Sciences two-year program; written, oral and practical national board examinations required at completion. Requirements: bachelor's degree with specific class recommendations.

Anatomy and Cell Biology

Chair

- John F. Engelhardt

Professional degree: master of clinical anatomy

Faculty: <https://medicine.uiowa.edu/acb/people/primary-appointments>

Website: <https://medicine.uiowa.edu/acb/>

The Department of Anatomy and Cell Biology performs three major functions. It teaches human anatomy to students preparing for careers in the health care professions; provides advanced courses, teaching experience, and research training to graduate students preparing for careers in academic research and related scientific fields; and conducts original research on the biological basis of cellular functions and human disease processes.

Preclinical Study

The department contributes to the preclinical education of health care professionals by providing major courses in gross anatomy, cell biology, histology, and neuroscience.

Graduate Study

The department offers the cell and developmental biology subprogram for the Ph.D. in biomedical science. It also participates in the Carver College of Medicine's Medical Scientist Training [p. 1574] Program and the Graduate College's Molecular Medicine [p. 1481], Immunology [p. 1462], Genetics [p. 1456], and Neuroscience [p. 1482] Programs. On occasion, students are directly admitted to a Department of Anatomy and Cell Biology laboratory by arrangement with the laboratory director.

Professional Study

The Department of Anatomy and Cell Biology offers a professional degree, the Master of Clinical Anatomy (M.C.A.).

Programs

Graduate Programs of Study

Majors

- Master of Science in Anatomy and Cell Biology
- Doctor of Philosophy in Anatomy and Cell Biology

Students interested in doctoral studies in cell and developmental biology should apply under the umbrella program in Biomedical Science [p. 1428] (select cell and developmental biology subprogram). Direct applications to the M.S. and Ph.D. in anatomy and cell biology are not currently being considered. Students who entered a graduate anatomy and cell biology program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Professional Program of Study

Major

- Master of Clinical Anatomy [p. 1538]

Facilities

The department occupies more than 35,000 square feet in the Bowen Science Building on the University of Iowa health sciences campus. The building houses modern teaching facilities and well-equipped research laboratories. The most modern instrumentation is available, including facilities and equipment for digital microscopic imaging, confocal microscopy, molecular biological techniques, tissue culture, and protein chemistry. Other specialized equipment (e.g., electron microscopes, mass spectrophotometers) is available in other facilities. Through collaborative programs with the Holden Comprehensive Cancer Center and the Abboud Cardiovascular Research Center, faculty and students also have access to outstanding research facilities throughout the University's health sciences campus.

Courses

Anatomy and Cell Biology Courses

ACB:3110 Principles of Human Anatomy 3 s.h.

Gross and microscopic human anatomy; systemic approach to regional anatomy with emphasis on clinical relevance; optional tutorial sessions. Offered fall semesters. Requirements: pharmacy, pre-nursing, or associated medical sciences major.

ACB:3122 Independent Study in Anatomy and Cell Biology arr.

Projects arranged with department faculty members.

ACB:4156 Scanning Electron Microscopy and X-Ray Microanalysis arr.

Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as CBE:4156, EES:4156.

ACB:5108 Human Anatomy 5 s.h.

Regional dissection, lectures, demonstrations; areas important to physical therapists, particularly the upper and lower extremities. Offered fall semesters. Requirements: physical therapy and rehabilitation science enrollment.

ACB:5203 Gross Human Anatomy for Graduate Students 5 s.h.

Regional dissection, lectures, demonstrations, tutorials, discussions, seminars; clinically relevant areas of anatomical radiology, surface anatomy with clinical correlations. Requirements: enrollment in master of clinical anatomy program.

ACB:5206 Graduate Research in Cell and Developmental Biology arr.

Individual laboratory research training in anatomical sciences.

ACB:5210 General Histology Online 3 s.h.

Histology of all tissues of human body starting with basic tissues and working through systems of the body; linked in sequence to the human gross anatomy for graduate students course so students will be learning about related content at the same time in anatomy and histology; online course consisting of recorded lectures, online modules, and extensive use of Virtual Microscope. Requirements: enrollment in master of clinical anatomy program.

ACB:5218 Microscopy for Biomedical Research arr.

Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as BIOL:5218, MICR:5218.

ACB:5224 Graduate Seminar in Cell and Developmental Biology 0-1 s.h.

Current research, literature. Requirements: cell and developmental biology graduate standing.

ACB:6000 Human Anatomy for Advanced Practice 3 s.h.

Integrated study of interrelationships between anatomic structure and physiological function in health and disease at various points in the lifespan; mechanisms governing and supporting cellular, organ, and system function; internal milieu; relationship of study to clinical assessment of functional integrity of individual organ systems utilizing pertinent objective and subjective data; implications of pathophysiology for anesthesia and implications of anesthesia for pathophysiology; foundation for clinical practicums and courses in nurse anesthesia. Requirements: completion of an undergraduate human anatomy and physiology course and admission to anesthesia nursing program. Same as NURS:6000.

ACB:6200 Special Topics in Genetics 1 s.h.

Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as GENE:6200.

ACB:6220 Mechanisms of Cellular Organization 3 s.h.

Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BIOC:3130. Same as MMED:6220, MPB:6220.

ACB:6225 Growth Factor Receptor Signaling 1 s.h.

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as MMED:6225, MPB:6225.

ACB:6226 Cell Cycle Control 1 s.h.

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as MMED:6226, MPB:6226.

ACB:6227 Cell Fate Decisions 1 s.h.

Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as MMED:6227, MPB:6227.

ACB:6237 Critical Thinking in Biochemistry and Molecular Biology 1 s.h.

How nucleic acids, proteins, lipids, and carbohydrates interact to influence the function of cells and tissues; how molecules drive signaling pathways and cellular processes essential for biological functions; based on research publications.

ACB:6238 Critical Thinking in Genetics 1 s.h.

Current topics in molecular and classical genetics; emphasis on genetic underpinnings of disease; based on primary research publications.

ACB:6239 Critical Thinking in Cell Biology 1 s.h.

Understanding subcellular organization and intercellular communication; emphasis on critical thinking and primary research publications.

ACB:6248 Critical Thinking in Development 1 s.h.

Current topics in molecular basis of vertebrate development; based on primary research publications.

ACB:6249 Critical Thinking in Cellular Physiology 1 s.h.

Control of physiological systems at the cellular level; emphasis on regulation by molecular signaling pathways; literature-based.

ACB:6250 Clinical Thinking in Scientific Writing and Presentations 1 s.h.

Scientific grant writing, particularly specific aims development, and oral presentations. Requirements: second-year standing in cell and developmental biology graduate program.

ACB:6252 Functional Neuroanatomy arr.

Basic principles of neuroanatomy and neurophysiology; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord and brain. Offered spring semesters. Requirements: physical therapy and rehabilitation science enrollment or graduate standing. Same as PTRS:6253.

ACB:6265 Neuroscience Seminar 0-1 s.h.

Research presentations. Same as BIOL:6265, MPB:6265, NSCI:6265, PSY:6265.

ACB:7001 Teaching and Learning in the Anatomical Sciences 2 s.h.

Strategies involved in anatomical sciences education; these include interactive lecturing, dissection, peer teaching/learning, plastination, virtual microscopy, simulation, and case presentation, as well as assessment techniques; online course delivered through recorded lectures and online modules. Requirements: enrollment in master of clinical anatomy program.

ACB:7002 Seminar in Anatomical Sciences 1 s.h.

Opportunity to discuss peer-reviewed anatomical, clinical, and education research articles as they relate to issues of teaching in the anatomical sciences; student- and/or faculty-led presentations prompt further discussion of various in-depth studies that focus on bringing current information into the classroom. Requirements: enrollment in master of clinical anatomy program.

ACB:7010 Anatomy Through Imaging 2 s.h.

Exploration of anatomy through basic imaging techniques; online modules and in-class activities; focus on identification of normal structures through application of anatomical concepts. Requirements: enrollment in master of clinical anatomy program.

ACB:7020 Human Embryology Online 2 s.h.

Major events of embryologic development in humans; more of a morphologic focus than a molecular focus, but includes important molecular concepts of development; students come to understand the backstory of adult human anatomy and how various birth defects occur. Offered spring semesters. Prerequisites: ACB:5203 or ACB:8101 or ACB:5108. Requirements: enrollment in master of clinical anatomy program.

ACB:7227 Anatomic Study for Teaching 2-3 s.h.

Experience completing a detailed dissection of a region of the human body; opportunity to create models depicting anatomical concepts. Requirements: enrollment in master of clinical anatomy program.

ACB:7400 Practicum in College Teaching for Master of Clinical Anatomy 1-4 s.h.

Supervised college teaching experience; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations. Recommendations: enrollment in master of clinical anatomy program.

ACB:8101 Medical Gross Human Anatomy 5 s.h.

Complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, independent activities. Offered fall semesters. Requirements: M.D. or M.P.A.S. enrollment.

ACB:8120 Human Gross Anatomy for Dental Students 6 s.h.

Exploration of gross anatomy of human body including thorax, abdomen, upper limb; extensive focus on head, neck, and neuroanatomy; regional and systemic approaches; course sequence and assessment blended with general histology for dental students; cadaveric dissections closely follow lecture sequence; emphasis on correlations to dental practice. Offered spring semesters. Requirements: D.D.S. enrollment.

ACB:8121 General Histology for Dental Students 4 s.h.

Microscopic study of cells, fundamental tissues, organ systems; emphasis on tooth-related structures. Offered spring semesters. Requirements: D.D.S. enrollment or anatomy and cell biology graduate standing.

ACB:8401 Advanced Human Anatomy arr.

Regional dissection of the body with emphasis on systems relevant to student's specialty interests; discussion, reading, clinically relevant imaging, embryology. Offered spring semesters. Requirements: fourth-year M.D. enrollment or graduate standing.

ACB:8402 Teaching Elective in Regional Anatomy 2,4 s.h.

Expand knowledge and experience in medical education; investigate educational pedagogy in a laboratory setting coupled with self-directed learning of anatomical content relevant to professional development; prepare, design, and implement four teaching interactions with M1/D1/PA1 students; design a classroom exercise (e.g., interactive lecture, learning activity, computer-based study module) that helps bridge the basic science content with clinical procedure. Requirements: M.D. standing and enrollment in teaching distinction track.

ACB:8403 Advanced Human Anatomy for Master of Clinical Anatomy arr.

Regional dissection of the body with emphasis on systems relevant to student's specialty interests; discussion, reading, clinically relevant imaging, and embryology. Requirements: enrollment in master of clinical anatomy program.

ACB:8404 Teaching Elective in Regional Anatomy for Master of Clinical Anatomy 2 s.h.

Expansion of knowledge and experience in medical education; investigation of educational pedagogy in a laboratory setting coupled with self-directed learning of anatomical content relevant to professional development; preparation, design, and implementation of four teaching interactions with first-year medical, dental, and physician assistant students; design of a classroom exercise (e.g., interactive lecture, learning activity, computer-based study module) that helps bridge basic science content with clinical procedure. Requirements: enrollment in master of clinical anatomy program.

ACB:8498 Special Study On Campus arr.

Anatomy research on campus; individually arranged. Requirements: M.D. enrollment.

Master of Clinical Anatomy, M.C.A.

Website: <https://medicine.uiowa.edu/acb/education/master-clinical-anatomy-program/>

The mission of the professional degree program, Master of Clinical Anatomy (M.C.A.), is to provide clinically relevant content knowledge coupled with experiential learning activities for developing skills in teaching, education research, and enhancing advancement to professional health care programs. Graduates will be able to:

- demonstrate knowledge of the anatomical sciences (neuroanatomy, gross anatomy, and histology) at a level necessary for instruction within a professional program;
- design and deliver effective instructional activities appropriate for a cadaveric dissection course;
- design and deliver effective instructional activities appropriate for individual, small group, large group, and laboratory settings;
- evaluate the effectiveness of educational instruction using both formative and summative methods; and
- practice effective methods of self-reflection on the nature, quality, and impact of instructional activities for learning.

Requirements

The Master of Clinical Anatomy (M.C.A.) program requires a minimum of 32 s.h. of work that is distributed between required (25 s.h.) and elective (7 s.h.) course work. Students must maintain a g.p.a. of at least 3.25. The program is designed so that students can complete the requirements in a year and a half, and provides clinically relevant content coupled with experiential learning activities to develop skills in teaching and educational research. A portion of the curriculum is offered online to complement classroom and laboratory learning.

Students with a degree in a specific biological science (e.g., genetics) for which no formal course work in basic gross anatomy has been completed may be required to take a prerequisite undergraduate anatomy course.

The Master of Clinical Anatomy requires the following course work.

Code	Title	Hours
First Year, Fall Semester		
ACB:5203	Gross Human Anatomy for Graduate Students	5
ACB:5210	General Histology Online	3
ACB:7001	Teaching and Learning in the Anatomical Sciences	2
Electives		
ACB:7010	Anatomy Through Imaging	2
First Year, Spring Semester		
ACB:6252	Functional Neuroanatomy	4
ACB:7002	Seminar in Anatomical Sciences	1
ACB:7020	Human Embryology Online	2
ACB:7227	Anatomic Study for Teaching	3
Electives		
ACB:7010	Anatomy Through Imaging	2

ACB:8401	Advanced Human Anatomy	4
ACB:8402	Teaching Elective in Regional Anatomy	2
MED:8403	Teaching Skills for Medical Students	4

First Year, Summer Session

ACB:5206	Graduate Research in Cell and Developmental Biology	2
GRAD:7400	Practicum in College Teaching	4

Electives

ACB:7020	Human Embryology Online	2
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Second Year, Fall Semester

ACB:5206	Graduate Research in Cell and Developmental Biology	2
GRAD:7400	Practicum in College Teaching	4

Electives

ACB:8402	Teaching Elective in Regional Anatomy	2
GRAD:7385	Teaching and Learning in Higher Education	3
PSQF:6205	Design of Instruction	3

Admission

Applicants must:

have a B.A. or B.S. degree with a strong science background;

have a g.p.a. of at least 3.00;

have an external performance exam from the last five years, such as MCAT (minimum score of 500 or pre-2015 exam scores greater than 27) or Graduate Record Examination (GRE) General Test (score above the 50th percentile with verbal score of at least 150 and math score of at least 150);

have a Test of English as a Foreign Language (TOEFL) score between 550 and 600 and be required to pass an English competency certification within the first 12 months of entry into the program, if an international applicant whose first language is not English;

provide three letters of reference/support;

submit a personal statement; and

be available for an interview with the M.C.A. faculty.

Application deadline is July 1.

For detailed application instructions and forms, visit the Department of Anatomy and Cell Biology.

Career Advancement

Graduates are prepared for a variety of anatomical sciences education settings that include advanced professional study, faculty/lectureship positions in medicine, and allied health care fields at community colleges. Some will want to continue their studies within a health care profession, others may want to prepare for college-level teaching, and others may want to pursue a career in anatomical sciences.

Anesthesia

Chair

- Cynthia Wong

Faculty: <https://medicine.uiowa.edu/anesthesia/people/primary-appointments>

Website: <https://medicine.uiowa.edu/anesthesia/>

Since its inception, the Department of Anesthesia at the University of Iowa has educated more than 400 anesthesiologists. Eighteen former residents have served as heads of departments of anesthesiology at American medical colleges.

The department has been, and continues to be, well-represented on editorial boards of major anesthesia journals. It provides refresher course lectures for the annual meeting of the American Society of Anesthesiologists, has physician-researchers who are recognized by the National Institute of Health as independently funded principal investigators, provides many board examiners for the oral exams of the American Board of Anesthesiology; and has earned high national ranking because of these and other objective accomplishments.

The department coordinates the Anesthesia Nursing Program, a collaboration between the Carver College of Medicine and the College of Nursing. The program, which is open to nurses who hold a bachelor's degree, prepares nurse anesthetists to serve rural hospitals in Iowa and nationwide. The curriculum provides intensive training in didactic and clinical anesthesia and includes diverse clinical experience as well as classroom instruction, seminars, and clinical case conferences. For more information, see the Doctor of Nursing Practice [p. 1673] (College of Nursing) section of the Catalog.

M.D. Training

The Department of Anesthesia introduces second-year medical students to anesthesia as a specialty; helps third-year students develop concepts and technical skills related to resuscitation, airway management, and care of the unconscious patient; and offers fourth-year students intensive study in the specialty. It offers the following courses for medical students. For course descriptions and prerequisite information, see Courses [p. 1539] in this section of the Catalog.

Code	Title	Hours
ANES:8301	Clinical Anesthesia	2
ANES:8401	Clinical Anesthesia Senior	arr.
ANES:8402	Surgical and Neurosciences Intensive Care	arr.
ANES:8495	Intensive Care Off Campus	arr.
ANES:8498	Anesthesia On Campus	arr.
ANES:8499	Anesthesia Off Campus	arr.

Residency

Postgraduate and Residency Program

The department's postgraduate and residency program involves diverse clinical experiences, seminars and teaching conferences, and ongoing research activities that help

postgraduate students and residents develop the knowledge and skills required of an anesthesia specialist.

Courses

Anesthesia Courses

ANES:6004 Scientific Principles for Anesthesia Practice

4 s.h.

Applicable chemical and physical properties of molecules important in anesthesia; technological principles and equipment used to safely deliver those molecules to patients and monitor patients during anesthesia; topics include basic chemical and physical calculations, properties of substances in solution, measurement, behavior of gases and other fluids, effects of heat transfer, and the specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Corequisites: NURS:6006. Same as NURS:6004.

ANES:6005 Chemical and Physical Principles of Anesthesia Practice

3 s.h.

Basic chemical and physical properties of molecules fundamental to practice of anesthesia; relationship of these properties in relation to physiological processes and pharmacological principles essential in monitoring a patient's physical status and administration of anesthesia medications; basic chemical and physical calculations, properties of substances in solution, measurement of such chemical species, behavior of gases and other fluids, effects of heat transfer, specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Requirements: admission to anesthesia nursing program. Same as NURS:6005.

ANES:6006 Pharmacology of Anesthesia Practice

3 s.h.

Builds on content from foundational graduate pharmacology course; focus on safe prescribing, administration, and management of medications used to provide general, regional, or local anesthesia and analgesia for all patient populations across lifespan undergoing varied surgical, obstetrical, or other procedures in any health care setting. Prerequisites: PCOL:6204 with a minimum grade of B-. Requirements: enrollment in anesthesia nursing program. Same as NURS:6006.

ANES:6007 Basic Principles of Anesthesia Practice

5 s.h.

Overview and integration of anesthetic agents and techniques; patient assessment, preoperative airway evaluation, anesthetic planning, principles of fluid management, and arterial blood gas interpretation; principles of general and regional anesthesia and techniques as they pertain to each surgical specialty; Occupational, Safety and Health Administration (OSHA), The Joint Commission (TJC), and institutional regulations and requirements pertinent to anesthesia practice. Prerequisites: NURS:6004 with a minimum grade of B- and NURS:6006 with a minimum grade of B-. Same as NURS:6007.

ANES:6010 Advanced Principles of Anesthesia Practice I

4 s.h.

Special needs and intraoperative anesthetic management of complex patient populations and those with advanced pathologic states; anesthetic techniques for specific surgical subspecialties including pediatrics, obstetrics, neurosurgery, cardiac, vascular, thoracic, transplant, trauma, EENT, dental, and aesthetic or reconstructive procedures; pertinent pathophysiology and anesthetic monitoring and management techniques; clinical case conferences provide opportunities to discuss perianesthetic complications and challenges. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as NURS:6010.

ANES:6012 Advanced Principles of Anesthesia Practice II 1 s.h.

Acute and chronic pain treatment modalities for all patients presenting for a variety of medical or surgical procedures across the lifespan. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as NURS:6012.

ANES:6050 Introductory Clinical Anesthesia 2 s.h.

Initial mentorship in clinical anesthesia; development of basic clinical skills needed for a career as nurse anesthetist; application and integration of theoretical knowledge in clinical setting. Prerequisites: NURS:6004 and NURS:6006. Corequisites: NURS:6007. Same as NURS:6050.

ANES:6051 Clinical Anesthesia I 2 s.h.

Mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6050 or ANES:6050. Corequisites: NURS:6010. Same as NURS:6051.

ANES:6052 Clinical Anesthesia II 2 s.h.

Additional mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6051 or ANES:6051. Same as NURS:6052.

ANES:6053 Advanced Clinical Anesthesia 2 s.h.

Mentored clinical anesthesia at selected sites; development of advanced clinical skills and critical thinking by providing anesthesia for all surgical specialties and invasive diagnostic procedures in all anesthetizing locations; providing anesthesia for all patients in all settings, including on call emergency surgeries. Prerequisites: NURS:6052. Same as NURS:6053.

ANES:6054 Obstetrical Anesthesia 2 s.h.

Experience delivering analgesia and anesthesia for parturients during labor and delivery process. Prerequisites: NURS:6052. Same as NURS:6054.

ANES:6055 Rural Anesthesia 2 s.h.

Opportunity to develop experience providing anesthesia and associated health care services at UI-affiliated clinical sites in rural settings. Prerequisites: NURS:6052. Same as NURS:6055.

ANES:8301 Clinical Anesthesia 2 s.h.

Clinical instruction in perioperative care of the surgical patient; preoperative evaluation, consideration of coexisting medical problems, intraoperative care, postoperative management; basic airway management; introduction to clinical management of acute and chronic pain; case conferences, simulator training.

ANES:8401 Clinical Anesthesia Senior arr.

Advanced clinical experience in anesthesia management of surgical patients with coexisting medical problems; clinical experience in various forms of anesthesia; general, regional (spinal, epidural, peripheral nerve block) anesthesia; practical experience in airway management; mask ventilation, endotracheal intubation, LMA placement, other alternative airway techniques; medical management of surgical patient under anesthesia; pharmacology, cardiovascular and pulmonary physiology; case conferences.

ANES:8402 Surgical and Neurosciences Intensive Care arr.

Evaluation and treatment of critically ill neurological and post-surgical patients; evaluation of pulmonary function, ventilator management, monitoring and management of hemodynamics, fluid balance, acid-based problems, acute kidney injury, acute neurological events, and advanced monitoring techniques.

ANES:8495 Intensive Care Off Campus arr.

Evaluation and treatment of seriously ill patients in an intensive care unit (other than University of Iowa Hospitals and Clinics); artificial ventilation, evaluation of pulmonary function, monitoring of cardiovascular status, fluid balance and acid base problems, advance monitoring techniques. Prerequisites: ANES:8401. Requirements: 4 s.h. of ANES:8401.

ANES:8497 Research in Anesthesia arr.

Medical research, clinical or laboratory projects; individual study.

ANES:8498 Anesthesia On Campus arr.

Well defined research project relating to anesthesia; arranged by student with departmental approval.

ANES:8499 Anesthesia Off Campus arr.

Knowledge development in anesthesia work and monitor use; ability to identify respiratory, cardiovascular, and neurologic effects of anesthetic agents; skill in airway management; basic skills in general, spinal, epidural, and peripheral nerve block anesthesia.

Biochemistry

Chair

- Charles M. Brenner

Undergraduate major: biochemistry (B.A., B.S.)

Faculty: <https://medicine.uiowa.edu/biochemistry/people/primary-appointments>

Website: <https://medicine.uiowa.edu/biochemistry/>

Biochemistry is the study of basic chemical processes that occur in and govern all living systems. Nearly all areas of the life sciences engage in biochemical research.

The Department of Biochemistry offers undergraduate majors and determines the curricula for those programs. Undergraduate students majoring in biochemistry receive their degrees (Bachelor of Arts or Bachelor of Science) from the College of Liberal Arts and Sciences, and their studies are governed by that college's undergraduate academic policies.

Faculty and Research

The department's faculty members supervise research in biochemistry; molecular, cellular, developmental, computational, and structural biology; and model system genetics. Their work is supported by grants from the National Institutes of Health, the National Science Foundation, the American Heart Association, the American Cancer Society, the Muscular Dystrophy Association, and other sources. To learn more about the department's faculty members and areas of research, visit the Department of Biochemistry website.

Programs

Undergraduate Programs of Study

Majors

- Major in Biochemistry (Bachelor of Arts) [p. 1544]
- Major in Biochemistry (Bachelor of Science) [p. 1547]

Graduate Programs of Study

Majors

- Master of Science in Biochemistry
- Doctor of Philosophy in Biochemistry

Students interested in doctoral studies in biochemistry should apply under the umbrella program in Biomedical Science [p. 1428] (select biochemistry subprogram). Direct applications to the M.S. and Ph.D. in biochemistry are not currently being considered. Students who entered a graduate biochemistry program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

The Department of Biochemistry occupies 36,700 square feet on the fourth floor of the Bowen Science Building, 7,500 square feet on the third floor of the Medical Education Research Facility, and 2,900 square feet on the fourth floor of the Pappajohn Biomedical Discovery Building in the Fraternal Order of Eagles Diabetes Research Center on the University's health sciences campus. It has a number of well-equipped research laboratories; other departmental facilities include the

Biochemistry Stores, the Mattill Biochemistry Reading Room, and the Heath Conference Room.

The department makes available a number of shared instruments; among them are an Applied PhotoPhysics stopped flow spectrometer SX20; a Jasco spectropolarimeter, model J815; a Horiba fluorolog-3 spectrofluorometer; and a Beckman Coulter ultra XLI analytical centrifuge.

Faculty, staff, and students in the department have access to a variety of shared Carver College of Medicine resources, including the Protein Crystallography Facility, the Iowa Institute of Human Genetics Genomics Division (DNA Facility), the Nuclear Magnetic Resonance Facility, the Proteomics Facility, the Flow Cytometry Facility, the Viral Vector Core Facility, the Small Animal Imaging Core Facility, and the Genome Editing Facility. The University also supports resources such as the Central Microscopy Research Facilities and the High Throughput Screening Facility.

Courses

Biochemistry Courses

BIOC:1001 CLAS Master Class 1-3 s.h.

Exploration of a single topic in a series of lectures by faculty presenting divergent perspectives; illuminates intellectual adventure inherent in liberal arts and sciences; encourages discovery of majors and other areas of study within the College of Liberal Arts and Sciences. Same as ARTS:1001, CLAS:1001, CS:1001, CSD:1001, ENGL:1001, HIST:1001, PHIL:1001, RELS:1010, THTR:1001.

BIOC:3110 Biochemistry 3 s.h.

One-semester survey of basic concepts in modern biochemistry and molecular biology; emphasis on application of biochemical concepts to human metabolism; appropriate for students who plan to pursue a career in health care or want an overview of biochemistry as a discipline. Requirements: one year each of college-level biology and chemistry. Recommendations: one semester of organic chemistry.

BIOC:3120 Biochemistry and Molecular Biology I 3 s.h.

Physical and chemical foundations of biochemistry, structure of biological molecules, catalysis, transport, and oxidative reactions in biology; first course of two-semester sequence that concludes with BIOC:3130. Requirements: two semesters of general chemistry and one of organic chemistry. Recommendations: BIOL:1411, BIOL:1412, and an additional organic chemistry course.

BIOC:3130 Biochemistry and Molecular Biology II 3 s.h.

Carbohydrate biosynthesis, lipid metabolism, hormone regulation and integration of metabolism, signal transduction, genes and chromosomes, DNA replication and repair, transcription, RNA processing, protein translation and regulation of gene expression. Prerequisites: BIOC:3120 with a minimum grade of C-.

BIOC:3140 Experimental Biochemistry 2 s.h.

Use of modern instruments and techniques to fractionate, identify, and characterize constituents of biochemical systems. Prerequisites: BIOC:3120 with a minimum grade of C. Requirements: two semesters of general chemistry and one semester of organic chemistry.

BIOC:3150 Development of Senior Research Project 2 s.h.

Preparation for biochemistry majors pursuing a senior research project in BIOC:4999; communicating technical information through writing and speaking; presenting scientific journal articles and writing experimental protocols; developing detailed proposal for one-year senior research project. Prerequisites: BIOC:3130 or BIOC:3120 or BIOC:3140. Requirements: biochemistry major, and junior or senior standing.

BIOC:3800 Biochemistry Teaching Practicum arr.

Training for qualified junior or senior undergraduates majoring in biochemistry or a related field to contribute to undergraduate courses; interns may hold review sessions, offer regular office hours, draft questions for homework or exams, assist in proctoring exams, assist students in a laboratory setting, and help with course implementation; guidance from the faculty director and instructors in each course; interns are expected to work approximately three hours per week for each semester hour of credit earned. Requirements: completion of a course covering the same or equivalent material with a grade of B or higher, and must arrange for a short interview with the appropriate course director prior to registration.

BIOC:3993 Undergraduate Independent Study arr.

Experience in an active biochemistry research lab, learning and performing experiments relevant to current projects in that lab; exploration of scientific literature on topic of interest; arranged in advance by student and biochemistry faculty member.

BIOC:4241 Biophysical Chemistry I 3 s.h.

Principles and experimental approaches used to study structure and function of biological macromolecules; protein structure, stability, and dynamics; macromolecular interactions; common biophysical methods. Prerequisites: BIOC:3120 with a minimum grade of C- and BIOC:3130 with a minimum grade of C-. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

BIOC:4242 Biophysical Chemistry II 3 s.h.

Principles and experimental approaches used to study structure and function of biological macromolecules; ligand binding and enzyme catalysis; X-ray crystallography; NMR spectroscopy. Prerequisites: BIOC:3120 with a minimum grade of C- and BIOC:3130 with a minimum grade of C-. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

BIOC:4310 Computational Biochemistry 3 s.h.

Introduction to biomolecular modeling and computer simulation techniques; biomolecular structure and molecular driving forces; principles of structural optimization and conformational sampling; applications to biomolecular phenotypes; scripting and molecular visualization in PyMol, setting up and running molecular dynamics simulations using VMD and NAMD, performing refinement of X-ray diffraction data sets using Phenix, and executing Poisson-Boltzmann electrostatic calculations using APBS. Prerequisites: (MATH:1560 or MATH:1860) and CHEM:1120. Recommendations: BIOC:3110 or BIOC:3120. Same as BME:4310.

BIOC:4999 Research, Independent Study arr.

Independent study and research in areas of interest to student; arranged in advance by student and biochemistry faculty advisor. Prerequisites: BIOC:3120 with a minimum grade of B- and BIOC:3130 with a minimum grade of B- and BIOC:3140 with a minimum grade of B- and BIOC:3150 with a minimum grade of B-. Requirements: BIOC:3993 or URES:3994 or HONR:3994 or prior research experience or lab practicum.

BIOC:5215 Directed Readings for Graduate Students arr.

Directed readings with course content arranged with professor.

BIOC:5241 Biophysical Chemistry I 3 s.h.

Principles and experimental approaches used to study structure and function of biological macromolecules; protein structure, stability, and dynamics; macromolecular interactions; common biophysical methods. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

BIOC:5242 Biophysical Chemistry II 3 s.h.

Principles and experimental approaches used to study structure and function of biological macromolecules; ligand binding and enzyme catalysis; X-ray crystallography; NMR spectroscopy. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

BIOC:5243 Biophysical Chemistry I, Module I 1 s.h.

Overview of principles of protein structure, stability, folding, and dynamics; brief treatment of structural biology approaches to help students become critical users of models derived from X-ray crystallography and NMR; taken alone or as part of BIOC:5241. Requirements: introductory course in biochemistry.

BIOC:5244 Biophysical Chemistry II, Module I 1 s.h.

Enzymes as unparalleled catalysts that represent a unique class of drug targets; focus on organic chemistry of enzyme catalyzed reactions and enzyme inhibition by small molecules from a medicinal chemistry perspective; chemical and enzyme kinetics, sources of catalytic power, chemical mechanisms used in enzyme catalysis, role of coenzymes; strategies in enzyme inhibition, drug resistance, drug synergism, reversible enzyme inhibitors, transition state analogs, slow tight binding inhibitors, irreversible inhibition; taken alone or as part of BIOC:5242. Requirements: introductory course in biochemistry. Same as PHAR:5542.

BIOC:5245 Biophysical Chemistry I, Module II 1 s.h.

In-depth examination of statistical thermodynamics and molecular forces in biological systems as related to protein structure, stability, and folding; nucleic acid structure and stability; taken alone or as part of BIOC:5241. Requirements: introductory course in biochemistry.

BIOC:5246 Biophysical Chemistry II, Module II 1 s.h.

Utilization of X-ray crystallography and NMR spectroscopy in determining atomic resolution biomolecular structures; crystal geometry, X-ray diffraction, the phase problem, data collection, structure solving and refinement; basic principles of NMR spectroscopy including magnetic properties of nuclei, chemical shift, resonance assignments, determination of NOEs, scalar couplings, RDCs, and simulated annealing approaches to structure determination; for students interested in structural biology; taken alone or as part of BIOC:5242. Requirements: introductory course in biochemistry.

BIOC:5247 Biophysical Chemistry I, Module III 1 s.h.

In-depth examination of protein-protein interactions and protein-nucleic acid interactions; implications in biological motility, transcription, and replication; taken alone or as part of BIOC:5241. Requirements: introductory course in biochemistry.

BIOC:5248 Biophysical Chemistry II, Module III 1 s.h.

Methods for studying biomolecular dynamics, structure of large biomolecules and biomolecular complexes; measurement and analysis of NMR parameters for characterization of dynamics including T1, T2, hetNOE, CPMG-RD, and RDCs; introduction to computational approaches (e.g., molecular dynamics); NMR methods for studying large biomolecular systems and survey of other approaches including cryoEM and SAX; for students interested in structural biology; taken alone or as part of BIOC:5242. Requirements: one year of biochemistry. Recommendations: basic knowledge of spectroscopy and some previous exposure to NMR from basic chemistry courses.

BIOC:5261 Research Techniques 1-6 s.h.

Laboratory rotation for first-year graduate students in biochemistry.

BIOC:5282 Seminar 0-2 s.h.

How to evaluate reports of scientific investigations critically; techniques for presenting scientific information.

BIOC:5875 Perspectives in Biocatalysis 1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as CBE:5875, CEE:5875, CHEM:5875, MICR:5875, PHAR:5875.

BIOC:7251 Introduction to Protein Structures 1 s.h.

Basics of protein structures and amino acids; module covers chapters 1-5 of Lehninger's *Principles of Biochemistry*. Recommendations: first-year graduate standing in biosciences or physical sciences.

BIOC:7252 Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics 1 s.h.

Basics of enzyme kinetics and enzyme mechanisms, carbohydrates, nucleic acids, and bioenergetics; module covers chapters 6, 7, 8, and 13 of Lehninger's *Principles of Biochemistry*. Recommendations: first-year graduate standing in biosciences or physical sciences.

BIOC:7253 Metabolism I 1 s.h.

Basics of carbohydrate metabolism (glycolysis, gluconeogenesis, the pentose phosphate pathway), hormonal regulation of carbohydrate metabolism, the citric acid cycle, amino acid catabolism, oxidative phosphorylation; assignment of an advanced topic related to material, typically a recent research paper, extending inquiry beyond that presented in class and presented orally at end of five-week module. Requirements: undergraduate biochemistry course or background in enzyme function.

BIOC:7254 Metabolism II 1 s.h.

Central carbon metabolism, carbohydrate biosynthesis in plants and bacteria, lipid structure/function, fatty acid catabolism, lipid biosynthesis, and biological membranes/transport; assignment of an advanced topic related to material, typically a recent research paper, extending inquiry beyond that presented in class and presented orally at end of five-week module; module covers chapters 10, 11, 17, 20, and 21 of Lehninger's *Principles of Biochemistry*; course can be taken alone or as part of BIOC:3130. Recommendations: first-year graduate standing in biosciences or physical sciences.

BIOC:7255 Metabolism III and Biosignaling 1 s.h.

Basics of membranes and transport, biosignaling, nitrogen metabolism, integration of metabolism, genes, and chromosomes; module covers chapters 11, 12, 22, 23, and 24 of Lehninger's *Principles of Biochemistry*; course can be taken alone or as part of BIOC:3130. Recommendations: first-year graduate standing in biosciences or physical sciences.

BIOC:7256 Molecular Biology 1 s.h.

DNA, RNA, and protein metabolism, regulation of gene expression, and DNA-based information technologies; module covers chapters 25, 26, 27, 28, and 9 of Lehninger's *Principles of Biochemistry*; course can be taken alone or as part of BIOC:3130. Recommendations: first-year graduate standing in biosciences or physical sciences.

BIOC:7292 Research Biochemistry arr.

Thesis research.

BIOC:8101 Biochemistry for Dental Students 3 s.h.

Biochemical concepts and application to clinical problems. Requirements: CHEM:2210 and D.D.S. enrollment. Recommendations: CHEM:2220.

Biochemistry, B.A.

To maximize student flexibility, the curriculum for the B.A. with a major in biochemistry is identical to the B.S. degree in the first two years of study.

Requirements

The Bachelor of Arts with a major in biochemistry requires a minimum of 120 s.h., including 58 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

The biochemistry major for the Bachelor of Arts degree provides a rigorous education in biochemical concepts and practice in the laboratory while giving students flexibility to specialize in additional disciplines or to obtain clinical volunteer experience. The B.A. program is intended for most students majoring in biochemistry, including those with pre-medicine, pre-pharmacy, pre-dental, and other pre-health professions interests. It also is appropriate for students earning more than one major.

Qualified students in the Bachelor of Arts degree program may graduate with honors in the biochemistry major; see "Honors in the Major" under Honors [p. 1544] in this section of the Catalog.

The B.A. with a major in biochemistry requires the following course work.

Code	Title	Hours
Common Requirements		49
Additional Requirements		9
Total Hours		58

Common Requirements

Students complete the following during their first two years.

Code	Title	Hours
BIOC:3120 & BIOC:3130	Biochemistry and Molecular Biology I-II	6
BIOC:3140	Experimental Biochemistry	2
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 or CHEM:2230	Organic Chemistry I Organic Chemistry I for Majors	3
CHEM:2220 or CHEM:2240	Organic Chemistry II Organic Chemistry II for Majors	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory Organic Chemistry Laboratory for Majors	3
MATH:1850 & MATH:1860	Calculus I-II	8
PHYS:1511 or PHYS:1611	College Physics I Introductory Physics I	4
PHYS:1512 or PHYS:1612	College Physics II Introductory Physics II	4

If students take PHYS:1612 Introductory Physics II, they must take the course with the lab component.

Additional Requirements

In addition to the common requirements listed above, students must complete the following.

Code	Title	Hours
One of these:		
BIOC:4241	Biophysical Chemistry I	3
BIOC:4242	Biophysical Chemistry II	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
And:		
	Advanced science electives, approved by biochemistry advisor	6

Students intending to earn advanced degrees in the biological or health sciences are advised to earn at least 4 s.h. in BIOC:3993 Undergraduate Independent Study or BIOC:4999 Research, Independent Study. There are no prerequisites for BIOC:3993. The course involves experience in an active biochemistry research lab, which must be arranged ahead of time with a supervising faculty member. Students may make arrangements directly with the faculty member, or they may request assistance from an undergraduate advisor. Credit earned in BIOC:3993 does not count toward the major, but it does count toward the minimum of 120 s.h. required to graduate.

Before students register for BIOC:4999 Research, Independent Study, they must have completed BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, BIOC:3140 Experimental Biochemistry, and BIOC:3150 Development of Senior Research Project, with a grade of B-minus or higher in each course. Students also are required to have prior research experience, such as in BIOC:3993 Undergraduate Independent Study, URES:3994 Undergraduate Research and Creative Projects, or HONR:3994 Honors Research Practicum, and permission of the instructor.

Teacher Licensure

Students interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33. They must earn 6 s.h. in BIOC:4999 Research, Independent Study and present their research results in a report written in the form of a journal article and in an oral report given at a special open departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biochemistry major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1850 Calculus I, and MATH:1860 Calculus II

Before the fifth semester begins: BIOL:1411 Foundations of Biology, BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors, CHEM:2220 Organic Chemistry II or CHEM:2240 Organic Chemistry II for Majors, and CHEM:2410 Organic Chemistry Laboratory or CHEM:2420 Organic Chemistry Laboratory for Majors

Before the seventh semester begins: PHYS:1611 Introductory Physics I or PHYS:1511 College Physics I, PHYS:1612 Introductory Physics II or PHYS:1512 College Physics II, BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, BIOC:3140 Experimental Biochemistry, a science elective, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: CHEM:4430 Principles of Physical Chemistry or CHEM:4431 Physical Chemistry I or CHEM:4432 Physical Chemistry II or BIOC:4241 Biophysical Chemistry I or BIOC:4242 Biophysical Chemistry II, and a science elective

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biochemistry, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Students in good academic standing can switch from the B.A. to the B.S. degree program after completing one semester of organic chemistry (CHEM:2230 Organic Chemistry I for Majors or CHEM:2210 Organic Chemistry I).		
	Hours	0

First Year

Fall

CHEM:1110	Principles of Chemistry I ^{a, b}	4
MATH:1850	Calculus I ^c	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^d		1
CSI:1600	Success at Iowa	2
Hours		14-15

Spring

CHEM:1120	Principles of Chemistry II ^a	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion ^e		3
Elective course ^d		1
Hours		15-16

Second Year

Fall

BIOL:1411	Foundations of Biology ^a	4
CHEM:2230 or CHEM:2210	Organic Chemistry I for Majors or Organic Chemistry I	3
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2
Hours		16-17

Spring

BIOL:1412	Diversity of Form and Function ^a	4
CHEM:2240 or CHEM:2220	Organic Chemistry II for Majors or Organic Chemistry II	3
CHEM:2420 or CHEM:2410	Organic Chemistry Laboratory for Majors or Organic Chemistry Laboratory	3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2
Hours		16-17

Third Year

Fall

BIOC:3120	Biochemistry and Molecular Biology I	3
PHYS:1611 or PHYS:1511	Introductory Physics I or College Physics I	4
Major: research or science elective (consult with advisor) ^{g, h}		3
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		17-18

Spring

BIOC:3130	Biochemistry and Molecular Biology II	3
BIOC:3140	Experimental Biochemistry	2
PHYS:1512 or PHYS:1612	College Physics II or Introductory Physics II	4
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f	4 - 5
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Hours	16-17
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Fourth Year

Fall

CHEM:4431 Physical Chemistry I or BIOC:4241 or Biophysical Chemistry I or CHEM:4430 or Principles of Physical Chemistry	3
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Major: research, independent study, or elective (consult with advisor) ^{g, h}	3
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Major: science elective (consult with advisor) ^g	3
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GE CLAS Core: International and Global Issues ^e	3
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Elective course ^d	3
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Hours	15
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Spring

Major: research, independent study, or elective (consult with advisor) ^{g, h}	3
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Major: science elective (consult with advisor) ^g	3
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GE CLAS Core: Social Sciences ^e	3
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Elective course ^d	3
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Elective course ^d	3
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Hours	15
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Total Hours	124-130
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- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students are required to complete 6 s.h. in advanced science electives approved by biochemistry advisor.
- h Students intending to earn advanced degrees in the biological or health sciences are advised to earn at least 4 s.h. in BIOC:3993 or BIOC:4999.

Career Advancement

Biochemistry graduates with bachelor's degrees often work as research assistants in industry, government, education, or health services; teach in secondary schools; or go on to advanced study in medicine, dentistry, or other areas. The program offers solid preparation for careers in medicine, biology, chemistry, dentistry, research, or related sciences. About one-third of biochemistry majors go on to study medicine; others enter graduate programs or professional degree programs.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Biochemistry, B.S.

To maximize student flexibility, the curriculum for the B.S. with a major in biochemistry is identical to the B.A. degree in the first two years of study.

Requirements

The Bachelor of Science with a major in biochemistry requires a minimum of 120 s.h., including 70 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

All students majoring in biochemistry are initially placed in the Bachelor of Arts degree program. Students in good academic standing can switch to the Bachelor of Science degree program after completing one semester of organic chemistry (CHEM:2230 Organic Chemistry I for Majors or CHEM:2210 Organic Chemistry I). Students who wish to change their degree program to the Bachelor of Science should do so by filling out a change of degree form at the College of Liberal Arts and Sciences Office of Academic Programs & Student Development.

The biochemistry major for the Bachelor of Science degree is intended primarily for students planning careers in research. The B.S. program prepares students to pursue graduate degrees, such as an M.S., Ph.D., or a combined M.D./Ph.D. program, or to work as research technicians. The B.S. program requires 15 s.h. more credit in science and laboratory electives than the B.A. program does.

Qualified students in the Bachelor of Science degree program may graduate with honors in the biochemistry major; see "Honors in the Major" under Honors [p. 1544] in this section of the Catalog.

The B.S. with a major in biochemistry requires the following course work.

Code	Title	Hours
	Common Requirements	49
	Additional Requirements	21
	Total Hours	70

Common Requirements

Students complete the following during their first two years.

Code	Title	Hours
BIOC:3120 & BIOC:3130	Biochemistry and Molecular Biology I-II	6
BIOC:3140	Experimental Biochemistry	2
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 or CHEM:2230	Organic Chemistry I or Organic Chemistry I for Majors	3
CHEM:2220 or CHEM:2240	Organic Chemistry II or Organic Chemistry II for Majors	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory or Organic Chemistry Laboratory for Majors	3

MATH:1850 & MATH:1860	Calculus I-II	8
PHYS:1511 or PHYS:1611	College Physics I or Introductory Physics I	4
PHYS:1512 or PHYS:1612	College Physics II or Introductory Physics II	4

If students take PHYS:1612 Introductory Physics II, they must take the course with the lab component.

Additional Requirements

In addition to the common requirements listed above, students must complete the following.

Code	Title	Hours
Two of these:		
BIOC:4241	Biophysical Chemistry I	3
BIOC:4242	Biophysical Chemistry II	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
One of these options:		
BIOC:4999	Research, Independent Study	6
	Advanced laboratory courses	6
And:		
	Advanced science electives, approved by biochemistry advisor	9

Students are encouraged to begin research by taking BIOC:3993 Undergraduate Independent Study, which has no prerequisites. The course involves experience in an active biochemistry research lab, which must be arranged ahead of time with a supervising faculty member. Students may make arrangements directly with the faculty member, or they may request assistance from an undergraduate advisor. Credit earned in BIOC:3993 does not count toward the major, but it does count toward the minimum of 120 s.h. required to graduate.

Before students register for BIOC:4999 Research, Independent Study, they must have completed BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, BIOC:3140 Experimental Biochemistry, and BIOC:3150 Development of Senior Research Project, with a grade of B-minus or higher in each course. Students also are required to have prior research experience, such as in BIOC:3993 Undergraduate Independent Study, URES:3994 Undergraduate Research and Creative Projects, or HONR:3994 Honors Research Practicum, and permission of the instructor. Students can only count 6 s.h. in BIOC:4999 toward their requirements for the degree.

Teacher Licensure

Students interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Student Services for details.

Students must satisfy all degree requirements and complete TEP licensure before degree conferral.

Combined Programs

B.S./Ph.D. in Biomedical Science (Biochemistry Subprogram)

The combined Bachelor of Science/Doctor of Philosophy program in biomedical science with a biochemistry subprogram permits students to transition into the Ph.D. program during their senior year and to count 12 s.h. of credit toward both the B.S. and Ph.D. requirements. The combined program provides a research-intensive experience and shortens the training time for students interested in pursuing independent biochemistry research careers. Students in the program receive financial support during the second half of their senior year and throughout their Ph.D. study.

Students must be pursuing a Bachelor of Science with a major in biochemistry, and by the beginning of their senior year they must:

- have 108 s.h. of undergraduate credit;
- have a minimum g.p.a. of 3.50;
- have completed four semesters of research experience (summer research counts as one semester); and
- have completed BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, and BIOC:3140 Experimental Biochemistry.

Students interested in the combined program should speak with their academic advisor and the biochemistry honors advisor during their first year or at the beginning of their sophomore year. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Ph.D. in biomedical science [p. 1431] (biochemistry subprogram) in the Catalog. For more information, contact the Department of Biochemistry.

Honors

Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33. They must earn 6 s.h. in BIOC:4999 Research, Independent Study and present their research results in a report written in the form of a journal article and in an oral report given at a special open departmental seminar.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biochemistry major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay

on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1850 Calculus I, and MATH:1860 Calculus II

Before the fifth semester begins: BIOL:1411 Foundations of Biology, BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors, CHEM:2220 Organic Chemistry II or CHEM:2240 Organic Chemistry II for Majors, and CHEM:2410 Organic Chemistry Laboratory or CHEM:2420 Organic Chemistry Laboratory for Majors

Before the seventh semester begins: PHYS:1611 Introductory Physics I or PHYS:1511 College Physics I, PHYS:1612 Introductory Physics II or PHYS:1512 College Physics II, BIOC:3150 Development of Senior Research Project, one semester of BIOC:3993 Undergraduate Independent Study for students planning to take BIOC:4999 Research, Independent Study, BIOC:3120 Biochemistry and Molecular Biology I, BIOC:3130 Biochemistry and Molecular Biology II, BIOC:3140 Experimental Biochemistry, two science electives, and at least 90 s.h. earned toward the degree

Before the eighth semester begins: CHEM:4431 Physical Chemistry I or CHEM:4432 Physical Chemistry II or BIOC:4241 Biophysical Chemistry I or BIOC:4242 Biophysical Chemistry II, a science elective, and at least 3 s.h. of BIOC:4999 Research, Independent Study

During the eighth semester: enrollment in all remaining course work in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Biochemistry, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Students in good academic standing can switch from the B.A. to the B.S. degree program after completing one semester of organic chemistry (CHEM:2230 Organic Chemistry I for Majors or CHEM:2210 Organic Chemistry I).		
Hours		0
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
MATH:1850	Calculus I ^{a, c}	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
Elective course ^d		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
CHEM:1120	Principles of Chemistry II ^a	4

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion ^e		3
Elective course ^d		1

Hours 15-16

Second Year

Fall

BIOL:1411	Foundations of Biology ^a	4
CHEM:2230 or CHEM:2210	Organic Chemistry I for Majors or Organic Chemistry I	3
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2

Hours 16-17

Spring

BIOL:1412	Diversity of Form and Function ^a	4
CHEM:2240 or CHEM:2220	Organic Chemistry II for Majors or Organic Chemistry II	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory or Organic Chemistry Laboratory for Majors	3
Major: science elective (consult with advisor) ^g		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5

Hours 17-18

Third Year

Fall

BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3993	Undergraduate Independent Study	3
PHYS:1511 or PHYS:1611	College Physics I or Introductory Physics I	4
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5

Hours 17-18

Spring

BIOC:3130	Biochemistry and Molecular Biology II	3
BIOC:3140	Experimental Biochemistry	2
BIOC:3150	Development of Senior Research Project	2
PHYS:1512 or PHYS:1612	College Physics II or Introductory Physics II	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Elective course ^d		1

Hours 16-17

Fourth Year

Fall

BIOC:4999	Research, Independent Study	3
CHEM:4431 or BIOC:5241	Physical Chemistry I or Biophysical Chemistry I	3
Major: science elective (consult with advisor) ^g		3
GE CLAS Core: International and Global Issues ^e		3

GE CLAS Core: Literary, Visual, and Performing Arts ^e	3
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Hours 15

Spring

BIOC:4999	Research, Independent Study	3
BIOC:5242 or CHEM:4432	Biophysical Chemistry II or Physical Chemistry II	3
Major: science elective (consult with advisor) ^g		3
Major: science elective (consult with advisor) ^g		3
GE CLAS Core: Social Sciences ^e		3

Hours 15

Total Hours 125-131

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students are required to complete 9 s.h. in advanced science electives approved by biochemistry advisor.

Career Advancement

Biochemistry graduates with bachelor's degrees often work as research assistants in industry, government, education, or health services; teach in secondary schools; or go on to advanced study in medicine, dentistry, or other areas. The program offers solid preparation for careers in medicine, biology, chemistry, dentistry, research, or related sciences. About one-third of biochemistry majors go on to study medicine; others enter graduate programs or professional degree programs.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Cardiothoracic Surgery

Chair

- Ronald Weigel

Faculty: <https://medicine.uiowa.edu/surgery/people/primary-appointments>

Website: <https://medicine.uiowa.edu/surgery/divisions/cardiothoracic-surgery/>

The University of Iowa cardiothoracic surgery program is the third oldest program of its kind in the United States. Since its establishment in 1948 as a division within the Department of Surgery, the program has advanced from providing operative interventions for patients with diseases of the chest to performing a broad range of the most current and innovative surgical procedures.

Cardiothoracic Surgery's facilities are located at University of Iowa Hospitals and Clinics. Each year cardiothoracic surgeons at the hospitals perform more than 500 adult and pediatric heart surgeries, including coronary bypasses, transplants, and placement of mechanical cardiac assist devices; minimally invasive procedures such as mitral valve replacement and epicardial lead placement; and more than 600 general thoracic surgeries with emphasis on esophageal and lung diseases. Preparations are under way for providing coronary artery bypass grafting using robotics.

Postbaccalaureate Training

The division plays a primary instructional role in University of Iowa Hospitals and Clinics' 20-month postbaccalaureate Perfusion Technology Program; see the perfusion courses listed under Courses [p. 1550] in this section of the Catalog. For more information about the Perfusion Technology Program, contact Cardiothoracic Surgery or visit the Perfusion Technology Program website.

Research

University of Iowa cardiothoracic surgeons are leaders in clinical research, particularly in oncologic surgery, diseases of the esophagus, artificial organs, pediatric cardiac surgery, and transplantation. Research also is under way in the sequence of mutations and in localization of genes predisposed to cancer.

M.D. Training

The division trains fourth-year M.D. students in two courses, CTS:8401 Subinternship in Cardiothoracic Surgery and CTS:8497 Research in Cardiothoracic Surgery.

Residency

Iowa's cardiothoracic surgery residency program was established in 1948 and is fully accredited by the Accreditation Council for Graduate Medical Education (ACGME). It is the only cardiothoracic surgery training program in Iowa. One resident is accepted into the two-year program each year.

In 2015, cardiothoracic surgery was approved by the ACGME to start a six-year integrated thoracic residency. Medical students begin the program after they graduate from medical school. A new resident enters the program each year.

Facilities

Cardiothoracic surgery has specialty laboratories in gastric motility, analytical chemistry, transplantation, tissue culture, surgical bacteriology, shock, and cardiac bypass. These facilities permit study of experimental procedures such as heart valve replacement in large animals and heterotopic heart transplantation in mice and rats.

The laboratories also are used for supervised teaching exercises in surgical technique for medical students and junior residents, and for refinement of technique for senior residents and faculty members.

Courses

- Cardiothoracic Surgery Courses [p. 1550]
- Perfusion Courses [p. 1550]

Cardiothoracic Surgery Courses

CTS:8401 Subinternship in Cardiothoracic Surgery arr.

Participation in diagnosis, preoperative, operative, and postoperative care of thoracic and cardiac patients; attendance at division conferences; students assume responsibility and act as an intern; may concentrate interest in cardiac surgery or thoracic surgery; diagnosis and management of patients on an inpatient service under close supervision by an upper-level resident/fellow and faculty member.

CTS:8497 Research in Cardiothoracic Surgery arr.

Work on a short- or long-term research project arranged with instructor; may involve clinical material or laboratory; students organize and complete a project, finishing with a publishable manuscript.

CTS:8499 Cardiothoracic Surgery Off Campus 4 s.h.

Individually arranged by student with approval of department to rotate outside of the University of Iowa Hospitals and Clinics. Requirements: M.D. enrollment.

Perfusion Courses

PERF:4161 Instrumentation in Perfusion Technology 3 s.h.

Electrical circuitry, filters, pressure transducers, thermistors, cardiac output computers, fluid dynamics, intra-aortic balloon pumps, blood gas analyzers. Requirements: Perfusion Technology Program enrollment.

PERF:4162 Pathophysiology of Perfusion Technology 5 s.h.

Hemostasis, acid base physiology, gas transfer, heart anatomy, heart embryology, congenital cardiac defects. Requirements: Perfusion Technology Program enrollment.

PERF:4163 Clinical Experience I 2 s.h.

Perfusion in operating room: patient workup, observation, and reporting on extracorporeal setup, surgical procedure. Requirements: Perfusion Technology Program enrollment.

PERF:4164 Clinical Experience II 3 s.h.

Continuation of PERF:4163; setup of extracorporeal circuit; ancillary duties of perfusionist. Requirements: Perfusion Technology Program enrollment.

PERF:4165 Clinical Experience III 12 s.h.

Continuation of PERF:4164; management of cardiopulmonary bypass system. Requirements: Perfusion Technology Program enrollment.

PERF:4166 Clinical Experience IV 12 s.h.

Continuation of PERF:4165; emphasis on supply maintenance, perfusion department management. Requirements: Perfusion Technology Program enrollment.

PERF:4167 Perfusion Seminar 1 s.h.

Ethics in perfusion. Requirements: Perfusion Technology Program enrollment.

PERF:4168 Research in Perfusion 1 s.h.

From topic selection to manuscript. Requirements: Perfusion Technology Program enrollment.

PERF:4169 Clinical Experience V 12 s.h.

Continuation of PERF:4166. Requirements: Perfusion Technology Program enrollment.

PERF:4170 Principle and Practice of Perfusion Technology 6 s.h.

Hypothermia, hemodilution, left heart bypass, dialysis, ultrafiltration, membrane and bubbler oxygenation. Requirements: Perfusion Technology Program enrollment.

PERF:4171 Devices in Perfusion Technology 3 s.h.

Components of extracorporeal circuit; in vitro laboratory evaluation of components. Requirements: Perfusion Technology Program enrollment.

Dermatology

Chair

- Janet A. Fairley

Faculty: <https://medicine.uiowa.edu/dermatology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/dermatology/>

The Department of Dermatology instructs M.D. students and trains dermatology residents in the care of patients with skin diseases. It also provides researchers with an opportunity to develop their skills in dermatology.

M.D. Training

The Department of Dermatology rotation is one of seven selective courses offered to third- and fourth-year medical students. Students spend two weeks in the clinic and attend approximately 10 one-hour lectures. They see a good cross-section of patients, including those receiving primary or tertiary care at University of Iowa Hospitals and Clinics and Iowa River Landing as well as a large number of patients referred from Student Health & Wellness. Additional patients also are seen at the nearby Iowa City VA Health Care System.

Varied electives are open to fourth-year M.D. students, including further clinical experience, dermatologic research, and special studies.

Courses

Dermatology Courses

DERM:8301 Clinical Dermatology **2 s.h.**
Basic dermatology; lectures, independent study, clinical experience. Requirements: third-year M.D. enrollment.

DERM:8401 Dermatology Elective **arr.**
Advanced clinical experience, dermatologic surgery, special assignments. Requirements: fourth-year M.D. enrollment.

DERM:8497 Research in Dermatology **arr.**
General principles of medical research; clinical or laboratory projects; individual study.

DERM:8498 Dermatology On Campus **arr.**
Clinical clerkship; individually arranged by student with departmental approval.

DERM:8499 Dermatology Off Campus **arr.**
Arranged by student with departmental approval.

Dietary

Executive Associate Dean

- Patricia L. Winokur

Graduate certificate: dietetic internship program

Website: <https://www.healthcare.uiowa.edu/fns/Internship/internship.htm>

University of Iowa Hospitals and Clinics offers a dietetic internship program that is fully accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). It qualifies graduates to take the exam for qualification as a Registered Dietitian Nutritionist (RDN). Clinical dietitians and food service operation managers of Food and Nutrition Services at the University of Iowa Hospitals and Clinics provide the instruction for the program. Graduate-level courses in the program are administered by the Carver College of Medicine and the College of Public Health.

Programs

Graduate Program of Study

Certificate

- Certificate in Dietetic Internship Program [p. 1554]

Courses

Dietary Course

DIET:9203 Clinical Dietetics

1 s.h.

Nutritional aspects of health and disease, with emphasis on medical nutrition therapy; human nutrition in the clinical state as it relates to physiology and biochemistry.

Dietetic Internship Program, Graduate Certificate

The graduate Certificate in Dietetic Internship Program requires at least 9 s.h. of credit. Approximately half of the program's graduates go on to complete advanced degree programs.

Students must complete a didactic program in dietetics that has approval of the Academy of Nutrition and Dietetics (AND) Accreditation Council for Education in Nutrition and Dietetics (ACEND).

Students enter the program in the fall semester. The postmark deadline for applications is February 15.

The Certificate in Dietetic Internship Program requires the following course work (at least 9 s.h.).

Code	Title	Hours
DIET:9203	Clinical Dietetics	1
EPID:6330	Global Nutrition Policy	1,3
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6370	Nutrition Intervention in Research Lab	3

Doctor of Medicine

Professional degree: M.D.

Website: <https://medicine.uiowa.edu/md/>

The Doctor of Medicine is a professional degree awarded by the Carver College of Medicine. The college is accredited by the Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges and meets the requirements of all state licensing boards. Its M.D. diploma admits the holder to all privileges granted to graduates of all medical colleges before such boards.

Programs

Professional Program of Study

Major

- Doctor of Medicine [p. 1556]

Academics Rules and Procedures

Student Promotion

The Carver College of Medicine has established promotion policies and procedures to ensure that each of its graduates has adequate skills, knowledge, judgment, ethical standards, and personal integrity to assume the responsibilities of a medical doctor. The student promotions committee, made up of seven faculty members and two students, performs these duties with the cooperation, advice, and judgment of course directors, faculty members, students, and administrators.

The committee recommends specific actions to be taken when a student's skills, knowledge, judgment, or ethical behavior is in any way considered consistently marginal or unsatisfactory. Possible recommendations include dismissal of the student from the college, suspension for a specified period of time, requiring the student to repeat all or any part of the curriculum on academic probation, and allowing the student to continue on academic probation with a full or partial course load. The committee's recommendations are forwarded for action to the executive dean of the Carver College of Medicine.

Medical students have the right to appeal a promotion decision. They must submit the appeal in writing to the Carver College of Medicine's executive dean within five days of notification of the decision. Appeals are considered by the Appeals Committee, made up of faculty representatives of the Medical Council and the Executive Committee, a medical student, a lay member, and the associate dean for student affairs (ex officio). Students may request an opportunity to appear before the Appeals Committee to make a statement and answer questions. The committee then makes its recommendation to the college's dean, who is the final authority.

Specific information about student promotion policies and procedures is available from the Office of Student Affairs and Curriculum and is online in the Student Handbook.

Leaves of Absence, Withdrawal, Reinstatement

The Carver College of Medicine has established policies regarding leaves of absence, dropping courses, withdrawal from the college, and reinstatement to the college. Information about each of these policies is available at the college's Office of Student Affairs and Curriculum website and is published annually in the Student Handbook.

Disputes and Complaints

Student complaints concerning actions of faculty members or departments are pursued first through mechanisms established in the Carver College of Medicine. These procedures allow the greatest flexibility for all concerned in resolving a conflict. They are intended for situations such as grading disputes, alleged academic dishonesty, alleged dishonesty during a clinical rotation, alleged unethical or unprofessional conduct, and perceived discrimination or harassment.

Complaints regarding sexual harassment are handled confidentially in accordance with University policy and procedures; see the University's Policy on Sexual Harassment.

For information about the established informal mechanisms, contact the Office of Student Affairs and Curriculum or see the Student Handbook.

Doctor of Medicine, M.D.

Requirements

The Doctor of Medicine is a four-year program that prepares students to practice primary care medicine and to pursue further education and training in specialized areas of medicine. The program admits 152 new students each year.

The M.D. curriculum is built on a triple-helix model whose three strands extend through all four years of medical school: the clinical and professional skills strand, the mechanisms of health and disease strand, and the medicine and society strand.

Clinical experiences begin during the first few weeks of medical school, and clinical clerkships start after just three semesters of preclinical instruction. By the end of the fifth semester, students have completed all of their core requirements and have the remaining three semesters to tailor their educational experience in preparation for their selected specialty.

Students complete in-depth clinical course work and serve clinical clerkships primarily at University of Iowa Hospitals and Clinics, the Iowa City VA Health Care System, and the Des Moines Area Medical Education Consortium. Students also may have opportunities to gain experience in private medical offices and community hospitals.

At the conclusion of medical school, students will match into a residency program and complete their training in a chosen specialty.

Preclinical Curriculum (Phase I)

The first three semesters of the M.D. program present an integrated core of sciences basic to the study of medicine. They also introduce students to the foundations of clinical practice.

Course work includes human anatomy, foundations of cellular life, clinical and professional skills (a three-course series), medicine and society (a three-course series), and mechanisms of health and disease (a five-course series). Each of these courses is described below.

Some elective courses are available to students during the first and second years, normally for 1 or 2 s.h. of credit. Topics include areas not specifically covered in the regular curriculum and areas related to medical practice and the role of the physician. Courses vary from year to year, but typical subject areas are global health issues, U.S. health care systems, and community health outreach.

The M.D. program's preclinical curriculum requires the following course work.

First Semester

ACB:8101 Medical Gross Human Anatomy: complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, and independent activities.

MED:8121 Clinical and Professional Skills I: introduction to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement

of classroom experiences into the context of patient care through the Early Clinical Experiences (ECE) program; interactions with students from other health sciences colleges to explore the interprofessional approach to caring for patients.

MED:8122 Medicine and Society I: delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; students apply health and risk assessment to individual patients and to themselves.

MED:8123 Foundations of Cellular Life: genetics, embryology, molecular biology, biochemistry, cell biology and histology; molecular events required for cellular life; how cells grow and interact to form basic tissues of the human body; framework necessary for exploring the mechanisms of health and disease.

MED:8124 Mechanisms of Health and Disease I: normal and healthy processes within and among mechanisms of oxygenation, metabolism, and genetics/development.

Second Semester

MED:8131 Clinical and Professional Skills II: reinforcement of clinical reasoning concepts introduced in MED:8121 and introduction of additional concepts; application of concepts through interactions with standardized patients and through clinical visits; varied experiences help students gain a deeper appreciation for issues in biomedical ethics; strengths and barriers involved in providing comprehensive interdisciplinary patient care.

MED:8132 Medicine and Society II: knowledge and skills related to health promotion and disease prevention from a medicine and society perspective, including impact of behavior, environment, culture, and socioeconomic; identification of major public health problems associated with mechanisms of health and disease; focus on public health and epidemiology, with attention to screening, global health, and environmental hazards.

MED:8133 Mechanisms of Health and Disease II: normal and healthy processes within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8134 Mechanisms of Health and Disease III: abnormalities or disruptions leading to disease within and among mechanisms of oxygenation, metabolism, and genetics/development.

Third Semester

MED:8221 Clinical and Professional Skills III: advanced clinical reasoning skills gained through focused patient encounters and interactions with special patient populations; emphasis on students' ability to integrate and use concepts from the M.D. curricular strands that are required for cost-conscious, patient-centered, interdisciplinary care.

MED:8222 Medicine and Society III: health services organization and delivery, with emphasis on community dimensions of medical practice and patient safety.

MED:8223 Mechanisms of Health and Disease IV: abnormalities or disruptions leading to disease within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8224 Mechanisms of Health and Disease Keystone: transition from classroom instruction in MED:8124, MED:8133,

MED:8134, and MED:8223 to clinical practice; foundational information from those courses approached from the perspective of common clinic encounters; diagnostic and management decisions about common important clinical problems using the foundational knowledge gained from those courses.

Clinical Curriculum (Phase II and III)

Students complete one week of skills training in MED:8320 Transition to Clerkships prior to the start of clinical clerkships. The two-and-a-half year clinical component of the medical curriculum is comprised of supervised hands-on clinical training at the bedside on in-patient units, in outpatient clinics, and in communities throughout the state. In contrast to the preclinical semesters, the clinical years vary according to a student's individual needs. This period of training begins in January of the second year with 44 weeks of core clerkships (Phase II). Students then enter various pathways where they complete a minimum of 10 weeks of selectives, four weeks of emergency or critical medicine, one four-week subinternship, and 32 weeks of advanced electives (Phase III).

After completing the core clerkships, students must successfully complete Step 1 of the United States Medical Licensing Examination (USMLE) before they may be promoted to the pathways component of the curriculum. Students take Step 2 of the USMLE during the fall of their fourth year of the M.D. program.

Primary venues for clinical training of medical students include University of Iowa Hospitals and Clinics, the Iowa City VA Health Care System, and the Des Moines Area Medical Education Consortium. Students also participate in the family practice preceptorship and the community-based primary care clerkship, which are off-campus rotations. Other courses also may be assigned to off-campus sites.

The M.D. program's clinical curriculum requires the following clerkships and selectives.

Generalist Core (Phase II)

M.D. students complete the generalist core during the fourth and fifth semesters. It consists of the following 44 weeks of clerkships.

Code	Title	Hours
Ambulatory Practice Module		
MED:8301	Community-Based Primary Care (4 weeks)	4
FAM:8301	Preceptorship in Family Medicine (4 weeks)	4
IM:8302	Outpatient Internal Medicine (4 weeks)	4
Internal Medicine/Pediatrics Block		
IM:8301	Inpatient Internal Medicine (6 weeks)	6
PEDS:8301	Clinical Pediatrics (6 weeks)	6
Obstetrics and Gynecology/Surgery Block		
OBG:8301	Clinical Obstetrics and Gynecology (6 weeks)	6
SURG:8301	Clinical Surgery (6 weeks)	6
Neurology/Psychiatry Block		
NEUR:8301	Clinical Neurology (4 weeks)	4

PSYC:8301	Clinical Psychiatry (4 weeks)	4
Total Hours		44

Selectives

M.D. students complete 10 weeks of selectives chosen from the following.

Code	Title	Hours
ANES:8301	Clinical Anesthesia (2 weeks)	2
DERM:8301	Clinical Dermatology (2 weeks)	2
OPHT:8301	Clinical Ophthalmology (2 weeks)	2
ORTH:8301	Clinical Orthopedics (2 weeks)	2
OTO:8301	Clinical Otolaryngology (2 weeks)	2
RAD:8301	Clinical Radiology (2 weeks)	2
URO:8301	Clinical Urology (2 weeks)	2

Advanced Required Clerkships (Phase III)

M.D. students complete the following additional required clerkships and other work during the three advanced clinical-year semesters.

Code	Title	Hours
	Emergency medicine or critical care medicine (4 weeks)	
	One subinternship (4 weeks)	
	Advanced electives (total of 32 weeks)	

Combined Programs

Students must be admitted to both of the individual degree programs before they may be admitted to a combined degree program. Those interested in the combined programs must make arrangements with the appropriate departments and with the Carver College of Medicine associate dean for student affairs and curriculum.

M.D./J.D.

The Carver College of Medicine collaborates with the College of Law to offer the combined Doctor of Medicine/Juris Doctor program; see Juris Doctor [p. 1518] in the Catalog.

M.D./M.P.H.

The College of Medicine collaborates with the College of Public Health to offer the combined Doctor of Medicine/Master of Public Health program; see the Master of Public Health [p. 1732] in the Catalog.

M.D./Ph.D. (Medical Scientist Training Program)

The Carver College of Medicine offers a combined M.D./Ph.D. program for students who are interested in a career that combines clinical and academic medicine with basic and clinical research; see the Medical Scientist Training Program [p. 1574] in the Catalog.

Admission

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS), a nonprofit centralized application processing service for applicants to U.S. medical schools. AMCAS applications are available for completion in May of the year preceding the beginning of the class for which application is being made. Prospective students are urged to apply as early as possible. The deadline for AMCAS submission is November 1.

Secondary applications are forwarded to applicants whose AMCAS applications pass a review conducted by the college.

Admitted applicants must have an official transcript from each college they have attended sent to the University's Office of Admissions.

Technical Standards for Admission and Retention

The College of Medicine seeks candidates who will be able to serve the needs of society best and strives to graduate skilled and effective physicians. To achieve this goal, the following principles and technical standards will be applied to candidates for admission and continuing students.

Principles

- Technical standards refer to criteria that go beyond academic requirements for admission and are essential to meeting the academic requirements of the program.
- Students, with or without disabilities, applying to and continuing in the college will be expected to meet the same requirements.
- Matriculation and continuation in the college assume a certain level of cognitive and technical skill. Medical students with disabilities will be held to the same fundamental standards as their non-disabled peers. Although not all students should be expected to gain the same level of proficiency with all technical skills, some skills are so essential that mastery must be achieved, with the assistance of reasonable accommodations where necessary.
- Reasonable accommodations will be provided to assist in learning, performing, and satisfying the technical standards.
- Every reasonable attempt will be made to facilitate the progress of students where it does not compromise collegiate standards or interfere with the rights of other students and patients.

Applicants for admission to the College of Medicine and continuing students must possess the capability to complete the entire medical curriculum and achieve the degree. To this end, all courses in the curriculum must be completed successfully. In order to acquire the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care, candidates for the M.D. degree must have abilities and skills in five areas including observation; communication; motor; intellectual, conceptual, integrative, and quantitative abilities; and behavioral and social attributes.

Technological compensation can be made for some disabilities in certain areas, but a candidate must meet the essential technical standards in such a way that the candidate will be able to perform in a reasonably independent manner. The use of a trained intermediary is not acceptable in many

clinical situations as it implies that a candidate's judgment must be mediated by someone else's power of selection and observation.

Continuing students in the college are held to the same technical standards.

Observation: Students must have the functional ability to observe demonstrations and experiments in the basic sciences and must have sufficient use of the senses necessary to perform a physical examination.

Communication: Students must be able to relate reasonably to patients and establish sensitive, professional relationships with patients, colleagues, and staff. They are expected to communicate the results of the history and examination to the patient and to their colleagues with accuracy, clarity, and efficiency.

Motor: Students are expected to participate in basic diagnostic and therapeutic maneuvers and procedures. Those who cannot perform these activities independently should be able to understand and direct the methodology involved in such activities.

Intellectual, conceptual, integrative, and quantitative abilities: Students must be able to learn to analyze, synthesize, solve problems, and reach reasonable diagnostic and therapeutic judgments. Students are expected to be able to display good judgment in the assessment and treatment of patients. They must be able to learn to respond with prompt and appropriate action in emergency situations.

Behavioral and social attributes: Students are expected to be able to accept criticism and respond with appropriate modification of their behavior. Students also are expected to possess the perseverance, diligence, and consistency necessary to complete the medical school curriculum and enter the independent practice of medicine within a reasonable time frame. They must demonstrate professional and ethical demeanor and behavior in all dealings with peers, faculty, staff, and patients.

Cultural competency: Medical students must be able to communicate with and care for persons whose culture, sexual orientation, or religious beliefs are different from their own. They must be able to perform a complete history and physical exam on any patient regardless of the student's and patient's race, religion, ethnicity, socioeconomic status, gender, age, or sexual preference. Similarly, students must be able to interact professionally with colleagues and other health care professionals without regard to race, religion, ethnicity, socioeconomic status, gender, age, or sexual preference.

Applicants who may not meet these standards are encouraged to contact the College of Medicine Admissions Office.

Admission Requirements

Applicants for admission to the Carver College of Medicine must have a bachelor's degree, or they must be enrolled in a bachelor's degree program with the expectation of receiving their degree before enrolling in the Carver College of Medicine. Applicants must have earned college credit in the following courses.

- **Biology:** one year introductory course with lab and one advanced course. Recommended advanced courses

include biochemistry, molecular and cellular biology, human physiology, genetics, and microbiology.

- **General Chemistry:** one year introductory course(s) with lab.
- **Organic Chemistry:** one year introductory course(s) with lab.
- **Physics:** one year introductory course(s) with lab.
- **Mathematics:** one advanced mathematics course or a statistics course.
- **Biochemistry:** one course that includes a comprehensive review of molecular structures and biochemistry of carbohydrates, nucleic acids and proteins, central metabolic pathways, enzyme functions, and metabolism of carbon-based molecules.
- **English:** one course. If students have satisfied the English requirement in their baccalaureate degree program, that will satisfy the Doctor of Medicine requirement. If higher educational institutions that students attended, integrated their writing requirement into courses across the curriculum, then students may use that course work to satisfy the English requirement.
- **Social and Behavioral Sciences, Humanities:** four courses. Recommended courses include behavioral psychology, sociology, foreign language, and other non-science writing-intensive courses.

Applicants should have taken the required science courses for a grade rather than electing pass/fail grading.

Fulfillment of these requirements does not guarantee admission to the Carver College of Medicine. The college's admissions committee selects applicants who appear to be best qualified to study and practice medicine. Preference is given to Iowa residents with high scholastic standing. Consideration also is given to outstanding nonresidents.

Completion of the Medical College Admission Test (MCAT) is a requirement for admission. Applicants for the 2019 application cycle must have taken the MCAT between January 2015 and September 2018. The MCAT is offered on various dates between January and September.

Personal interviews are part of the admission process. Candidates invited for an interview are contacted by the admissions committee. An external criminal background check is performed for all admitted students at the time of admission.

All students who enter the Carver College of Medicine are required to comply with the pre-entrance and annual health screening program developed by the University's Student Health & Wellness in cooperation with University of Iowa Hospitals and Clinics; see Requirements and Forms on the Student Health & Wellness website.

All registered Carver College of Medicine students are required to maintain health insurance (or an equivalent care plan) that satisfies minimum standards of coverage. Insurance coverage must be maintained continuously throughout each year of attendance at the University.

Financial Support

The Carver College of Medicine's philosophy is that no student should be denied a medical education due to a lack of financial resources. The college's financial aid staff actively seeks sources of aid so that every student interested in a medical education will be able to finance that education.

Financial assistance is provided by the Carver College of Medicine primarily on the basis of demonstrated financial need. Although a limited number of collegiate or institutional grants are available for the most economically disadvantaged students, most aid is in the form of loans. Examples of federal loan programs are the Federal Direct Unsubsidized Stafford/Ford Student Loan, the Federal Direct Grad PLUS loan, and the Primary Care Loan (PCL). Students also may qualify for collegiate loans or private loans to supplement their financial aid package.

In addition, the college supports scholarship and loan programs through permanent endowments and/or contributions from alumni and friends of the Carver College of Medicine. These funds are administered by the college's financial aid office and are awarded as a part of a student's total financial aid package. Funds to support short-term emergency loans are available for students with immediate financial need.

A small number of Dean's Scholarships are awarded by the college's admissions office to highly qualified candidates on the basis of their academic excellence, leadership abilities, and their potential to enrich the college. Dean's Scholarships are included in the recipient's overall financial aid package.

To learn more about financial aid, contact the Carver College of Medicine Financial Services office.

Career Advancement

An interest in science, the healing arts, helping people, and medical research can lead to a great number of satisfying careers. For information about career options in health care, review the Road to Becoming a Physician on the College of Medicine website and the Occupational Outlook Handbook on the United States Department of Labor Bureau of Labor Statistics website.

Emergency Medicine

Chair

- Andrew Nugent

Faculty: <https://medicine.uiowa.edu/emergencymedicine/people/primary-appointments>

Website: <https://medicine.uiowa.edu/emergencymedicine/>

The Department of Emergency Medicine prepares new physicians to recognize and treat a variety of urgent and emergent conditions. The program fosters basic science and clinical research relevant to emergency medicine and is dedicated to the education and training of Emergency Medical Services (EMS) personnel through the Emergency Medical Services Learning Resources Center (EMSLRC).

Resources

The Emergency Department, located on the first floor of Roy Carver Pavilion, is a Level I Adult and Pediatric Trauma Center. It serves as a referral center for communities across Iowa.

M.D. Training

Elective rotations for Doctor of Medicine students are available at University of Iowa Hospitals and Clinics and at several other sites throughout Iowa, including St. Luke's Hospital, Cedar Rapids; Great River Medical Center, Burlington; Covenant Medical Center, Waterloo; Broadlawns Medical Center, Des Moines; and Mercy Medical Center, Sioux City. Students also may arrange an off-service elective independently with established residency programs throughout the United States.

The program offers an annual introductory month to emergency medicine; advanced life support; and Wilderness Medicine, a rotation that includes scenario and didactic training in wilderness medicinal skills with travel to areas such as Colorado.

Residency

The emergency medicine faculty directs the Emergency Medicine Residency, Iowa's only emergency medicine residency. The residency is a three-year program that prepares residents for careers in diverse areas of emergency medicine, from rural practice to academics. The program emphasizes critical care training and rotations in a wide variety of specialties. Part of the clinical component is spent at St. Luke's Hospital, Cedar Rapids.

Courses

Emergency Medicine Courses

EM:8401 Introduction to Advanced Life Support Skills 4 s.h.

Experience managing acute threats to life—including trauma, respiratory failure, poisoning, sepsis, stupor/coma, and acute MI—using ACLS and PALS courses and clinical manikin work with EMS staff. Requirements: completion of M.D. core clerkship year.

EM:8402 Emergency Medicine UIHC arr.

Preceptorship with residents and faculty; emphasis on principles of acute medicine; clinical shifts, case conferences, simulations, exams. Requirements: completion of surgery, pediatrics, and internal medicine or advanced practice management.

EM:8403 Wilderness Medicine 4 s.h.

Didactic and scenario training in physiology, diagnosis, and emergency treatment of heat- and cold-related illnesses, high altitude disorders, wilderness trauma, envenomations, and immersion injuries. Taught in wilderness areas. Requirements: completion of M.D. third year.

EM:8404 Emergency Medicine: St. Luke's, Cedar Rapids 4 s.h.

Preceptorship with full-time emergency department physicians; clinical shifts, case conferences, simulations, exams. Requirements: completion of M.D. third year.

EM:8405 Rural Emergency Medicine at Burlington, Iowa 4 s.h.

In-depth clinical experience in a busy rural hospital emergency department under supervision of residency-trained emergency physicians; lectures, skill labs, projects. Requirements: completion of M.D. third year.

EM:8406 Emergency Medicine Des Moines 4 s.h.

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Broadlawns Hospital, Des Moines. Requirements: completion of surgery, pediatrics, and internal medicine or advanced practice management.

EM:8407 Emergency Medicine Waterloo 4 s.h.

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Covenant Medical Center, Waterloo. Requirements: completion of M.D. third year.

EM:8409 Transition to Residency 2 s.h.

Intensive program providing basic training in life support skills, experience in procedures common to inpatient hospital environment, and practice with simulated critical care scenarios; lectures, small group discussions, procedure labs, high-fidelity simulations, and self-directed online learning; students become certified in Advanced Cardiac Life Support (ACLS). Requirements: completion of surgery, pediatrics, and IM or APM.

EM:8410 Medical Toxicology Sioux City 2,4 s.h.

Clerkship at the Iowa Poison Control Center; intense introduction to breadth and depth of medical toxicology; students work independently and concentrate on many different areas and interests; work with a multidisciplinary team of nurses, pharmacists, and physicians; activities may include reviewing and presenting active poisoned patient cases during daily rounds and opportunities to see toxicology patients at bedside; preparation and short presentation in any area of medical toxicology. Requirements: M.D. enrollment.

EM:8411 Medical Toxicology UIHC 2 s.h.

In-depth introduction to medical toxicology; how to recognize and treat various toxidromes and the most common toxicologic exposures; initial management steps for life-threatening toxicologic exposures; focus on basics of pathophysiology and pharmacology to understand how drugs affect patients, and critical assessment of laboratory and other data obtained on the poisoned patient.

EM:8497 Research in Emergency Medicine arr.

Medical research, clinical or laboratory projects; individual study.

EM:8498 Emergency Medicine On Campus arr.

Clinical research experience with a mentor in the Emergency Treatment Center and the Department of Emergency Medicine; principles of design, methodology, basic statistics.

EM:8499 Emergency Medicine Off Campus arr.

Preceptorship with residents and faculty; emphasis on principles of acute medicine; Liaison Committee on Medical Education (LCME) accredited off-campus site. Requirements: completion of M.D. third year and approval from UIHC Emergency Medicine clerkship director.

Family Medicine

Interim Chair

- Daniel S. Fick

Faculty: <https://medicine.uiowa.edu/familymedicine/people>

Website: <https://medicine.uiowa.edu/familymedicine/>

The Department of Family Medicine is nationally recognized for excellence in patient care, teaching, and research. The department is dedicated to providing primary care for the citizens of Iowa, educating medical students, training resident physicians, providing continuing education, and creating new knowledge to improve primary care and health care delivery systems.

M.D. Training

The Department of Family Medicine trains primary care physicians. The department offers course work that is included throughout the four-year M.D. program. Twenty-one elective senior rotations give students opportunities for exposure to various Iowa communities through work in affiliated hospitals or connected facilities, in the department's model office on the University of Iowa campus, and in preceptorships with selected family physicians throughout the state. Students also have the opportunity for independent study during the fourth year.

Residency

Family Medicine Residency

The Department of Family Medicine directs a three-year residency program whose graduates are eligible for certification by the American Board of Family Medicine. The residency program trains physicians to provide continuous and comprehensive medical care to patients and their families. Residents are educated in all areas of family medicine—adult medicine, maternal and child health, behavioral science, surgical specialties, and community medicine. Training emphasizes the value of wellness and preventive medicine as well as curative medicine.

The program is organized as a progressive educational experience. It consists of formal teaching and clinical experiences on assigned rotations, structured conferences, and patient care in the Family Medicine clinic. As residents develop clinical skills, medical judgment, and competence, their patient responsibilities increase. Some patients at the Family Medicine Clinic are assigned to residents, who provide medical care under faculty supervision. Residents are responsible for their patients for the duration of the residency program.

Residents also learn the principles of practice management, including organizational and administrative decision making, patient record and bookkeeping procedures, and chart auditing methodologies.

Residents are expected to take responsibility for their learning environment, to avail themselves of the department's diverse resources, and to collaborate with the faculty in order to have the best possible learning experience.

Family Medicine-Psychiatry Residency

The Department of Family Medicine and the Department of Psychiatry cosponsor the combined Family Medicine-Psychiatry Residency program. The program's residents acquire broad-based training in both disciplines, including focused training in geriatrics and geriatric psychiatry, substance and alcohol abuse, diagnosis and treatment of depression, delirium, eating disorders, panic disorders, and neurotic and somatizing behavior. Graduates are eligible for certification by the American Board of Family Medicine and the American Board of Psychiatry and Neurology.

Facilities

The Department of Family Medicine is located on the University of Iowa health sciences campus. Faculty offices are close to the Family Medicine clinic, where patients are seen by appointment. The department also has community-based clinics in southeast Iowa City, Muscatine, North Liberty, Riverside, and Sigourney, Iowa.

Courses

Family Medicine Courses

FAM:8005 Medical Education Community Orientation **0 s.h.**

Experience in a local health care delivery system away from the University setting, between first and second year of M.D. program.

FAM:8301 Preceptorship in Family Medicine **arr.**

One-on-one experience with a practicing physician; exposure to illnesses, conditions often seen in primary care; realistic background for evaluation of family medicine as a career alternative.

FAM:8401 Subinternship in Family Medicine, University of Iowa **arr.**

Inpatient aspects of family medicine's key components; experience on the family medicine inpatient service.

FAM:8402 University of Iowa Family Medicine Clerkship **2,4 s.h.**

Work with family practice residents and staff in day-to-day delivery of primary medical care at Family Practice Center; experience in the Family Stress Clinic observing family-centered counseling; nursing home visits, work with departmental social worker and sports medicine specialist.

FAM:8403 Advanced Preceptorship in Family Medicine **2,4 s.h.**

Experience in community practice of family medicine.

FAM:8405 Geriatrics Elective **arr.**

Experience in monitoring and evaluating health and functional status of patients age 65 and older in the UI Geriatric Assessment Clinic and community settings.

FAM:8406 Subinternship in Family Medicine, Cedar Rapids **4 s.h.**

Experience as a junior resident in all areas of inpatient family medicine, including maternity care, child and adolescent health, adult medicine.

FAM:8407 Clerkship in Family Medicine, Cedar Rapids**4 s.h.**

Experience as a junior resident in all areas of family medicine, including maternity care, child and adolescent health, adult medicine.

FAM:8408 Family Medicine Clerkship, Broadlawns Hospital, Des Moines Family Health Center**4 s.h.**

Clinical experience in inpatient and outpatient care.

FAM:8409 Subinternship in Family Medicine, Iowa Lutheran**4 s.h.**

Patient-oriented interactive experience in an inpatient family practice environment. Requirements: fourth-year M.D. enrollment.

FAM:8410 Family Medicine, Iowa Lutheran**arr.**

Requirements: fourth-year M.D. enrollment.

FAM:8411 Family Medicine Clerkship, Davenport**4 s.h.**

Assignment to problems commonly seen in family practice office; supervision by residents and faculty for history and physical evaluation and diagnostic workups and treatment of each specific problem; exposure to acutely ill patients in services of medicine, surgery, obstetrics, pediatrics.

FAM:8412 Subinternship in Family Medicine, Davenport**4 s.h.**

Experience in inpatient family medicine; assessing and managing hospitalized patients, evaluating and treating patients in the emergency room, participating in call coverage with family medicine residents.

FAM:8413 Family Medicine Geriatrics, Davenport**4 s.h.**

Geriatric, palliative, and end-of-life care issues; assessment of competency in evaluation and management of patients; interdisciplinary nature of geriatric and palliative care.

FAM:8415 Subinternship in Family Practice, Sioux City**4 s.h.**

Experience as a junior resident in all areas of family medicine. Requirements: fourth-year M.D. enrollment.

FAM:8416 Family Medicine Clerkship, Sioux City**2,4 s.h.**

Methods common in family practice medicine; participation in care of patients seen by family practice physicians and residents.

FAM:8417 Subinternship in Family Medicine, Waterloo**4 s.h.**

Experience working as a member of family practice inpatient team at Allen Memorial Hospital and Covenant Medical Center, following patients from admission through discharge.

FAM:8418 Family Medicine Clerkship, Waterloo**4 s.h.**

Rotation at the Northeast Iowa Family Practice Center; work with patients from outpatient care through hospitalization; basic concepts of family practice, team concept in medical care.

FAM:8419 River Crossing Family Medicine Clerkship**2,4 s.h.**

Experience providing patient care in a rural setting; continuity of care for patients of all ages. Requirements: fourth-year M.D. enrollment.

FAM:8420 Family Medicine, Mason City**2,4 s.h.**

Work with family physicians on staff at Mercy or other affiliated community hospitals; management of all patients admitted by the family physicians, participation in care rendered by consultants; primary care experience in family practice office.

FAM:8421 Primary Care Sports Medicine**4 s.h.**

Comprehensive, diverse, and educational experience in the field of sports medicine; clinical competence to diagnose and manage medical illnesses and injuries related to sports and exercise in varied patients, recreational and organized athletes, and teams. Requirements: M.D. enrollment.

FAM:8422 Family Medicine/Psychiatry Elective**2,4 s.h.**

Integration of mental and physical health care across outpatient family medicine and outpatient psychiatry arenas. Requirements: M.D. enrollment.

FAM:8423 Family Medicine, Ames Student Health**4 s.h.**

Primary care of late adolescent and young adult patients in a student health center setting; students work with family medicine and mental health providers to address health care needs of this population.

FAM:8424 Family Caregiving Transitions**arr.**

Students enhance clinical learning from caregiving experiences and increase empathy and patient communication skills; students also enhance personal understanding of, and growth through, caregiving responsibilities in periods of family health transitions.

FAM:8425 Subinternship in Rural Family Medicine, Algona**4 s.h.**

Rural hospital-based subinternship; students provide family medicine service alongside board-certified family physician faculty, performing all admissions on weekdays, rounding on hospitalized patients each day, and call responsibilities including deliveries and ER coverage.

FAM:8450 Continuity of Care - Family Medicine**4 s.h.**

Longitudinal continuity of care experience for fourth-year M.D. students in an outpatient family medicine setting.

FAM:8496 Independent Studies**arr.**

Work with departmental researcher on investigation in family medicine, community medicine, health care delivery, health maintenance, and other areas.

FAM:8497 Research in Family Medicine**arr.**

Medical research, clinical or laboratory projects; individual study.

FAM:8498 Family Medicine On Campus**arr.**

Clinical clerkship; individually arranged by student with departmental approval.

FAM:8499 Family Medicine Off Campus**arr.**

Clerkships; may include community hospitals.

Free Radical and Radiation Biology

Director

- Douglas R. Spitz (Radiation Oncology/Pathology)

Faculty: <https://frrbp.medicine.uiowa.edu/faculty-and-staff>

Website: <https://frrbp.medicine.uiowa.edu/>

The Free Radical and Radiation Biology Program provides in-depth training and research experience in the physical, chemical, and biological effects of radiation. It also focuses on the metabolic production of free radicals and their role in biology and medicine.

Free radicals are of interest to researchers and clinicians due to their role in a variety of diseases and pathological states, including degenerative diseases of aging and cancer. Manipulation of free radical reactions and redox biology holds great promise for the future development of new therapies for a variety of human diseases. The Free Radical and Radiation Biology Program stresses the importance of these areas of research to basic science, translational research, and public health.

Undergraduate Education

Three courses offered by the Free Radical and Radiation Biology Program are open to University of Iowa undergraduate students: FRRB:3130 Radiation Safety and Radiobiology, FRRB:4000 Special Topics: Advanced Undergraduates, and with instructor approval, FRRB:5000 Radiation Biology. Students looking for an overview of the biological effects of radiation, including the role of free radicals, will find FRRB:5000 especially appropriate.

Graduate Education

See Carver College of Medicine [p. 1525] and Graduate [p. 1416] College in the Catalog for general information about study in medicine and graduate study at the University.

Postgraduate Training

Postdoctoral training is available by arrangement with the program's director and individual faculty members. Contact the Free Radical and Radiation Biology Program.

Programs

Graduate Programs of Study

Majors

- Master of Science in Free Radical and Radiation Biology
- Doctor of Philosophy in Free Radical and Radiation Biology

Students interested in doctoral studies in free radical and radiation biology should apply under the umbrella program in Biomedical Science [p. 1428] (select free radical and radiation biology subprogram). Direct applications to the M.S. and Ph.D. in free radical and radiation biology are not currently being considered. Students who entered a graduate free radical and radiation biology program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

The Free Radical and Radiation Biology Program is the home of the Radiation and Free Radical Research Core Lab (RFRRC). The lab operates a 300 kVp orthovoltage X-ray generator and other radiation sources, including an 8,000-Curie Cs-137 irradiator (Ionizing Radiation Services). Students and staff have access to additional core lab support through RFRRC, with services and expertise related to analytical chemistry (Electron Paramagnetic Resonance services) and redox biology, biochemistry (Antioxidant Enzyme Services), and linear accelerators in the Department of Radiation Oncology.

The program has a number of radiation detectors and counters, including liquid scintillation counters. It also has ultraviolet/visible spectrophotometers; various types of equipment for densitometry, chromatography, and electrophoresis; modern tissue culture facilities; seahorse metabolic profiling instruments; molecular biology equipment, including thermal cyclers; an automatic cell counter and particle sizer; tissue culture facilities; Typhoon phosphorimager; high-performance liquid chromatography (HPLC); electron spin resonance spectrometers; and nitric oxide analyzers. Visit Research Core on the program's website to learn more.

Courses

Free Radical and Radiation Biology Courses

FRRB:3110 Medical Physics I 1-3 s.h.

Introduction to radiation used in clinical setting; fundamental physical units, measurements, principles, atomic structure and types of radiation; X-ray generating equipment, X-ray production, and its interaction with matter. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program, and maxillofacial or radiation oncology resident. Same as RSTH:3110.

FRRB:3130 Radiation Safety and Radiobiology 2 s.h.

Instruction on safe operation of radiation producing equipment and handling of radioactive materials; origin and/or derivation of certain formulae and techniques useful in radiation protection programs; regulatory agencies, regulations, and regulatory guides pertinent to student's field; emphasis on applied aspects of radiation protection; characteristics and biological effects of ionizing radiations, properties and uses of radioisotopes, medical applications, and biological basis for protection procedures. Requirements: enrollment in radiation sciences or nuclear medicine technology program. Same as RSP:3130.

FRRB:3215 Medical Physics II 0-3 s.h.

Treatment units used in external radiation therapy; beam calculations, isodose distributions, brachytherapy, quality assurance and quality management, protection and safety. Prerequisites: RSTH:3110. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program. Same as RSTH:3215.

FRRB:4000 Special Topics: Advanced Undergraduates

arr.

Readings and/or laboratory experience. Offered fall semesters.

FRRB:5000 Radiation Biology 4 s.h.

Comprehensive study of molecular and biological effects of ionizing radiations with an emphasis on biomedical therapeutic applications; mammalian radiobiology, contribution of metabolism to radiation effects, and therapeutic applications of radiation in cancer therapy. Offered fall semesters of odd years. Prerequisites: BIOC:3120 and CHEM:2210. Requirements: college-level physics.

FRRB:5001 Research: Special Topics arr.**FRRB:6000 Seminar: Free Radical and Radiation Biology 1 s.h.**

Seminar presentations of cutting edge science in the field of free radical and radiation biology, given by experts in the field as well as trainees.

FRRB:6004 Research: Free Radical and Radiation Biology arr.

Representation of intensive laboratory-based studies in the field of free radical and radiation biology, determined by mutual agreement between faculty members sponsoring the research and consultation with graduate student.

FRRB:6006 Topics in Free Radical Biology and Medicine 1 s.h.

Discussion and presentation of new literature reports in the field of free radical biology and medicine in journal club format.

FRRB:6008 Topics in Radiation and Cancer Biology 1 s.h.

Emerging concepts in the biological effects of radiation and cancer biology; current topics in journal club format.

FRRB:7000 Redox Biology and Medicine 4 s.h.

Chemistry of free radicals, related oxidants, and antioxidants; antioxidant (redox) enzymes—their structure, biochemical function, regulation, and function in redox biology; targets of oxidants—lipids, proteins, DNA; redox biology of health (infants to healthy aging) and disease (cancer, cardiovascular disease, diabetes, neurodegenerative diseases). Offered spring semesters of even years. Prerequisites: BIOC:3120 or CHEM:2210.

FRRB:7001 Molecular and Cellular Biology of Cancer 3 s.h.

Fundamental aspects of oncology at the cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered fall semesters. Requirements: strong basic science background. Same as PATH:7001.

Internal Medicine

Chair

- Evan Dale Abel

Faculty: <https://medicine.uiowa.edu/internalmedicine/people>

Website: <https://medicine.uiowa.edu/internalmedicine/>

Internal medicine is concerned with the diagnosis, prevention, and treatment of diseases of adults. The Department of Internal Medicine's educational, patient care, and research activities cover all facets of the discipline, including general internal medicine and primary care as well as the specialized areas of allergy and immunology, cardiology, clinical pharmacology, endocrinology and metabolism, gastroenterology and hepatology, hematology, oncology, blood and marrow transplant, infectious diseases, nephrology, pulmonary, critical care, occupational medicine, and rheumatology.

The department is committed to the complete spectrum of medical education, from didactic and clinical education of M.D. students to resident and fellowship training.

M.D. Training

Department of Internal Medicine faculty members bear a major share of teaching medical and physician assistant students in the preclinical curriculum. During the first year, faculty members participate in MED:8121 Clinical and Professional Skills I and MED:8131 Clinical and Professional Skills II, as well as MED:8122 Medicine and Society I and MED:8132 Medicine and Society II. They also participate in teaching MED:8124 Mechanisms of Health and Disease I, MED:8133 Mechanisms of Health and Disease II, and MED:8134 Mechanisms of Health and Disease III. Departmental faculty members are key contributors in the third semester, instructing MED:8221 Clinical and Professional Skills III, MED:8222 Medicine and Society III, MED:8223 Mechanisms of Health and Disease IV, and keystone courses.

During the core clinical clerkship year, the department's faculty members instruct students for six weeks in IM:8301 Inpatient Internal Medicine and for four weeks in IM:8302 Outpatient Internal Medicine at University of Iowa Hospitals and Clinics, Iowa River Landing, and the Iowa City VA Health Care System, or in hospitals of the Des Moines Area Medical Education Consortium. Students actively participate as members of an inpatient ward team and/or specialty consult services in IM:8301, and in IM:8302 they participate in the evaluation and management of patients at outpatient internal medicine clinics.

During their advanced clerkship students may select a clinical experience to fit their own career goals from courses offered in general medicine, subspecialties, intensive care, and a subinternship program IM:8401 Subinternship in Internal Medicine.

Residency

The department offers a three-year residency training program in internal medicine. In addition, most of the department's specialty divisions offer two- and three-year clinical and research fellowships, in which fellows develop special knowledge and skills relevant to their specialties. Fellows who hold doctoral degrees may be accepted to programs whose major focus is laboratory research.

Facilities

Teaching in the Department of Internal Medicine takes place in the medical services and laboratories of University of Iowa Hospitals and Clinics, Iowa River Landing, and the Iowa City VA Health Care System, and in Des Moines at the VA Central Iowa Health Care System and Iowa Methodist Medical Center.

Courses

Internal Medicine Courses

IM:8301 Inpatient Internal Medicine **arr.**

Development of knowledge, diagnostic and management skills vital to care of hospitalized patients; clinical responsibilities, educational conferences, independent study.

IM:8302 Outpatient Internal Medicine **3-4 s.h.**

Development of knowledge, diagnostic and management skills in the outpatient clinical setting; clinical activities, discussion of problems, independent study.

IM:8303 Electrocardiography **arr.**

Scalar electrocardiography with option of viewing exercise studies including treadmill testing; initial interpretation of current tracings and daily staff conferences.

IM:8401 Subinternship in Internal Medicine **4 s.h.**

Student responsibility for evaluating, treating, and following patients admitted to inpatient general medicine services. Requirements: fourth-year M.D. enrollment.

IM:8410 Clinical Allergy Immunology **arr.**

Pathogenesis, diagnosis, and management of asthma and allergic and immunologic diseases; conducting and interpreting relevant specialized clinical and laboratory tests; emphasis on outpatients; formal and informal teaching sessions.

IM:8412 Clinical Cardiology **arr.**

Development of breadth and depth in diagnostic and therapeutic problems encountered in clinical cardiology; participation in evaluation and decisions regarding patients seen sometimes in the cardiovascular clinic, inpatient cardiology wards, and electrophysiology service.

IM:8413 Noninvasive Cardiovascular Assessment: EKG Interpretation and Experiences in Ultrasound **2 s.h.**

Develop and further the confidence to read basic EKG patterns and rhythms critical to the primary care physician; these are the same objectives and methods as are stressed within the EKG portion of the transitions to clinical clerkships course; students are expected to refamiliarize themselves with this ICD material before beginning the course; students will learn by reading actual EKG's on their own with facilitation of learning by direct instructor feedback of their interpretation. Requirements: M.D. enrollment.

IM:8414 Clinical Endocrinology **arr.**

New patient evaluation, inpatient referral; returning patients in diabetes, endocrine clinics; complete patient evaluations, charts; participation in clinical conferences.

IM:8416 Clinical Gastroenterology **arr.**

Work in consultation service at University Hospitals and Clinics or Iowa City VA Health Care System; assistance in diagnostic procedures for patients examined as part of consultation service; participation in patient follow-up through weekly return clinic.

IM:8418 Hematology Oncology **arr.**

Diagnostic skills in hematology and oncology.

- IM:8422 Clinical Infectious Disease** arr.
Diagnosis, treatment, follow-up, study of patients with infectious diseases, under staff guidance; techniques of diagnostic microbiology; participation in conferences, teaching activities.
- IM:8424 Medical Intensive Care Unit** arr.
- IM:8426 Pulmonary Disease** arr.
Breadth, depth in diagnostic, therapeutic problems encountered in clinical pulmonary disease; evaluation of outpatients and inpatients under staff supervision; interpretation of special studies carried out in pulmonary function laboratory, fiberoptic bronchoscopy and brush biopsy of lung; exposure to diagnosis and management of acute respiratory failure in intensive care units at University of Iowa Hospitals and Clinics, and Iowa City VA Health Care System.
- IM:8428 Nephrology** arr.
Evaluation of patients from University of Iowa Hospitals and Clinics inpatient service, Iowa City VA Health Care System and clinics; emphasis on early kidney disease and all varieties of hypertension.
- IM:8434 Clinical Rheumatology** arr.
Clinical features of rheumatic diseases, their differential diagnosis, and principles of management; patients from arthritis clinic, inpatient consultation service of University of Iowa Hospitals and Clinics, and Iowa City VA Health Care System.
- IM:8435 Palliative Care** 2,4 s.h.
Requirements: M.D. enrollment.
- IM:8437 Multidisciplinary Cancer Care** 2 s.h.
Basic concepts of cancer care; role of multidisciplinary team in care of cancer patients; development of attitudes, knowledge, and skills useful for entering a specialty that encounters patients with cancer. Requirements: M.D. enrollment.
- IM:8449 Editorial Writing for Medical Students** 4 s.h.
Students understand and practice the skill of writing opinion editorials aimed at improving the public's understanding of health and health care; how to effectively engage a broad, non-medical audience through writing with the goal of producing an opinion editorial piece that could be submitted for publication to a local or national newspaper.
- IM:8450 Continuity of Care in Outpatient Internal Medicine** 4 s.h.
Experience with longitudinal continuity of care for patients in the outpatient setting; clinical and didactic exposure to broad spectrum of general internal medicine problems. Requirements: fourth-year M.D. enrollment.
- IM:8451 Subinternship in General Internal Medicine and ICU, Des Moines** arr.
Four-week rotation at Des Moines Medical Education Consortium; experience as a subintern in general internal medicine and the ICU. Requirements: fourth-year M.D. enrollment.
- IM:8452 Subinternship in Internal Medicine at VAMC, Des Moines** arr.
Rotation at the Veterans Affairs Central Iowa Health Care System; subinternship on general internal medicine ward. Requirements: fourth-year M.D. enrollment.
- IM:8453 Critical Care Rotation, IMMC, ICU, DM** 4 s.h.
Subinternship on medical critical care team, with daily rounds, teaching. Requirements: fourth-year M.D. enrollment.
- IM:8454 General Medicine Consult Service, IMMC** arr.
Principles of consultative medicine provided by general internists to non-internal medicine patients; how to assess perioperative risk for patients evaluated before surgery.
- IM:8455 Public Health Medicine** arr.
Participation in ongoing projects related to public health issues of acute disease; training and career opportunities in public health practice.
- IM:8456 Clinical Cardiology Coronary Care Experience, Iowa Methodist, Des Moines** arr.
- IM:8457 Clinical Nephrology, Iowa Methodist, Des Moines** 2,4 s.h.
Exposure to common nephrology problems, including acute renal failure, chronic renal failure, acid-base disorders, common electrolyte disorders.
- IM:8495 Internal Medicine ICU Off Campus** arr.
Experience as subintern in the ICU/MICU; daily rounds and teaching with medical critical care staff.
- IM:8497 Research in Internal Medicine** arr.
Medical research, clinical or laboratory projects; individual study.
- IM:8498 Internal Medicine On Campus** arr.
- IM:8499 Internal Medicine Off Campus** arr.

Medical Education Program

Executive Associate Dean

- Patricia L. Winokur

Graduate degree: M.M.E.

Graduate certificate: medical education

Faculty: <https://medicine.uiowa.edu/ocrme/about/faculty-staff>

Website: <https://medicine.uiowa.edu/ocrme/program-goals>

The Medical Education Program is dedicated to providing medical faculty members with formal training in medical education. The program is coordinated through the Office of Consultation and Research in Medical Education (OCRME). Courses are taught by OCRME faculty, who also advise students in the program.

Programs

Graduate Programs of Study

Major

- Master in Medical Education [p. 1569]

Certificate

- Certificate in Medical Education [p. 1570]

Master in Medical Education, M.M.E.

The Master in Medical Education program gives participants the opportunity to specialize in theory and practice of curriculum design, effective teaching, assessment, and other aspects of medical education. Graduates of the program should be able to:

- design evidence-based education programs and materials with appropriate scope, sequence, and focus for intended learners;
- deliver effective instruction to individuals and small or large groups in classroom, laboratory, or clinical settings;
- evaluate the effectiveness of educational instruction, using formative and summative methods;
- understand basic principles of educational measurement and be able to apply them to medical education;
- use assessments to promote learning and to assess learning progress and status; and
- understand basic principles of, and be able to interpret and use, educational research.

Requirements

The Master in Medical Education requires a minimum of 30 s.h. of graduate credit. The program is designed to prepare medical faculty members to educate health professionals. It is intended for Carver College of Medicine faculty members and professional staff as well as for University of Iowa resident physicians and fellows.

The M.M.E. may be completed in as few as two years or as many as five. Students may begin the program in fall semester, spring semester, or summer session. Some of the required courses are offered online, and required on-campus courses have evening meeting times.

The curriculum includes 24 s.h. of required courses and 6-9 s.h. of electives. Students must register for at least one course each academic year in order to maintain satisfactory progress toward the degree. The program's faculty provides substantial student advising and consultation.

During their first semester, students file a plan of study. Each student's plan must include a description of the student's goals, intended graduation date, and a list of courses the student plans to take each semester. The study plan must incorporate all of the courses required for the degree and must include any requests for transfer credit. The plan must be approved by the director of the M.M.E. program and by the student's advisor. Subsequent revisions of the plan must have the advisor's approval.

The Master in Medical Education requires the following course work.

Code	Title	Hours
MED:9701	Instructional Design and Technology	3
MED:9702	Clinical Teaching in Medical Education	3
MED:9703	Educational Research and Evaluation	3
MED:9711	Teaching Methods in Medical Education	3

MED:9712	Introduction to Educational Measurement in Medical Education	3
MED:9713	Assessment in Medical Education	3
MED:9714	Current Issues in Medical Education	3
MED:9720	Portfolio Project	3
Electives		6-9
Total Hours		30-33

Students who are not involved with clinical teaching may substitute another course for MED:9702 Clinical Teaching in Medical Education.

Students must have completed at least 18 s.h. before enrolling in MED:9720 Portfolio Project. In the portfolio, students integrate the materials they have developed over the course of the program into a document. Three faculty members review the project and evaluate the student's participation in the program.

Electives require approval of the student's advisor. They may include courses in the M.M.E. program as well as those offered by relevant departments and programs (e.g., College of Education, Tippie College of Business). Students should check with their advisors to determine which courses are graduate level.

Admission

Applicants should hold an M.D. degree and must have performed satisfactorily on the Medical College Admission Test (MCAT). Basic sciences applicants without an M.D. must hold an equivalent degree and must have performed satisfactorily on an admission test equivalent to the MCAT.

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must submit scores on the Test of English as a Foreign Language (TOEFL).

Application materials must include an official transcript showing medical course work and medical degree, or equivalent for basic sciences applicants (current and former University of Iowa students do not need to request a UI transcript or transcripts previously submitted to the University); a letter of reference from the applicant's department chair and one additional letter of reference; and a 300-500 word essay describing the applicant's interest in medical education and in the Master in Medical Education program.

To apply to the M.M.E. program, see Applications and Admissions on the Office of Consultation and Research in Medical Education (OCRME) website. Application materials should be submitted to the Office of Admissions.

Application deadlines are July 15 for fall semester entry, November 15 for spring semester entry, and April 15 for summer session entry.

Medical Education, Graduate Certificate

Application deadlines are July 15 for fall semester entry, November 15 for spring semester entry, and April 15 for summer session entry.

The graduate Certificate in Medical Education requires a minimum of 12 s.h. of graduate credit. The certificate program is designed to help participants find new ways to enhance their scholarship and skills in teaching, curriculum design, and education assessment. It is intended for Carver College of Medicine faculty and professional staff as well as for University of Iowa resident physicians and fellows.

Required course work for the certificate is taken from the Master of Medical Education program. Individuals who complete the certificate and then decide they would like to earn the master's degree may count their certificate course work toward the M.M.E.

The Certificate in Medical Education requires the following course work.

Code	Title	Hours
Methods		
MED:9701	Instructional Design and Technology	3
or MED:9702	Clinical Teaching in Medical Education	
or MED:9711	Teaching Methods in Medical Education	
Research and Measurement		
MED:9703	Educational Research and Evaluation	3
or MED:9712	Introduction to Educational Measurement in Medical Education	
Additional Courses		
Students choose from M.M.E. requirements		6
Total Hours		12

Admission

Applicants should hold an M.D. degree and must have performed satisfactorily on the Medical College Admission Test (MCAT). Basic sciences applicants without an M.D. must hold an equivalent degree and must have performed satisfactorily on an admission test equivalent to the MCAT.

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must submit scores on the Test of English as a Foreign Language (TOEFL).

Application materials must include an official transcript showing medical course work and medical degree, or equivalent for basic sciences applicants (current and former University of Iowa students do not need to request a UI transcript or transcripts previously submitted to the University); a letter of reference from the applicant's department chair and one additional letter of reference; and a 300-500 word essay describing the applicant's interest in medical education and in the Certificate in Medical Education program.

To apply to the certificate program, see Applying as a Nondegree Graduate Student on the University of Iowa Office of Admissions website. Application materials should be submitted to the Office of Admissions.

Medical Laboratory Science

Coordinator, Pathology Learning Center

- Angela Briggs

Undergraduate major: medical laboratory science (B.S.)

Faculty: <https://medicine.uiowa.edu/pathology/people>

Website: <https://medicine.uiowa.edu/pathology/education/medical-laboratory-science-program-mlsp>

Medical laboratory scientists and medical technologists perform the laboratory tests that provide health care practitioners with information vital for accurate diagnosis, proper treatment of disease, and assistance in monitoring the treatment of the disease. They are in demand in hospital, private, reference, and government laboratories; clinics; physicians' offices; and industrial, pharmaceutical, biological, veterinary, and environmental research laboratories. Medical laboratory scientists and medical technologists are highly skilled health team professionals who use complex procedures and instruments in their analysis. They possess a specialized set of knowledge and skills acquired through completion of a formal twelve-month program of academic and clinical study in laboratory medicine.

Programs

Undergraduate Program of Study

Major

- Major in Medical Laboratory Science (Bachelor of Science) [p. 1572]

Medical Laboratory Science, B.S.

The Carver College of Medicine partners with Allen College in Waterloo, Iowa, to offer the major in medical laboratory science. The program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences. All graduates are eligible for national certification examinations in medical laboratory science.

Undergraduate study in medical laboratory science is guided by the academic rules and procedures [p. 1526] outlined in the Carver College of Medicine section of the Catalog. Because the Carver College of Medicine partners with Allen College for the medical laboratory science major, students are not held to the University of Iowa in-residence requirement.

Expenses

Students are responsible for buying textbooks and paying tuition and student fees. The Medical Laboratory Science Program provides laboratory coats for professional program students.

Requirements

The Bachelor of Science with a major in medical laboratory science requires a minimum of 124 s.h., including 84 s.h. of preparatory study and 40 s.h. in the professional (clinical) program, which consists of 11 months of didactic and practical instruction and clinical rotations. Students must maintain a cumulative g.p.a. of at least 2.70 in all courses for the major and in all University of Iowa courses. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Bachelor of Science students who have completed all preparatory study (years one through three) begin the fourth-year professional program in late May with online didactic lectures. They attend several days of laboratory skills instruction on the Allen College campus, and in mid-November they begin a series of clinical rotations in the laboratories of the University of Iowa Hospitals and Clinics and the Iowa City VA Health Care System. The first series ends at the end of the calendar year. January through early April involve more online courses and student laboratory skills. The last series of clinical rotations begin in mid-April and the professional program concludes with exams in preparation for national certification. Students who successfully complete the 11-month professional program graduate with a Bachelor of Science in medical laboratory science from the University of Iowa and a Bachelor of Health Science from Allen College.

Professional program requirements are taken through Allen College. To learn more about the professional program, visit Medical Laboratory Science (MLS) on the Allen College website.

As part of their preparatory study, students must complete specific courses that are prerequisites for admission to the major.

Preparatory Study: Prerequisites for Admission to the Major

Students must complete the following course work before they may be admitted to the major in medical laboratory

science. Students must earn a grade of C-minus or higher in all prerequisite courses.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
PSY:1001	Elementary Psychology	3
RHET:1030	Rhetoric	4-5
SOC:1010	Introduction to Sociology	3-4
One of these options:		
HHP:1100 & HHP:1110	Human Anatomy - Human Anatomy Laboratory (both courses)	4
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:1300 & HHP:1310	Fundamentals of Human Physiology - Human Physiology Laboratory (both courses)	4
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3550	Human Physiology with Laboratory	5
One of these:		
BIOC:3110	Biochemistry	3
CHEM:2220	Organic Chemistry II	3
One of these:		
MATH:1005	College Algebra	4
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4
One of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:3510/ IGPI:3510	Biostatistics	3

Fourth Year: Professional Program

Students must successfully complete the professional program requirements through Allen College in order to graduate with the B.S. degree in medical laboratory science.

Admission

Admission to the medical laboratory science professional program (fourth year) is competitive; enrollment may be limited. Applications are accepted beginning in October and ending in February. Applicant review and admission continues on a monthly basis until the program is full. Students must apply to Allen College. Most students apply during fall of their

third year and begin the professional program in late May immediately after their third year.

Before beginning the professional program, students must complete all prerequisites, including the College of Liberal Arts and Sciences GE CLAS Core [p. 459] requirements, and must earn at least 84 s.h. of college credit. They satisfy the English and public speaking prerequisite requirements by fulfilling the GE CLAS Core Rhetoric requirement. Applicants must have a cumulative g.p.a. of at least 2.70 both overall and in science course work. They must satisfy any English as a Second Language (ESL) requirements specified by the University of Iowa before beginning the professional program.

Students should consult with a Medical Laboratory Science Program advisor as early as possible to plan preclinical studies that meet all requirements.

Career Advancement

The demand for medical laboratory scientists (MLS) is much greater than the number of people qualified to fill the positions, so MLS graduates have numerous employment opportunities nationwide. They consistently find employment before or very soon after graduation.

Opportunities for advancement include positions such as lab manager, computer specialist, technical specialist, or sales/instrument representative. An advanced degree in basic sciences, medicine, hospital administration, or business can expand earning potential.

Graduates often enjoy diverse work environments, including labs in hospitals, research institutions, public health facilities, forensic units, pharmaceutical companies, or working in the armed forces. They have an impact in the field as integral members of health care teams, providing information essential for the treatment and prevention of disease.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Medical Scientist Training Program

Executive Associate Dean

- Patricia L. Winokur

Faculty: <https://medicine.uiowa.edu/mstp/faculty>

Website: <https://medicine.uiowa.edu/mstp/>

The Iowa Medical Scientist Training Program (MSTP) prepares trainees for careers in academic medicine, with emphasis on basic and clinical research.

Combined Degree

M.D./Ph.D.

The combined Doctor of Medicine/Doctor of Philosophy program normally requires seven to eight years of continuous study. It provides an effective and efficient means to integrate graduate and clinical training, combining the scientific approach with clinical medicine.

During the first three semesters of the program, trainees take course work in the basic sciences fundamental to the study of medicine and complete experiences that introduce mechanisms of health and disease, and to principles of clinical practice; see Doctor of Medicine [p. 1555] in the Catalog. This early training provides broad exposure to the language and organizing concepts that form the foundation for a career as a physician scientist. Trainees also begin the research component of the graduate phase of the program during this time, through summer laboratory MSTP:8511 MSTP Research rotations, enrollment in MSTP:8513 Analyzing and Presenting Medical Research, research presentations by MSTP faculty and students, and a student-sponsored seminar series. Trainees participate in Conversations in Research, in which MSTP faculty members discuss their research and career interests, and they attend MSTP Grand Rounds, a forum for patient-based discussions that emphasizes how science and medicine intersect.

During the fourth semester, all trainees take Step 1 of the U.S. Medical Licensing Examination and enroll in core clinical clerkships, in which they gain broad exposure to the spectrum of human disease and experience direct patient care before they enter the graduate phase of training.

At the beginning of the third year, trainees select a Ph.D. thesis mentor and enroll in a graduate department or interdisciplinary graduate program to begin their scientific training. In the spring semester of the third year, students enroll in MSTP:8514 Grant Writing Basics: A Focus on Predoctoral Applications. This course builds critical thinking and writing skills associated with applications for individual predoctoral training fellowships.

The focus of the graduate years of study is engagement in academic and research experiences that promote the trainees' development into independent investigators. Clinical contact is maintained during this phase of training through participation in seminar programs, MSTP Grand Rounds, and MSTP:8512 MSTP Clinical Connections, a course that provides the opportunity for mentored clinical experiences.

Upon completing the Ph.D. dissertation, trainees return to the Carver College of Medicine's M.D. curriculum to complete the clinical clerkship requirements for the M.D./Ph.D. combined program. During this phase, trainees

bring a sophistication in the scientific approach to problem solving that they apply to human disease. They renew and develop clinical skills acquired in their early training and reinforce their understanding of the scientific basis of disease through continued participation in MSTP Grand Rounds. Upon completion of the clinical curriculum, trainees are awarded the M.D. and Ph.D.

Most graduates of the program elect to enter residency programs in clinical medicine and embark on careers as medical school faculty members in clinical disciplines with opportunities for basic and applied research. Other graduates accept academic appointments in basic science departments and spend a major part of their professional activity in biomedical research and teaching.

Admission

Applicants must meet requirements for admission to the M.D. program in the Carver College of Medicine; see Admission [p. 1558] in the Doctor of Medicine section of the Catalog. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants should have completed requirements for a bachelor's degree at an accredited academic institution. In addition to outstanding academic credentials, including strength in biological, physical, and mathematical sciences, they must demonstrate aptitude for and commitment to scientific research through productive research experience during their undergraduate years or after. Admission normally is made for entry to the first year of the program, but applicants already enrolled in the Carver College of Medicine may request admission with advanced standing.

Application

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS). Program applicants should select M.D./Ph.D. Program-Type on their AMCAS application and instruct AMCAS to forward their credentials to the Carver College of Medicine (IA131). Applications should be submitted as early as possible to allow careful review by the admissions committees of the Medical Scientist Training Program and the Carver College of Medicine.

All candidates must take the Medical College Admission Test (MCAT), according to Carver College of Medicine requirements. The Graduate Record Exam (GRE) General Test is not required for admission.

Application to the Graduate College is not required before acceptance to the MSTP. Trainees admitted to the program receive assistance with Graduate College enrollment.

Financial Support

Trainees receive stipend and full tuition support from a National Institutes of Health MSTP training grant to the University of Iowa, supplemented by other institutional and individual awards. Students in the graduate phase of training receive support from their graduate departments or interdisciplinary programs and their research advisors. The program office also helps selected trainees apply for competitive national awards for outstanding academic and research achievement.

Courses

Medical Scientist Training Program Courses

MSTP:8511 MSTP Research**arr.**

Research experience. Requirements: Medical Scientist Training Program enrollment.

MSTP:8512 MSTP Clinical Connections**arr.**

Experience with physician-scientist preceptor in medical interviewing, physical examination, patient presentation through direct patient interaction. Requirements: Medical Scientist Training Program graduate phase enrollment.

MSTP:8513 Analyzing and Presenting Medical Research**1 s.h.**

How to read, interpret, and present medical and scientific literature; students read and present representative papers from scientific and medical literature.

MSTP:8514 Grant Writing Basics: A Focus on Predoctoral Applications**1 s.h.**

Introduction to practical and conceptual aspects of grant-writing process, with the goal of completing an NIH F30-like grant; encourages critical thinking about significance, innovation, and experimental design; relate critical information and study design in concise and clear language; practical concepts of grant writing such as specific aims, experimental design, and the grant review process; trainees will present their research ideas, establishing opportunities to give and receive scientific criticism. Requirements: Medical Scientist Training Program enrollment.

Microbiology and Immunology

Chair

- Patrick M. Schlievert

Director, Undergraduate Studies

- Richard J. Roller

Director, Graduate Studies

- Timothy L. Yahr

Undergraduate major: microbiology (B.S.)

Undergraduate minor: microbiology

Faculty: <https://medicine.uiowa.edu/microbiology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/microbiology/>

Study in the Department of Microbiology and Immunology is dedicated to the branch of biological sciences that investigates the smallest living things: microbes that include bacteria, archaea, fungi, algae, protozoa, and viruses. It is coupled with immunology that includes the study of the protective responses of higher organisms to disease-causing microbes and cancers, and mistakes in immune function. Microbiology and immunology often interact in humans at the microbiome, those microbes that live with humans on their skin and mucosal surfaces, and yet must be restricted from causing disease by the immune system.

Microbiology and immunology are at the forefront of the modern biological revolution. Microbes and the microbiome are often the experimental subjects of choice for examining genetic and biological phenomena because of their small size, rapid growth rate, relative simplicity, and variety of characteristics that allow them to cause many kinds of infections and alter normal body functions. Immunology often makes use of microbes and cancer cells to study the critical and complex human response to eliminate microbes and cancers. A significant portion of contemporary biochemical research employs microbiological and immunological methods.

Current research is making theoretical and practical advances concerning microbes that infect animals, including humans, and the immune response to those microbes; the use of comparative genomics, gene expression profiling, and recombinant DNA methods to analyze biological processes and generate valuable products, such as antibiotics and antibodies; genetics and regulation of metabolic processes; and the genetics and regulation of the immune response, including characterization of mechanisms used by microbes to signal one another and characterization of interactions between different types of immune cells and their targets.

The Department of Microbiology and Immunology offers an undergraduate major and a minor, and determines the curricula for those programs. Undergraduates majoring in microbiology receive their degrees (Bachelor of Science) from the College of Liberal Arts and Sciences and are governed by that college's undergraduate academic policies.

Programs

Undergraduate Programs of Study

Major

- Major in Microbiology (Bachelor of Science) [p. 1580]

Minor

- Minor in Microbiology [p. 1584]

Graduate Programs of Study

Majors

- Master of Science in Microbiology
- Doctor of Philosophy in Microbiology

Students interested in doctoral studies in microbiology should apply under the umbrella program in Biomedical Science [p. 1428] (select microbiology subprogram). Direct applications to the M.S. and Ph.D. in microbiology are not currently being considered. Students who entered a graduate microbiology program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

The Department of Microbiology and Immunology is situated on the University of Iowa health sciences campus, where it shares the Bowen Science Building with the Departments of Anatomy and Cell Biology, Biochemistry, Molecular Physiology and Biophysics, and Pharmacology. Laboratory space and modern equipment are available for teaching and research.

Courses

Microbiology and Immunology Courses

MICR:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor.

MICR:1006 Small Wonders: Microbes in Our Lives 3 s.h.

Basic principles of microbial world for nonscience majors; introduction to bacteria, viruses, and fungi; how they differ from more complex cells, how they are found in every environment on earth and on every human body, their uses to benefit humans, their ability to cause illness in humans and animals.

MICR:2157 General Microbiology 3 s.h.

Principles of bacterial and viral diversity, structure, genetics, physiology, and metabolism in contexts of molecular biology, immunology, infectious disease, and environmental microbiology. Prerequisites: BIOL:1411.

MICR:2158 General Microbiology Laboratory 2 s.h.

Practice of basic techniques commonly used today for study of easy-to-grow microorganisms; variety of individual and group lab activities that challenge students to apply observations about bacteria and viruses. Corequisites: MICR:2157, if not taken as a prerequisite.

MICR:3112 Pharmacy Microbiology 4 s.h.
Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: pre-pharmacy standing.

MICR:3147 Immunology and Human Disease 3 s.h.
Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels. Prerequisites: BIOL:1411 with a minimum grade of C and BIOL:1412 with a minimum grade of C.

MICR:3159 Bacteria and Human Disease 3 s.h.
Infection and replication strategies of bacteria with an emphasis on human disease; for students interested in microbiology or other biological sciences, epidemiology, and/or health-related occupations. Prerequisites: MICR:2157 with a minimum grade of C.

MICR:3160 Molecular Microbiology 3 s.h.
Microbes colonize a wide range of diverse environments from deep sea thermal vents to ice covered arctic lakes to the human body; students explore the genetics, molecular, and cell biology of a range of microorganisms, including microbial cell organization, macromolecular assembly, molecular structure and function, cell division and DNA replication, fundamentals of gene regulation, bacterial differentiation, antibiotic resistance, and microbial interactions; provides a strong foundation in molecular microbiology with an emphasis on familiarizing students with the techniques commonly used in modern microbiology research. Prerequisites: MICR:2157 with a minimum grade of C and (BIOC:3120 or BIOC:3110).

MICR:3164 Microbiology and Human Health 4 s.h.
Microbiology for nursing, pharmacy, and pre-health professions. Prerequisites: BIOL:1411 or BIOL:1140 or BIOL:1141.

MICR:3165 Bacteria and Human Disease Laboratory and Discussion 3 s.h.
Experimental design and methodologies used to study bacteria with emphasis on human disease; students read and discuss papers from bacteriology literature that address current issues in bacteriology; for students interested in microbiology or other biological sciences, epidemiology, and/or health-related occupations. Prerequisites: MICR:2157 with a minimum grade of C and MICR:2158 with a minimum grade of C. Corequisites: MICR:3159, if not taken as a prerequisite.

MICR:3166 Microbiology Literature Discussion 1 s.h.
Students read and discuss papers from microbiology literature that address current issues in microbiology; for students interested in microbiology or other biological sciences, epidemiology, and/or health-related occupations. Prerequisites: MICR:2157 with a minimum grade of C.

MICR:3168 Viruses and Human Disease 3 s.h.
Infection and replication strategies of viruses with an emphasis on human disease; for microbiology majors as well as students interested in pre-medicine, biological sciences, epidemiology, and/or other health-related occupations. Prerequisites: BIOL:1411 with a minimum grade of C or MICR:2157 with a minimum grade of C.

MICR:3170 Microbial Genetics 3 s.h.
Genetics of bacteria, bacteriophages. Prerequisites: BIOL:2512 with a minimum grade of C or MICR:2157 with a minimum grade of C.

MICR:3175 Molecular Microbiology and Genetics Laboratory 3 s.h.
Introductory research experience in bacterial genetics (including classical, molecular, bioinformatics, and biostatistical approaches); students tackle real (not cookbook) research projects designed to foster critical thinking skills and generate original data, formulate hypotheses, design and interpret experiments, read primary literature, present their findings, and develop scientific writing skills. Prerequisites: MICR:2157 or BIOL:2512. Recommendations: MICR:3170.

MICR:3178 Virology Laboratory and Discussion 3 s.h.
Practical approaches to studying viruses; basic techniques in virology including virus detection, virus growth measurement, and virus genetics; students read and discuss papers from virology literature that address current issues in virology. Prerequisites: MICR:2157 with a minimum grade of C and MICR:2158 with a minimum grade of C. Corequisites: MICR:3168.

MICR:3179 Bacterial Diversity and the Human Microbiome 3 s.h.
Discussion-based setting with a focus on the molecular basis of microbial diversity including mechanisms for gene expression, microbial populations, and the microbiome; emphasis on sequencing technologies, bioinformatics, and databases. Prerequisites: MICR:2157.

MICR:3190 Web-Based Nursing Microbiology 4 s.h.
Nursing microbiology, principles of immunology; web-based instruction. Prerequisites: BIOL:1140 or BIOL:1411 or BIOL:1141. Requirements: pre-nursing standing.

MICR:4161 Undergraduate Research in Microbiology arr.
Experimental research under faculty supervision. Prerequisites: BIOL:1411.

MICR:4163 Seminar: Microbiology 2 s.h.
Current topics in microbiology, immunology, and virology. Prerequisites: 2 of the following are required: MICR:3147 with a minimum grade of C, MICR:3159 with a minimum grade of C, MICR:3160 with a minimum grade of C, MICR:3168 with a minimum grade of C, MICR:3170 with a minimum grade of C. Requirements: senior standing.

MICR:4169 Topics in Viral Biology and Pathogenesis 1 s.h.
Topics include viral life cycles, immune response, antiviral treatments, potential for vaccine, animal models; lectures introducing subject matter; discussion of literature relevant to each week's topic. Prerequisites: MICR:3168 with a minimum grade of C.

MICR:4171 Honors Undergraduate Research in Microbiology arr.
Experimental research under faculty supervision. Prerequisites: BIOL:1411. Requirements: microbiology major, junior or senior standing, 3.33 overall g.p.a., and 3.33 g.p.a. in microbiology courses.

MICR:5218 Microscopy for Biomedical Research arr.
Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as ACB:5218, BIOL:5218.

MICR:5264 Directed Study in Microbiology arr.

MICR:5875 Perspectives in Biocatalysis 1-3 s.h.

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BIOC:5875, CBE:5875, CEE:5875, CHEM:5875, PHAR:5875.

MICR:6201 Graduate Immunology 3 s.h.

Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Requirements: for IMMU:6201—college biology, general chemistry, and introductory immunology courses; for MICR:6201—courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: for IMMU:6201—courses in biochemistry and genetics; for MICR:6201—biochemistry course. Same as IMMU:6201.

MICR:6247 Graduate Immunology and Human Disease 4 s.h.

Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels; learning enhanced by case-based, small-group discussion and writing exercises. Same as IMMU:6247.

MICR:6250 Mechanisms of Parasitism Journal Club 1 s.h.

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students. Same as MMED:6250.

MICR:6259 Graduate Bacteria and Human Disease 3 s.h.

Infection and replication strategies of bacteria with an emphasis on human disease; discussion focuses on experimental approaches used to study mechanisms of disease.

MICR:6260 Graduate Molecular Microbiology 3 s.h.

Microbes colonize a wide range of diverse environments from deep sea thermal vents to ice covered arctic lakes to the human body; students explore the genetics, molecular, and cell biology of a range of microorganisms including microbial cell organization, macromolecular assembly, molecular structure and function, cell division and DNA replication, fundamentals of gene regulation, bacterial differentiation, antibiotic resistance, and microbial interactions; the course provides a strong foundation in molecular microbiology with an emphasis on familiarizing students with the techniques commonly used in modern microbiology research.

MICR:6267 Graduate Viruses and Human Disease 4 s.h.

Infection and replication strategies of viruses with an emphasis on human disease; discussion focuses on topics and techniques used in primary literature and development of specific aims for a mini-proposal.

MICR:6268 Biology and Pathogenesis of Viruses 2 s.h.

Molecular biology of animal DNA and RNA viruses, viral immunology and pathogenesis, and interaction of these viruses with eucaryotic cells; mechanisms of viral latency, persistence, cellular transformation, oncogenesis; virology literature. Prerequisites: MICR:3168 or MICR:6267.

MICR:6270 Graduate Microbial Genetics 3 s.h.

Genetics of bacteria, bacteriophages.

MICR:6279 Graduate Bacterial Diversity and the Human Microbiome 3 s.h.

Discussion-based setting focused on the molecular basis of microbial diversity including mechanisms for gene expression, microbial populations, and the microbiome; emphasis on sequencing technologies, bioinformatics, and data bases; students will design, present, and evaluate primary research abstracts.

MICR:7207 Advanced Topics in Immunology 3 s.h.

In-depth analysis of selected areas. Prerequisites: IMMU:6201 or MICR:6201. Same as IMMU:7221.

MICR:7217 Integrated Topics in Infectious Diseases 1 s.h.

Clinical cases used to raise questions in host-microbe interactions; case/scientific exposés followed by related journal club discussions at next class session. Same as IMMU:7217.

MICR:7221 Advanced Topics in Prokaryotic Biology Module 1 1-2 s.h.

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through primary literature and course specific assignments (proposal writing, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7222 Advanced Topics in Prokaryotic Biology Module 2 1-2 s.h.

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through exposure to primary literature and assignments (proposal writing, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7223 Advanced Topics in Prokaryotic Biology Module 3 1-2 s.h.

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through exposure to selected topics in microbiology and assignments (proposal, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7224 Advanced Topics in Prokaryotic Biology Module 4 1-2 s.h.

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through exposure to selected topics in microbiology and assignments (proposal, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7225 Advanced Topics in Prokaryotic Biology Module 5 1-2 s.h.

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through exposure to selected topics in microbiology and assignments (proposal, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7226 Advanced Topics in Prokaryotic Biology**Module 6****1-2 s.h.**

Development of critical thinking, experimental approach and design, writing, and oral presentation skills through exposure to selected topics in microbiology and assignments (proposal, writing manuscript reviews, oral presentations, small group discussions). Requirements: graduate standing in microbiology.

MICR:7261 Graduate Research in Microbiology**arr.**

Requirements: microbiology graduate standing.

MICR:7263 Graduate Student Research Seminar**1 s.h.**

Presentation of thesis work in progress. Requirements: microbiology graduate standing.

MICR:7265 Topics in Virology Literature**1 s.h.**

Papers of current interest in primary virology literature.

MICR:7269 Graduate Topics in Viral Biology and Pathogenesis**1 s.h.**

Topics include viral life cycles, immune response, antiviral treatments, potential for vaccine, animal models; lectures introducing subject matter; discussion of literature relevant to each week's topic. Prerequisites: MICR:6267.

MICR:8230 Dental Microbiology**3 s.h.**

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: D.D.S. enrollment.

Microbiology, B.S.

Microbiology is an excellent major for undergraduate students who want a good general education with emphasis on an important and interesting branch of biological sciences.

Requirements

The Bachelor of Science with a major in microbiology requires a minimum of 120 s.h., including 63-64 s.h. of work for the major (21-28 s.h. in the Department of Microbiology and Immunology and 35-43 s.h. in supporting course work). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 459].

Students must complete at least 12 s.h. of the required 21-28 s.h. in Department of Microbiology and Immunology courses at the University of Iowa.

The major in microbiology can be pursued on either a pre-medicine or a scholar track.

Students in the pre-medicine track complete admission requirements for the Carver College of Medicine and for most colleges of medicine as an integral part of the completion of their major requirements. This track is recommended for pre-medical, pre-dental, and pre-pharmacy students.

Students in the scholar track pursue a curriculum with streamlined organic chemistry and physics requirements and expanded microbiology and immunology courses, including advanced laboratory and global health studies course work. The scholar track is recommended for students interested in pursuing graduate training or in developing a career as a microbiologist.

Students may shift from one track to the other during their program of study.

The B.S. with a major in microbiology in the pre-medicine or the scholar track requires the following course work.

Code	Title	Hours
	Microbiology and Immunology Courses	21
	Supporting Course Work	28-29
	Pre-Medicine or Scholar Track Course Work	14
	Total Hours	63-64

Microbiology and Immunology Courses

Pre-medicine and scholar track students earn 21 s.h. in Department of Microbiology and Immunology courses, as follows.

Code	Title	Hours
Both of these:		
MICR:2157	General Microbiology (with a grade of C or higher)	3
MICR:2158	General Microbiology Laboratory (with a grade of C or higher)	2

Additional microbiology and immunology courses (prefix MICR), with at least 16 s.h. in courses numbered MICR:3147 or above, excluding MICR:3164. Students select from the following:

MICR:3147	Immunology and Human Disease	3
MICR:3159	Bacteria and Human Disease	3
MICR:3160	Molecular Microbiology	3
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3
MICR:3168	Viruses and Human Disease	3
MICR:3170	Microbial Genetics	3
MICR:3178	Virology Laboratory and Discussion	3
MICR:4161	Undergraduate Research in Microbiology	arr.
MICR:4171	Honors Undergraduate Research in Microbiology	arr.
MICR:5218	Microscopy for Biomedical Research	arr.

Students must earn a grade of C or higher in BIOL:1411 Foundations of Biology, or in MICR:2157 General Microbiology and MICR:2158 General Microbiology Laboratory, in order to take more advanced Department of Microbiology and Immunology courses.

A maximum of 4 s.h. earned in MICR:4161 Undergraduate Research in Microbiology may be counted toward the major. However, honors students must complete 23 s.h. of microbiology and immunology courses (prefix MICR) for the major and may count 6 s.h. earned in MICR:4171 Honors Undergraduate Research in Microbiology; see Honors [p. 1581] in this section of the Catalog.

Supporting Course Work

Pre-medicine and scholar track students must complete the supporting course work listed below. These courses may not be taken pass/nonpass.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
BIOC:3120 & BIOC:3130	Biochemistry and Molecular Biology I-II	6
One of these:		
BIOS:4120	Introduction to Biostatistics	3
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
STAT:3510/ IGPI:3510	Biostatistics	3
In addition, the following course may be recommended for some students:		
CNW:2680	The Art and Craft of Creative Nonfiction	3

Pre-Medicine Track

Pre-medicine track students must complete the following course work. These courses may not be taken pass/nonpass.

Code	Title	Hours
Both of these:		
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

Scholar Track

Scholar track students must complete the following course work. These courses may not be taken pass/nonpass.

Code	Title	Hours
This course:		
PHYS:1400	Basic Physics	4
One of these:		
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3

Scholar track students must earn an additional 4 s.h. of advanced course work chosen from the following.

Code	Title	Hours
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	4
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2080/ GWSS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3

Additional work in Department of Microbiology and Immunology courses numbered MICR:3147 or above, excluding MICR:3164

Scholar track students must take at least one microbiology and immunology advanced laboratory or research course from these.

Code	Title	Hours
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3
MICR:3178	Virology Laboratory and Discussion	3
MICR:4161	Undergraduate Research in Microbiology	arr.
MICR:4171	Honors Undergraduate Research in Microbiology	arr.

Combined Programs

B.S./Ph.D. in Biomedical Science (Microbiology Subprogram)

Students majoring in microbiology who are interested in earning a doctoral degree may apply to the combined Bachelor of Science/Doctor of Philosophy in biomedical science with a microbiology subprogram. The combined

program permits students to count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements before they have been granted the B.S. degree.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Ph.D. in biomedical science [p. 1431] (microbiology subprogram) in the Catalog. Contact the Department of Microbiology and Immunology for more information.

Honors

Honors in the Major

Students majoring in microbiology (either track) have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33, both cumulative and in Department of Microbiology and Immunology courses (prefix MICR). To graduate with honors in the microbiology major, students must complete 23 s.h. of course work in microbiology, including 6 s.h. in MICR:4171 Honors Undergraduate Research in Microbiology, which introduces them to experimental research. At the end of their research, they must successfully present written and oral reports.

University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the microbiology major.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Before the third semester begins: BIOL:1411 Foundations of Biology, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and an approved calculus or biostatistics course

Before the fifth semester begins: BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, MICR:2157 General Microbiology, and MICR:2158 General Microbiology Laboratory

Before the seventh semester begins: seven more courses in the major and at least 90 s.h. earned toward the degree

Before the eighth semester begins: another 10-12 s.h. of course work

During the eighth semester: enrollment in all remaining course work in the major, all remaining required GE CLAS Core courses, and a sufficient number of semester hours to graduate

Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Microbiology, B.S.

- Pre-Medicine Track [p. 1582]
- Scholar Track [p. 1582]

Pre-Medicine Track

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
MATH:1460	Calculus for the Biological Sciences ^{b, c}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Elective course ^d		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
BIOL:1411	Foundations of Biology ^b	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
Elective course ^d		1
Hours		15-16
Second Year		
Fall		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: Historical Perspectives ^e		3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2
Hours		16-17
Spring		
MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
CHEM:2220	Organic Chemistry II	3
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^d		1
Hours		16-17
Third Year		
Fall		
BIOC:3120	Biochemistry and Molecular Biology I	3
CHEM:2410	Organic Chemistry Laboratory	3
PHYS:1511	College Physics I	4
GE CLAS Core: Values and Culture ^e		3

GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Hours		17-18
Spring		
BIOC:3130	Biochemistry and Molecular Biology II	3
PHYS:1512	College Physics II	4
Major: advanced microbiology course ^g		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Hours		17-19
Fourth Year		
Fall		
Major: advanced microbiology course ^g		3
Major: advanced microbiology course ^g		3
Major: optional research		1 - 3
GE CLAS Core: Social Sciences ^e		3
Elective course ^d		3
Elective course ^d		2
Hours		15-17
Spring		
Major: advanced microbiology course ^g		5
Major: optional research		1 - 3
Elective course ^d		3
Elective course ^d		3
Elective course ^d		3
Hours		15-17
Total Hours		125-136

- a Enrollment in chemistry courses requires completion of a placement exam.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students must complete at least 14 s.h. in approved microbiology and immunology courses.

Scholar Track

Course	Title	Hours
First Year		
Fall		
CHEM:1110	Principles of Chemistry I ^{a, b}	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1460	Calculus for the Biological Sciences ^{a, c}	4
Elective course ^d		1
CSI:1600	Success at Iowa	2
Hours		14-15
Spring		
BIOL:1411	Foundations of Biology ^a	4

CHEM:1120	Principles of Chemistry II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion ^e		3
Elective course ^d		1

Hours	15-16
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Second Year

Fall

MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: World Languages First Level Proficiency or elective course ^f		4 - 5

Hours	16-17
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Spring

GHS:2000	Introduction to Global Health Studies	3
PHYS:1400	Basic Physics	4
GE CLAS Core: International and Global Issues ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5
Elective course ^d		2

Hours	16-17
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Third Year

Fall

BIOC:3120	Biochemistry and Molecular Biology I	3
Major: advanced microbiology course ^g		3
Major: advanced microbiology laboratory course ^g		3
GE CLAS Core: Values and Culture ^e		3
GE CLAS Core: World Languages Second Level Proficiency or elective course ^f		4 - 5

Hours	16-17
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Spring

BIOC:3130	Biochemistry and Molecular Biology II	3
Major: advanced microbiology course ^g		3
GE CLAS Core: Literary, Visual, and Performing Arts ^e		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^f		4 - 5
Elective course ^d		3

Hours	16-17
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Fourth Year

Fall

Major: advanced microbiology course ^g		3
Major: advanced microbiology course ^g		3
Major: optional research		1 - 3
GE CLAS Core: Historical Perspectives ^e		3
Elective course ^d		3
Elective course ^d		2

Hours	15-17
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Spring

Major: advanced microbiology course ^g		5
Major: optional research		1 - 3
GE CLAS Core: Social Sciences ^e		3
Elective course ^d		3

Elective course ^d	3
Hours	15-17
Total Hours	123-133

- a Fulfills a major requirement and may fulfill a GE requirement.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students must complete at least 14 s.h. in approved microbiology and immunology courses.

Career Advancement

Graduates find employment opportunities in government, hospitals, public health laboratories, research laboratories, and industrial laboratories (food, dairy, chemical, pharmaceutical, and biotechnology companies). Those who pursue advanced degrees have more advanced career opportunities in these same areas, with greater responsibilities and higher salaries, as well as in college and university teaching.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Microbiology, Minor

The undergraduate minor in microbiology requires a minimum of 15 s.h. in Department of Microbiology and Immunology courses (prefix MICR), including 12 s.h. in courses considered advanced for the minor taken at the University of Iowa. Courses numbered MICR:3147 Immunology and Human Disease and above are considered advanced for the minor, excluding MICR:3164 Microbiology and Human Health. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Students may count a maximum of 2 s.h. earned in MICR:4161 Undergraduate Research in Microbiology or MICR:4171 Honors Undergraduate Research in Microbiology toward the minor. They also may count MICR:5218 Microscopy for Biomedical Research toward the minor.

Molecular Physiology and Biophysics

Chair

- Kevin P. Campbell

Executive Associate Chair

- William Scott Moye-Rowley

Faculty: <https://medicine.uiowa.edu/physiology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/physiology/>

The Department of Molecular Physiology and Biophysics participates in interdisciplinary graduate programs, including the Medical Scientist Training [p. 1574] Program, a combined M.D./Ph.D. program offered by the Graduate College and the Carver College of Medicine, and it provides instruction in molecular physiology and biophysics for M.D., D.D.S., and other health professions students. The department also conducts a co-op exchange, a vigorous training program that gives undergraduate students the opportunity to develop as independent researchers in preparation for graduate studies.

The department's principal research areas include cell biology, genetics, endocrinology, neuroscience, and membrane physiology and biophysics. The unifying theme is the understanding of signal transduction mechanisms involved in regulating function at the cellular and molecular levels.

Research

Faculty research interests in the Department of Molecular Physiology and Biophysics encompass molecular and cellular endocrinology, cellular and developmental neurophysiology, and membrane structure and function. Within these, there are multiple areas of interest, including hormone receptors, reproductive endocrinology, signal transduction, regulation of gene expression, synaptic transmission, neuronal differentiation, membrane ion channels, regulation of excitability, and cardiovascular electrophysiology and regulation. Experimental models currently being investigated include rodents, yeast, *Drosophila*, and cultured cell lines from a variety of species.

Programs

Graduate Programs of Study

Majors

- Master of Science in Molecular Physiology and Biophysics
- Doctor of Philosophy in Molecular Physiology and Biophysics

Students interested in doctoral studies in molecular physiology and biophysics should apply under the umbrella program in Biomedical Science [p. 1428] (select molecular physiology and biophysics subprogram). Direct applications to the M.S. and Ph.D. in molecular physiology and biophysics are not currently being considered. Students who entered a graduate molecular physiology and biophysics program prior to fall 2017 can refer to the 2015-16 General Catalog for previous degree requirements.

Facilities

Two floors of the Bowen Science Building are devoted to research and teaching in the Department of Molecular Physiology and Biophysics. Department faculty members also occupy laboratory facilities in the Medical Education Research Facility, Pappajohn Biomedical Discovery Building, and the Carver Biomedical Research Building. In addition to specialized equipment in faculty research laboratories, the department provides equipment for fluorescence microscopy, isotope analysis, cell culture, and molecular biology. It also has access to the University network and the multimedia education facilities. Additional resources are available at the Hardin Library for the Health Sciences.

Courses

Molecular Physiology and Biophysics Courses

MPB:4199 Research, Independent Study **arr.**

Recommendations: closed to molecular physiology and biophysics graduate students.

MPB:5153 Graduate Physiology **4 s.h.**

Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grades of C- or higher in BIOL:1411 and CHEM:2210 and CHEM:2220, and graduate standing.

MPB:5200 Medical Physiology Online **5 s.h.**

Fundamental principles of cellular membranes, muscle, sensory organs, motor neurological systems, autonomic nervous systems, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and reproductive systems; interdependence of organ systems to maintain a normal physiological state using clinical correlates as applied to humans; basic physiological principles that establish a solid foundation for future pathophysiological and pharmacological concepts. Recommendations: medical, dental, physician assistant, nurse anesthesia, physical therapy, or graduate standing.

MPB:5201 Advanced Physiology Online **3 s.h.**

Examination of cellular and organ systems of medical physiology; fundamental principles of cellular membranes including muscle, sensory organs, motor neurological systems, autonomic nervous system, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and reproductive physiology; emphasis on interdependence of organ systems to maintain a normal physiological state (homeostasis) using clinical correlates as applied to humans; basic physiological principles that establish a solid foundation for future pathophysiological and pharmacological concepts.

MPB:5211 Biophysics of Excitable Membranes **3 s.h.**

Selected electrophysiological and biophysical topics from published research. Prerequisites: HHP:3500.

MPB:5241 Neuromuscular Diseases: Case-Based Seminar **1 s.h.**

MPB:6209 Steroid Receptor Signaling **1 s.h.**

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as NSCI:6209, PCOL:6209.

MPB:6220 Mechanisms of Cellular Organization 3 s.h.

Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BIOC:3130. Same as ACB:6220, MMED:6220.

MPB:6225 Growth Factor Receptor Signaling 1 s.h.

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as ACB:6225, MMED:6225.

MPB:6226 Cell Cycle Control 1 s.h.

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as ACB:6226, MMED:6226.

MPB:6227 Cell Fate Decisions 1 s.h.

Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as ACB:6227, MMED:6227.

MPB:6265 Neuroscience Seminar 0-1 s.h.

Research presentations. Same as ACB:6265, BIOL:6265, NSCI:6265, PSY:6265.

MPB:6302 Research Physiology and Biophysics arr.

Requirements: molecular physiology and biophysics graduate standing.

MPB:7402 Thesis arr.

Requirements: molecular physiology and biophysics Ph.D. candidacy.

MPB:8115 Human Physiology for Dental Students 4 s.h.

Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grades of C- or higher in BIOL:1411, CHEM:2210, and CHEM:2220; and D.D.S. enrollment.

Neurology

Chair

- George B. Richerson

Faculty: <https://medicine.uiowa.edu/neurology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/neurology/>

Neurology is the branch of medical science concerned with diagnosis and management of disorders of the brain, spinal cord, peripheral nervous system, and muscle.

The Department of Neurology's hallmark is its history of carefully integrating patient care, scientific investigation, and the education of medical, postdoctoral, and graduate students. The department also offers research opportunities in various fields of neuroscience including neuropsychology, neuroimaging, and neuroanatomy to Ph.D. students in neuroscience and psychology.

Research

The faculty's investigative interests center on cognitive neuroscience, degenerative diseases, cerebrovascular disease, neurogenetics, neuromuscular diseases, electrophysiological correlates of central and peripheral nervous system disease, growth factors in the nervous system, control and regulation of autonomic functions, neuro-ophthalmology, movement disorders, epilepsy, and pain management. For more information see the Department of Neurology website.

M.D. Training

The department provides clinical and clinical research training to second-, third-, and fourth-year M.D. students.

Residency

The Department of Neurology offers an active, four-year approved residency program that qualifies physician trainees for board certification in neurology. Experience in clinical electrophysiology, pediatric neurology, psychiatry, and neuropathology is part of this training.

Courses

Neurology Courses

NEUR:5365 Seminar: Neuropsychology and Neuroscience arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NSCI:5365, PSY:5365.

NEUR:6240 Topics in Cognitive Neuroscience 1-3 s.h.

Key topics in the neural basis of human cognition; research literature. Recommendations: graduate courses in basic neuroscience and cognitive psychology. Same as NSCI:6240.

NEUR:7238 Introduction to Neuropsychological Assessment arr.

Standard neuropsychological and behavioral assessment procedures; selection, administration, and scoring of neuropsychological tests under staff supervision; involvement in case presentation.

NEUR:7239 Advanced Neuropsychological Assessment arr.

Continuation of NEUR:7238; preparation of integrated reports on collected data; case presentations.

NEUR:8301 Clinical Neurology 2,4 s.h.

Experience in clinical neurology through ward work and case-based conferences linked to required reading; focus on neurologic examination, diagnosis of neurologic problems.

NEUR:8401 Advanced Inpatient Neurology 2,4 s.h.

Experience and management of patients with seizure disorders, headache, cerebrovascular diseases; conferences, clinical rounds; two weeks on each inpatient service for a total of four weeks. Prerequisites: NEUR:8301.

NEUR:8402 Advanced Outpatient Neurology 2,4 s.h.

Experience in evaluation, management of patients with various neurologic diseases; four weeks in clinic patient care. Prerequisites: NEUR:8301.

NEUR:8404 Neurology Subinternship 4 s.h.

Care of patients with acute and serious neurological diseases, management of patients with varied cerebrovascular diseases; treatment of acute brain disease, comorbid medical diseases, medical and neurological complications that occur among patients with stroke; clinical assessments of patients, writing orders and clinical notes, contribution to rounds; close communication with patients, families, and colleagues; assignment to evening calls for emergency visits and consultations.

NEUR:8497 Research in Neurology arr.

Medical research, clinical or laboratory projects; individual study.

NEUR:8498 Neurology On Campus arr.

NEUR:8499 Neurology Off Campus arr.

Neurosurgery

Chair

- Matthew A. Howard

Faculty: <https://medicine.uiowa.edu/neurosurgery/people/primary-appointments>

Website: <https://medicine.uiowa.edu/neurosurgery/>

The Department of Neurosurgery provides an experience oriented toward patient care and basic research concerning diseases and physiology of the nervous system. Students develop awareness of neurosurgery's role in treating head and spine trauma, vascular disorders, brain and spinal cord tumors, pain and peripheral nerve abnormalities, degenerative spine pathology, and surgical treatment of epilepsy and movement disorders.

Clinical courses are designed around patient-centered discussions interwoven with operating room experiences. Lectures and conferences are scheduled on specific topics.

Faculty

Neurosurgery faculty strengths are centered in physiology of spinal cord trauma, epilepsy, auditory brain function and pain, primary brain tumor genetics, central nervous system tissue culture, spinal column biomechanics, and movement disorders. The department has expertise in clinical management across the spectrum of central nervous system diseases.

M.D. Training

The department provides fourth-year M.D. students with access to special expertise in selected topics of investigation regarding the central nervous system and to a clinical course through special arrangements with the faculty.

Facilities

Multiple, fully equipped laboratory space is available to support scientific research of the central nervous system. Faculty and technical assistance is available in all laboratories.

Courses

Neurosurgery courses are open only to M.D. and qualified associated health sciences students.

Neurosurgery Courses

NSG:8401 Subinternship in Neurosurgery **4 s.h.**

Advanced clinical clerkship in neurological surgery; emphasis on diagnosis and operative management of surgical neurological disease.

NSG:8497 Research in Neurological Surgery **arr.**

Laboratory investigation of spinal cord injury, spinal column biomechanics and instrumentation, electrophysiology of pain, epilepsy and hearing, molecular genetics and physiology of brain tumors.

NSG:8498 Neurosurgery On Campus **arr.**

Clinical clerkship; individually arranged by student with departmental approval.

NSG:8499 Neurosurgery Off Campus **arr.**

Arranged by student with department approval.

Nuclear Medicine Technology

Director

- Anthony W. Knight

Director, Medical

- Michael Graham

Director, Technical

- Daniel Petersen

Undergraduate major: nuclear medicine technology (B.S.)

Website: <https://medicine.uiowa.edu/radsci/programs/nuclear-medicine-technology>

Nuclear medicine technologists are professionals in a medical specialty that uses radioactive tracers for diagnostic, therapeutic, and research purposes. Technologists generally are employed in hospitals and clinics. They work hand-in-hand with nuclear medicine physicians, health physicists, radiopharmacists, and radiochemists as an integral part of a highly trained specialty team.

In addition to using sophisticated detectors and computers to trace the movement and localization of radioactive tracers in the human body, nuclear medicine technologists have responsibilities that include radiation safety, quality control testing, radiopharmaceutical preparation and administration, and general patient care.

The Nuclear Medicine Technology Program is fully accredited by the Joint Review Committee on Educational Programs in Nuclear Medical Technology (JRCNMT). Nuclear medicine technology is one of two undergraduate majors in the field of medical imaging offered by the Carver College of Medicine. Students interested in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, diagnostic medical sonography, or radiation therapy may complete the major in radiation sciences; see Radiation Sciences [p. 1631] in the Catalog.

The Carver College of Medicine is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine [p. 1525] in the Catalog.

Programs

Undergraduate Program of Study

Major

- Major in Nuclear Medicine Technology (Bachelor of Science) [p. 1591]

Courses

Nuclear Medicine Technology Courses

RSNM:3120 Fundamentals of Nuclear Medicine and PET 3 s.h.

Introduction to medical specialty of nuclear medicine and molecular imaging; basic theories of radiation protection, radiation physics and nuclear medicine instrumentation, radiopharmacy, nuclear medicine and positron emission tomography (PET) clinical procedures, professional standards of nuclear medicine technologist. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3121 Nuclear Medicine Technology Clinical Internship I 3 s.h.

Hands-on clinical experience working with patients and performing routine nuclear medicine diagnostic imaging procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3131 Radiopharmaceuticals 3 s.h.

Introduction to radiopharmaceuticals; emphasis on physical, chemical, and biologic properties and their clinical use; fundamental aspects of radiopharmaceuticals including characteristics, preparation, quality control, and clinical use. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3220 Nuclear Medicine and PET Clinical Procedures 3 s.h.

Proper execution of nuclear medicine and PET procedures from a technical point of view; published protocols and procedures specific to the University of Iowa Hospitals and Clinics; routine set up, common errors, artifact identification, computer processing protocols, and patient care concerns identified for each procedure; review of human anatomy, physiology, and pathology germane to understanding and proper execution of nuclear medicine procedures. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3221 Nuclear Medicine Technology Clinical Internship II 3 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3231 Nuclear Medicine Instrumentation 3 s.h.

Instruments used in medical imaging to generate and detect ionizing radiation (i.e., SPECT/CT and PET/CT scanners, dose calibrators, well counters, survey meters); focus on instrument quality control testing. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:3321 Nuclear Medicine Technology Clinical Internship III 6 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4121 Nuclear Medicine Technology Clinical Internship IV 4 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4221 Nuclear Medicine Technology Clinical Internship V 4 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4222 Nuclear Medicine Technology Capstone and Certification Exam Preparation 6 s.h.

Students in final semester of program work together to organize and deliver capstone and certification exam preparation course; review of specific topics and oral presentations by each student; preparation and distribution of detailed written outlines of exam content; series of content-specific quizzes, midterm, and final "Mock Board" exam to evaluate student learning and preparedness for taking the NMTCB and ARRT national certification exams; preparation and submission of capstone portfolios that provide evidence of scholarly and professional progress. Requirements: Nuclear Medicine Technology Program enrollment.

RSNM:4444 Independent Study in Nuclear Medicine Technology arr.

Topics not adequately covered by existing nuclear medicine technology or radiation science courses; students prepare a draft outline of a study plan and present it to appropriate faculty members for refinement and approval. Requirements: Nuclear Medicine Technology Program enrollment.

Nuclear Medicine Technology, B.S.

Undergraduate study in nuclear medicine technology is guided by the academic rules and procedures outlined under Undergraduate Rules and Procedures [p. 1526] in the Carver College of Medicine section of the Catalog.

Requirements

The Bachelor of Science with a major in nuclear medicine technology requires a minimum of 120 s.h. of credit. Work for the degree includes a set of courses that are prerequisite to entering the major, 60 s.h. of course work in the major, and elective course work sufficient to complete the minimum of 120 s.h. required for graduation.

Students who plan to complete all requirements for the degree at the University of Iowa enter the University as students in the College of Liberal Arts and Sciences (CLAS) with a nuclear medicine technology interest. As CLAS students, they complete the course work that is prerequisite to entering the major.

Admission to the major is competitive; the program accepts a maximum of eight students per year. Students must apply to the major by January 15 of the year in which they wish to enter the program. Personal interviews with qualified applicants are scheduled in February, and the class is selected by March 15. The program begins the following fall semester and lasts two years.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University of Iowa English Proficiency Evaluation and satisfy the University's English Proficiency Requirements before they apply to a professional program. Students must have permission to register for a full academic load before they may be admitted to the Nuclear Medicine Technology Program.

The nuclear medicine technology major requires students to complete a minimum of two years of a high school world language, or college-level course work deemed by the University as equivalent, prior to admission.

Students who are admitted to the major become Carver College of Medicine students. Upon completing the program successfully, they are granted a Bachelor of Science degree. Graduates are eligible to apply for the nuclear medicine technology national certification examinations.

The program strongly advises students entering the University to pursue a course of study that is applicable to another major, most commonly biochemistry, biology, chemistry, or microbiology, so that if they are not admitted to the Nuclear Medicine Technology Program, they still may complete a major and receive a bachelor's degree.

The Bachelor of Science with a major in nuclear medicine technology requires the following work.

Prerequisites to the Nuclear Medicine Technology Major

Students must complete the following prerequisite courses and must have earned 60 s.h. of college credit with a cumulative g.p.a. of at least 2.50 before they may enter the nuclear medicine technology major. In addition to providing

a foundation for the major, the prerequisite courses are good preparation for other majors.

Rhetoric

Code	Title	Hours
RHET:1030	Rhetoric	4-5

Culture, Society, and the Arts

See GE CLAS Core [p. 459] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the culture, society, and the arts areas.

Students complete two courses for 3 s.h. each in two of these areas (total of 6 s.h.):

Code	Title	Hours
	Diversity and Inclusion approved course work	
	Historical Perspectives approved course work	
	International and Global Issues approved course work	
	Literary, Visual, and Performing Arts approved course work	
	Values and Culture approved course work	

Mathematics

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4

A more advanced mathematics course

Introductory Chemistry with Laboratory

Code	Title	Hours
This course:		
CHEM:1110	Principles of Chemistry I	4

Introductory Physics

Code	Title	Hours
One of these:		
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4

Psychology

Code	Title	Hours
This course:		
PSY:1001	Elementary Psychology	3

Medical Terminology

Code	Title	Hours
This course:		
CLSA:3750	Medical and Technical Terminology	2

Anatomy with Laboratory

Code	Title	Hours
One of these options:		
ACB:3110 & HHP:1110	Principles of Human Anatomy - Human Anatomy Laboratory	4
HHP:1100 & HHP:1110	Human Anatomy - Human Anatomy Laboratory	4
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3115	Anatomy for Human Physiology with Lab	5

Physiology with Laboratory

Code	Title	Hours
One of these options:		
HHP:1300 & HHP:1310	Fundamentals of Human Physiology - Human Physiology Laboratory	4
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500 & HHP:1310	Human Physiology - Human Physiology Laboratory	4
HHP:3550	Human Physiology with Laboratory	5

Recommended Pre-Major Courses

The Nuclear Medicine Technology Program strongly recommends that students who intend to apply to the major take the following course work in addition to the required prerequisite courses listed above.

Code	Title	Hours
Both of these:		
CHEM:1120	Principles of Chemistry II	4
RSP:1100	Introduction to the Radiation Sciences	1
One of these:		
BIOL:1140	Human Biology	4
BIOL:1411	Foundations of Biology	4
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3
One of these:		
CS:1020	Principles of Computing	3
MSCI:1500	Business Computing Essentials	2

Prospective students are encouraged to consult the Nuclear Medicine Technology Program office to plan an appropriate pre-major program of study.

Course Work in the Major

Students admitted to the nuclear medicine technology major spend two years in a clinical curriculum that is organized in accordance with the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) Accreditation Standards for Nuclear Medicine Technologist Education. They complete course work in the following areas:

radiopharmacy, radiation safety and radiobiology, patient care, nuclear medicine and positron emission tomography (PET) procedures, radiation physics and instrumentation, administration and management, medical and professional ethics, research methodology, and computed tomography (CT). Practical clinical rotations focus on nuclear medicine, PET and CT imaging, nuclear medicine therapy, clinical radiopharmacy, nuclear medicine computer applications, and quantification of radioactivity in vivo and in vitro.

The following course work is required.

Code	Title	Hours
RSNM:3120	Fundamentals of Nuclear Medicine and PET	3
RSNM:3121	Nuclear Medicine Technology Clinical Internship I	3
RSNM:3131	Radiopharmaceuticals	3
RSNM:3220	Nuclear Medicine and PET Clinical Procedures	3
RSNM:3221	Nuclear Medicine Technology Clinical Internship II	3
RSNM:3231	Nuclear Medicine Instrumentation	3
RSNM:3321	Nuclear Medicine Technology Clinical Internship III	6
RSNM:4121	Nuclear Medicine Technology Clinical Internship IV	4
RSNM:4221	Nuclear Medicine Technology Clinical Internship V	4
RSNM:4222	Nuclear Medicine Technology Capstone and Certification Exam Preparation	6
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCT:4120	Computed Tomography Procedures I	3
RSCT:4130	Computed Tomography Physical Principles and QC	4
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
Total Hours		60

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

Nuclear Medicine Technology, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Students apply to the Nuclear Medicine Technology B.S. program through a selective process. Acceptance is not guaranteed. ^a		
Students must earn a grade of C or higher in all RS** courses.		
The Nuclear Medicine Technology professional program is two years in duration.		
Hours		0

First Year

Any Semester

Recommended: health care experience (e.g. CNA), job shadowing in nuclear medicine and PET		
Hours		0

Fall

RHET:1030	Rhetoric	4
BIOL:1140	Human Biology ^b	4
PSY:1001	Elementary Psychology	3
RSP:1100	Introduction to the Radiation Sciences ^c	1

GE: General Education course (DI, IGI, HP, LVPA, or VC) ^d	3
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Admission Application: students may be eligible to apply for early acceptance (typically due in January)^e

Hours		15
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Spring

Human Anatomy and Lab ^f	4 - 5	
CLSA:3750	Medical and Technical Terminology	2
MATH:1020	Elementary Functions	4
or MATH:1440	or Mathematics for the Biological Sciences	

GE: General Education course (DI, IGI, HP, LVPA, or VC) ^d	3
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Elective course	2
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Hours		15-16
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Second Year

Fall

CHEM:1110	Principles of Chemistry I ^h	4
PHYS:1400	Basic Physics	3 - 4
or PHYS:1511	or College Physics I	
CS:1020	Principles of Computing	2 - 3
or MSCI:1500	or Business Computing Essentials	

Elective course	3
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Elective course	2
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Admission Application: begin preparing materials for NMT program application (typically due in January)^e

Hours		14-16
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Spring

CHEM:1120	Principles of Chemistry II ^c	4
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STAT:1020	Elementary Statistics and	3
or STAT:4143	Inference	
or STAT:3510	or Introduction to Statistical Methods	
	or Biostatistics	

Human Physiology and Lab ⁱ	4 - 5
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Elective course	3
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Elective course	2
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Hours		16-17
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Third Year

Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Nuclear Medicine Technology Professional Program.

Hours		0
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Fall

RSNM:3120	Fundamentals of Nuclear Medicine and PET	3
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RSNM:3121	Nuclear Medicine Technology Clinical Internship I	3
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RSNM:3131	Radiopharmaceuticals	3
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RSP:3130	Radiation Safety and Radiobiology	2
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RSP:2120	Patient Care for the Radiation Sciences	3
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Hours		14
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Spring

RSNM:3220	Nuclear Medicine and PET Clinical Procedures	3
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RSNM:3221	Nuclear Medicine Technology Clinical Internship II	3
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RSNM:3231	Nuclear Medicine Instrumentation	3
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RSP:3210	Medical Ethics and Law	2
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RSCT:4100	Sectional Anatomy for Imaging Sciences	3
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Hours		14
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Summer

RSNM:3321	Nuclear Medicine Technology Clinical Internship III	6
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Hours		6
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Fourth Year

Fall

RSNM:4121	Nuclear Medicine Technology Clinical Internship IV	4
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RSP:4110	Research Methodology for Radiation Sciences	3
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RSCT:4130	Computed Tomography Physical Principles and QC	4
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RSCT:4120	Computed Tomography Procedures I	3
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Hours		14
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Spring

RSNM:4221	Nuclear Medicine Technology Clinical Internship V	4
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RSNM:4222	Nuclear Medicine Technology Capstone and Certification Exam Preparation	6
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RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
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Exam: Upon completion of the program students are eligible to apply to take certification exams.

Hours	12
Total Hours	120-124

- a The Academic Advising Center advises Nuclear Medicine Technology Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b This course is strongly recommended to prepare for the anatomy and physiology courses.
- c This course is recommended not required.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- f Choose from: HHP:1150, HHP:3115, HHP:1100 and HHP:1110, ACB:3110 and HHP:1110.
- g Enrollment in math courses requires completion of a placement exam.
- h Enrollment in chemistry courses requires completion of a placement exam.
- i Choose from: HHP:1350, HHP:3550, HHP:1300 and HHP:1310, HHP:3500 and HHP:1310.

Career Advancement

The Nuclear Medicine Technology Program has a stellar record of job placement. Graduates typically work as nuclear medicine technologists, beginning as entry-level staff at hospitals or clinics. With experience, many earn advanced degrees in areas such as radiation biology, health physics, or medicine. Some work in the private sector as sales or marketing specialists in nuclear medicine.

Graduates also find career opportunities in education as instructors, coordinators, or program directors; and in administration, industry, or research and development. Those pursuing government-related jobs might find positions as regulatory agency inspectors or radiation safety officers. See the Occupational Outlook Handbook for nuclear medicine technologists on the United States Department of Labor Bureau of Labor Statistics website for career information and outlook.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

Obstetrics and Gynecology

Chair

- Kimberly K. Leslie

Faculty: <https://medicine.uiowa.edu/obgyn/people/primary-appointments>

Website: <https://medicine.uiowa.edu/obgyn/>

Faculty in the Department of Obstetrics and Gynecology contribute to a wide spectrum of educational programs. A six-week core clerkship is taken by all medical students; subinternships are offered in maternal fetal medicine, night hospitalist, and gynecology oncology; and senior selectives are offered in reproductive endocrinology and infertility, family planning, and urogynecology. Approximately 12 second-year physician assistant students also perform a one month rotation through the department as part of their training.

There are five accredited fellowship programs—female pelvic medicine and reconstructive surgery, gynecologic oncology, maternal fetal medicine, combined maternal fetal medicine/clinical genetics, and reproductive endocrinology and infertility programs.

M.D. Training

Courses in the Department of Obstetrics and Gynecology are designed to give M.D. students a comprehensive survey of reproductive medicine. This is accomplished through a series of didactic lectures, inpatient and outpatient assignments, ward rounds, teaching seminars, and special elective courses.

The clerkship OBG:8301 Clinical Obstetrics and Gynecology gives students the core knowledge, skills, and attitudes needed to provide primary health care to female patients.

The department offers medical students a variety of electives that provide advanced training in the special areas of obstetrics and gynecology. In addition to clerkships at University of Iowa Hospitals and Clinics, these electives include arranged off-campus courses.

Residency

The department offers a four-year residency. Upon completion, graduates are eligible for the written and oral examinations leading to certification by the American Board of Obstetrics and Gynecology.

Residents are assigned to the divisions and clinical services of the department; they care for both hospital inpatients and outpatients. Training is provided in normal and abnormal obstetrics, gynecologic surgery, office gynecology, ultrasound, reproductive endocrinology, gynecologic oncology, urogynecology, family planning, and endoscopic procedures.

Courses

Obstetrics and Gynecology Courses

OBG:8301 Clinical Obstetrics and Gynecology arr.

Proficiency in evaluation and management of core women's health care relating to the reproductive tract; special history taking, physical examination, laboratory and imaging assessment of obstetric and/or gynecological patients, application of current concepts to well women's health care and to management of diseases and pathologies; outpatient and inpatient obstetrics and gynecology; family planning, screening and early detection of cancer and other diseases.

OBG:8401 High Risk Antepartum Obstetrics Subinternship arr.

Experience in evaluating new patients in a high-risk obstetric clinic; continuing antepartum care; doing work-up, ordering diagnostic studies, and following course of complicated patients admitted to obstetric ward; assisting in diagnostic, therapeutic procedures such as fetal heart rate testing, amniocentesis, ultrasonography, intrauterine fetal transfusion.

OBG:8402 Gynecologic Oncology Subinternship arr.

Experience on a gynecologic oncology service, including operating room, inpatient and outpatient care; team management approach to gynecologic cancer patients, treatment and follow-up of invasive gynecologic malignancies, etiology and risk factors for gynecologic neoplasias, pre- and postoperative evaluation and treatment of surgical management of gynecologic neoplasia; research project encouraged.

OBG:8403 Reproductive Endocrinology Senior Elective arr.

Experience evaluating new and returning patients in the Reproductive Endocrinology and Infertility Clinic; participation in preoperative, operative, and inpatient postoperative care; advanced gynecologic ultrasonography, in vitro fertilization services.

OBG:8405 Urogynecology Advanced Elective 4 s.h.

Experience as active member of urogynecology clinical team, participating in clinical care activities including outpatient clinic, outpatient procedures, inpatient surgery, hospital care; presentation to team on topic chosen by student.

OBG:8407 Family Planning 4 s.h.

Experience with the Family Planning Services team; clinical activities, including clinic and outpatient procedures. Requirements: M.D. enrollment.

OBG:8409 Night Float Sub-Internship 4 s.h.

Four week rotation; students are paired with a night resident with responsibility for inpatients on gynecology services; when not actively engaged, students participate in resident team work on low-dynamic-range (LDR), gaining obstetrics (OB) procedural competency as well as assisting with management of inpatients and consultations as delegated by the night chief and/or staff call physician; students and night resident generally perform the initial assessment of emergency department or inpatient consults/admissions under immediate supervision of the night chief and/or faculty; students carry out plans discussed at evening sign-out for inpatient gynecology services. Requirements: M.D. enrollment.

OBG:8450 Continuity of Care in Outpatient Gynecology 4 s.h.

Experience with gynecologist in longitudinal clinical experience for the academic year; students paired with faculty member to see patients in weekly clinic and provide clinical care to defined patient population.

OBG:8497 Research in Obstetrics and Gynecology arr.

Medical research, clinical or laboratory projects; individual study.

OBG:8498 Obstetrics and Gynecology On Campus arr.

OBG:8499 Obstetrics and Gynecology Off Campus arr.

Ophthalmology and Visual Sciences

Chair

- Keith D. Carter

Professional certificate: orthoptics

Faculty: <https://medicine.uiowa.edu/eye/people/>

Website: <https://medicine.uiowa.edu/eye/>

Ophthalmology is a medical and surgical specialty concerned with the diagnosis and treatment of diseases of the eye and its surrounding structures. The Department of Ophthalmology and Visual Sciences combines postgraduate training with research and patient care in all aspects of the visual sciences. Subspecialties represented in the department include cataract surgery, comprehensive ophthalmology, cornea and external diseases, contact lens and refraction services, genetics and molecular biology, glaucoma, laser refractive surgery, neuro-ophthalmology, oculoplastic surgery, ocular echography, ocular pathology, ocular vascular diseases, optometric services, pediatric ophthalmology and adult strabismus, vitreoretinal disorders, and vision rehabilitation.

Continuing Education

The department sponsors clinical conferences open to community ophthalmologists in Iowa and surrounding states where physicians can earn continuing medical education credits. The department also sponsors an annual alumni meeting with participation by nationally and internationally recognized ophthalmologists and vision scientists.

Programs

Professional Program of Study Certificate

- Certificate in Orthoptics [p. 1598]

M.D. Training

M.D. Student Training, Graduate Education

The department offers clinical and research training to M.D. students and limited graduate studies for Ph.D. students in Anatomy and Cell Biology [p. 1535], Molecular Medicine [p. 1481], and Genetics [p. 1456]. A three-year residency program with clinical experience in the ophthalmic subspecialties is offered to physician trainees. Graduates qualify for the written and oral examinations leading to certification by the American Board of Ophthalmology. Postgraduate fellowships of one to two years are available for qualified ophthalmologists in most subspecialty areas.

Facilities

The department maintains research laboratories for cell biology, biochemistry, morphology, tumor diagnosis, pathology, electrophysiology, pupillography, molecular biology, and vascular disease. Clinical facilities in ophthalmology are available at University of Iowa Hospitals and Clinics in the Pomerantz Family Pavilion, the Iowa River

Landing, the Iowa City VA Health Care System, and the VA Central Iowa Health Care System in Des Moines. The department also manages outreach programs in other communities. The John and Marcia Carver Nonprofit Genetic Testing Laboratory, dedicated to providing affordable testing for rare eye diseases, is associated with the department.

Courses

Ophthalmology and Visual Sciences Courses

OPHT:8301 Clinical Ophthalmology 2 s.h.

All aspects of clinical ophthalmology; clinical experience, lectures, case presentations; clinical duties with staff, residents, and faculty in University of Iowa Hospitals and Clinics (UIHC) and Iowa City VA Medical Center (VAMC) ophthalmology clinics. Requirements: M.D. enrollment.

OPHT:8401 Elective in External Eye Disease 4 s.h.

Common diseases of eyelid, conjunctiva, and cornea.

OPHT:8402 Elective in Neuro-Ophthalmology arr.

Visual, ocular motor dysfunction due to neurologic disease; patient work-up, readings, neuro-ophthalmology rounds.

OPHT:8403 Molecular Ophthalmology arr.

Use of recombinant DNA, tissue culture, protein electrophoresis in study of inherited eye diseases.

OPHT:8404 Elective in Ocular Pathology 4 s.h.

Pathophysiology of eye disease.

OPHT:8405 Advanced Ophthalmology - Veterans Affairs 4 s.h.

Opportunity for in-depth clinical experience in assessment and management of ophthalmology patients; students serve on the Iowa City VA Health Care System ophthalmology team and see outpatients and emergency room visits alongside residents and faculty.

OPHT:8406 Plastic and Reconstructive Surgery 4 s.h.

Topics in ophthalmic plastic and reconstructive surgery.

OPHT:8497 Research in Ophthalmology arr.

Medical research, clinical or laboratory projects; individual study.

OPHT:8498 Ophthalmology On Campus arr.

OPHT:8499 Ophthalmology Off Campus arr.

Orthoptics, Professional Certificate

The orthoptic fellowship in the Department of Ophthalmology and Visual Sciences is a postgraduate professional certificate program. A prerequisite baccalaureate degree is required for application.

Orthoptics is an allied health profession and clinical science pertaining to the study of eye movements, visual function, and binocular cooperation. An orthoptist is an eye muscle specialist who works under the supervision of an ophthalmologist.

The majority of the 24-month training period is spent in a clinical setting. At the completion of the training period, candidates take written and practical board examinations administered by the American Orthoptic Council.

The first four to six weeks are spent reviewing general anatomy and physiology, and learning the basic anatomy, physiology, and terminology of the eye. Students are introduced to patient examination initially by observation of physicians and orthoptists, and gradually build up their exam skills as each new technique is learned. Over the first six months, optics and principles of strabismus (eye misalignment) and amblyopia (lazy eye) are taught in depth.

In the second six months of training, students expand their knowledge of basic orthoptic and ophthalmologic principles and apply them to a more complete patient examination and diagnostic skills.

The remaining months are spent examining patients in clinic, mastering examination techniques, and differential diagnosis as well as becoming proficient in the interpretation of diagnostic tests. At this stage, orthoptic students participate in the prescription of specific types of nonsurgical therapy. Each week, time is reserved for ophthalmic and orthoptic lectures, personal study time, or testing.

Contact the Department of Ophthalmology and Visual Sciences for information about the Certificate in Orthoptics.

Orthopedics and Rehabilitation

Chair

- J. Lawrence Marsh

Graduate degree: M.S. in athletic training

Faculty: <https://medicine.uiowa.edu/orthopedics/leadership>

Website: <https://medicine.uiowa.edu/orthopedics/>

The Department of Orthopedics and Rehabilitation offers a Master of Science degree in athletic training as well as a training program for residents.

Programs

Graduate Program of Study

Major

- Master of Science in Athletic Training [p. 1602]

Residency

The department offers a five-year integrated clinical program for postgraduate trainees, in which interns and residents participate simultaneously in inpatient and outpatient care, surgery, and sciences related to the neuromusculoskeletal system.

Trainees enter this program directly from medical school through the National Residency Matching Program.

During the first year, trainees gain experience not only in clinical orthopedics but also in surgical specialties, intensive care, radiology, and surgical skills.

During years two through five, residents gain experience in the diagnosis and management of adult and pediatric orthopedic disorders, including joint reconstruction; trauma, including multisystem trauma; surgery of the spine, including disk surgery, spinal trauma and deformities; hand and foot surgeries; athletic injuries and orthopedic rehabilitation; orthopedic oncology, including metastatic disease; and amputations as well as post-amputation care and nonoperative outpatient diagnosis and care, including all orthopedic anatomic areas.

Facilities

The Department of Orthopedics and Rehabilitation is housed in the John Pappajohn Pavilion of University of Iowa Hospitals and Clinics and has an active service in the Iowa City VA Health Care System. The department's facilities include 48 orthopedic beds, ten outpatient clinics, inpatient and outpatient operating rooms, a specialty library, a specialty radiology unit, and physical therapy and rehabilitation facilities. Its specialty clinics deal with virtually every orthopedic disorder known, including, but not limited to scoliosis, club feet, congenital dislocated hip, neuromuscular disease, metabolic disease, amputation, neoplasm, trauma, and neck, back, hip, foot, knee, and hand problems. Physicians in the outpatient clinic see approximately 280 patients per day and over 70,000 patients per year. Approximately 7,000 surgeries are performed each year.

The department's Sports Medicine Clinic provides MRI, X-ray, and physical therapy services, and a full range of nonoperative orthopedic ambulatory care services.

Laboratories

The orthopedics laboratories deal with problems in these major subject areas.

Biochemistry: the biochemistry of proteoglycans, collagens, and matrix proteins, both normal and altered in musculoskeletal disorders

Biomechanics: problems of the upper extremity; biomechanics of the spine, hip, and gait; total joint replacements (in conjunction with the College of Engineering [p. 1294])

Cell and molecular biology: studies of normal bone, cartilage, tendon, muscle, and tissues altered by experiment and disease

Bone healing: research toward better ways to heal bones

Courses

- Orthopedics and Rehabilitation Courses [p. 1599]
- Athletic Training Courses [p. 1600]

Orthopedics and Rehabilitation Courses

ORTH:8301 Clinical Orthopedics arr.

ORTH:8401 Advanced Clinical Orthopedics 2,4 s.h.
Requirements: fourth-year M.D. enrollment.

ORTH:8402 Musculoskeletal Trauma arr.
Requirements: fourth-year M.D. enrollment.

ORTH:8403 Subinternship in Orthopedics 4 s.h.
Opportunity to enhance clinical skills by taking intern-level responsibility for management of a limited number of orthopedic patients; proficiency in perioperative patient assessment and management, including assisting in procedures and using laboratory diagnosis and radiologic studies pertinent to one faculty member's clinical practice.

ORTH:8404 Introduction to Physical Medicine and Rehabilitation 2 s.h.
Management of a wide range of common acute and chronic neuro-musculoskeletal pain conditions (shoulder, back, knee pain) to more devastating neuromuscular injuries (spinal cord injuries, brain injury, strokes, amputations). Requirements: M.D. enrollment.

ORTH:8405 Advanced Physical Medicine and Rehabilitation 4 s.h.
Management of a wide range of common acute and chronic neuro-musculoskeletal pain conditions (shoulder, back, or knee pain) to more devastating neuromuscular injuries (spinal cord injuries, brain injury, strokes, amputations); students work-up individual patients in outpatient clinics and perform inpatient consultations at subintern level. Prerequisites: ORTH:8404. Requirements: M.D. enrollment.

ORTH:8406 Physical Medicine and Rehabilitation Acute Inpatient Rehab, Cedar Rapids 2 s.h.
Physical medicine and rehabilitation clerkship; participation in daily clinical activities including inpatient rounds, interdisciplinary team meetings, observing a variety of therapy sessions, and inpatient consults.

ORTH:8497 Research in Orthopedics

Medical research, clinical or laboratory projects; individual study.

arr.**ORTH:8498 Orthopedics On Campus**

Requirements: fourth-year M.D. enrollment.

arr.**ORTH:8499 Orthopedics Off Campus**

Requirements: fourth-year M.D. enrollment.

arr.

Athletic Training Courses

AT:3060 Advanced Anatomy for Athletic Training 4 s.h.

Extremities and relevant body cavity anatomy; anatomical terminology, anatomical relationships of human body, 3-D view of anatomy, clinical relevance of anatomy; basic science lectures, radiologic imaging discussions, introduction to clinically relevant anatomy, gross anatomy dissection laboratories, small group learning and teaching, and computer-assisted resources.

AT:4000 Foundations of Athletic Training Practice 3 s.h.

Introduction to athletic training; basic components of a prevention program; injury/illness assessment process including general injury classifications, medical terminology, and patient documentation skills; anatomical basis and technical aspects of applying clinical proficiencies relating to orthopedic applications in the care and prevention of injuries relating to physically active individuals including taping, wrapping, and pad fabrication; basic evaluation skills including goniometric measurements, manual muscle testing, and anatomical palpations.

AT:4075 Medical Emergency Techniques 2 s.h.

Educational competencies and clinical proficiencies; focus on emergency medical practice in athletic training using current evidence-based interventions for medical, orthopedic, and environmental emergencies; knowledge of Emergency Medical Service (EMS) system and role athletic trainers play in the acute-care process; emergency pharmacological interventions and other advanced care skills.

AT:4125 Clinical Experience I 3 s.h.

Integration of clinical competencies through a supervised field experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; first in a four-part series.

AT:4200 Orthopedic Pathology and Clinical Examination I 4 s.h.

Pathomechanics, clinical examination, diagnosis, and appropriate basic treatment plans for orthopedic injuries to the lower extremity and spine; application of theories and skill practice through real-patient interactions and documentation; surgical observation and physician interactions; first in a two-part series.

AT:4250 Orthopedic Pathology and Clinical Examination II 4 s.h.

Pathomechanics, clinical examination, diagnosis, and appropriate basic treatment plans for orthopedic injuries to the upper extremity, head, and C-spine; application of theories and skill practice through real-patient interactions and documentation; surgical observation and physician interactions; second in a two-part series. Prerequisites: AT:4200.

AT:4300 Therapeutic Interventions**2 s.h.**

Introduction to theory, application, and treatment of orthopedic conditions using common therapeutic modalities; application of evidence-based research in planning, implementation, documentation, and evaluation of the efficacy of each therapeutic modality in treatment of injuries and illnesses of patients involved in physical activity; emphasis on indications, contraindications, and precautions; integration of patient-based outcome measures to aid in appropriate clinical decision making.

AT:4375 Nutrition for Athletic Training**2 s.h.**

Interaction between nutrition, exercise, and athletic performance; biomechanical and physiological aspects of nutrition and exercise; nutrition for training and competition; impact of nutrition on healing processes, nutritional supplements, and ergogenic aids; nutritional aspects of body composition and weight control; demonstration of ability to plan and implement proper sport nutrition.

AT:4400 Rehabilitation Techniques**3 s.h.**

Rehabilitation for athletic trainers based on theory and principles of therapeutic exercise using current evidence-based concepts; focus on pathology and mechanics of exercise therapy in treatment of musculoskeletal injuries; use of mechanical exercise equipment, stressing safety and use of proper body mechanics during exercise, as well as indications and contraindications for different exercises.

AT:4450 Applied Rehabilitation Concepts**3 s.h.**

Functional, scientific approach to designing strength and conditioning programs for various populations; testing protocols used for measuring fitness, body composition, flexibility, strength, power, speed, and endurance; evaluation of posture and workplace ergonomics; manual therapy theory and techniques for orthopedic injuries, indications and contradictions, skill development in soft tissue assessment, application of manual and tool-assisted techniques; review of resistance training and program prescription based on literature. Prerequisites: AT:4400.

AT:4525 Clinical Experience II**4 s.h.**

Integration of clinical competencies through a supervised field experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; second of a four-part series. Prerequisites: AT:4125.

AT:5000 Pathology and Assessment of Non-Orthopedic Conditions 3 s.h.

Introduction to recognition, assessment, and appropriate intervention or referral strategies for non-orthopedic conditions and disabilities; pathophysiology at cellular, organ, and total body levels applied in each organ system; systems may include cardiovascular, pulmonary, renal, dermatologic, reproductive, endocrine, neurologic, and gastrointestinal; additional topics include gender and pediatric pathology, ENT/ophthalmology, abdominal evaluation, and common contagious illnesses.

AT:5075 Diagnostic Imaging and Lab Studies**1 s.h.**

Common diagnostic tests and radiological techniques used commonly by medical community in assessment and diagnosis of common orthopedic and non-orthopedic conditions; students gain knowledge and skills to identify anatomy, pathology, and proper terminology used by health care professionals when discussing diagnostic tests/results; coverage of multiple biological systems and organs of the human body to understand indications, contraindications, and clinical implications for each technique.

AT:5200 Pathophysiology and Pharmacology in Sports Medicine 2 s.h.

Pharmacologic applications for injury/illness sustained by various physically active populations; therapeutic drug classifications, indications, contraindications, interactions of medications, drug testing in sport, and relevant governing regulations; emphasis on drugs commonly used for orthopedic injuries, common conditions and illnesses, mental health and their effects on sport performance, and tissue healing.

AT:6100 Research in Athletic Training 2 s.h.

Identification of an athletic training problem/issue and examination through theories and research; analysis of literature and derivation of evidence-based concepts for clinical decision making and data-informed practice; use of appropriate academic writing style; differentiation between quantitative and qualitative research; critically responding to research dilemma in a way that aligns professional ethics and values; first in a two-part series.

AT:6125 Clinical Experience III 6 s.h.

Complete professional immersive clinical experience; integration of basic and complex clinical competencies through a supervised clinical experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; third in a four-part series. Prerequisites: AT:4525.

AT:6200 Administration and Leadership 2 s.h.

Overview of organization and administration of athletic training services; topics include organizational structures, human resources, information management, budget and finance, risk management, legal and ethical considerations in health care, purchasing and maintenance of equipment and facilities, and development of policies and procedures for daily operation of athletic training services.

AT:6250 Applied Research in Athletic Training 2 s.h.

Application of research models to athletic training topics; use of appropriate academic writing style; application of basic statistical measures to address clinical problems; continuation and completion of research projects from AT:6100; culminates with dissemination of research findings; second in a two-part series. Prerequisites: AT:6100.

AT:6300 Psychosocial Recognition and Referral 2 s.h.

Psychological factors relative to injury, rehabilitation, and performance; strategies for identifying problems, intervening, and making referrals especially related to psychological disorders, decreased performance, and health/substance abuse; exploration of various theories and models of cultural competence through the lens of sports medicine; students examine and analyze roles of cultural differences including cultural attitudes, beliefs, and expectations as they pertain to effective health care in diverse settings.

AT:6400 Seminar in Athletic Training 2 s.h.

Knowledge, skills, and abilities for successful pursuit of the athletic training credential and processes to obtain employment; résumé development and interviewing skills; emphasis on regulation of practice; professional and ethical responsibilities contributing to practice of athletic training; creation of a professional development plan; preparation for transition to practice.

AT:6450 Advanced Topics in Athletic Training 1 s.h.

Investigation and discussion of current events and advanced topics in athletic training and related health professions; evaluation of current professional and legislative issues in athletic training; discussions vary depending on current relevant topics.

AT:6525 Clinical Experience IV 5 s.h.

Integration of clinical competencies through a supervised clinical experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; last in a four-part series. Prerequisites: AT:6125.

Athletic Training, M.S.

Athletics trainers are health care professionals who render service or treatment under the direction of, or in collaboration with, a physician in accordance with their education and training and the states' statutes, rules, and regulations. Services provided by athletic trainers include injury and illness prevention, wellness promotion and education, emergent care, examination and clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions.

Students who want to become certified athletic trainers may earn the M.S. degree or pursue the combined B.A. in health and human physiology (exercise science track) and the M.S. in athletic training. See the B.A. in health and human physiology [p. 566] (College of Liberal Arts and Sciences) in the Catalog.

The University of Iowa is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Requirements

The first class will be notified of their acceptance into the program by April 2019 and will begin course work in the 2019 summer session.

The Master of Science program in athletic training requires 62 s.h. of course work. Students must maintain a cumulative g.p.a. of at least 3.00 and must earn a grade of C or higher in all major course work.

The program involves two full years, including summer sessions, of concentrated didactic and clinical experiences that lead to eligibility for the Board of Certification examination.

The M.S. with a major in athletic training requires the following work.

Code	Title	Hours
AT:3060	Advanced Anatomy for Athletic Training	4
AT:4000	Foundations of Athletic Training Practice	3
AT:4075	Medical Emergency Techniques	2
AT:4125	Clinical Experience I	3
AT:4200	Orthopedic Pathology and Clinical Examination I	4
AT:4250	Orthopedic Pathology and Clinical Examination II	4
AT:4300	Therapeutic Interventions	2
AT:4375	Nutrition for Athletic Training	2
AT:4400	Rehabilitation Techniques	3
AT:4450	Applied Rehabilitation Concepts	3
AT:4525	Clinical Experience II	4
AT:5000	Pathology and Assessment of Non-Orthopedic Conditions	3
AT:5075	Diagnostic Imaging and Lab Studies	1
AT:5200	Pathophysiology and Pharmacology in Sports Medicine	2

AT:6100	Research in Athletic Training	2
AT:6125	Clinical Experience III	6
AT:6200	Administration and Leadership	2
AT:6250	Applied Research in Athletic Training	2
AT:6300	Psychosocial Recognition and Referral	2
AT:6400	Seminar in Athletic Training	2
AT:6450	Advanced Topics in Athletic Training	1
AT:6525	Clinical Experience IV	5
Total Hours		62

Admission

Admission to the Master of Science program is competitive with a maximum of 18 students admitted for each cohort. Applicants are expected to meet technical standards, pass a background check, and comply with health and safety standards, including vaccination requirements.

To be considered for the Master of Science program in athletic training, applicants must:

- have completed a B.A. or B.S. degree at an accredited institution or have completed the first three years with at least 80 s.h. of undergraduate work for the 3+2 combined program at the University of Iowa;
- have completed 30 s.h. at the University of Iowa if a transfer student;
- have a cumulative g.p.a. of at least 3.25;
- submit an application to the Graduate College through the Athletic Training Centralized Application Service (ATCAS), set up a University of Iowa account, and pay the supplemental fee;
- include three letters of recommendation—one from a medical professional, an academic professional, and one character reference;
- submit a résumé;
- include a statement of purpose and career goals;
- submit a General Record Examination (GRE) General Test score;
- submit a Test of English as a Foreign Language (TOEFL) score if an international applicant;
- have current CPR certification obtained within one year—Basic Life Support (BLS) or professional rescuer level and consistent with Board of Certification standards;
- have current first aid certification obtained within one year;
- submit a signed copy of the program's Technical Standards for Admission form;
- have completed a minimum of 50 hours of observation under a certified athletic trainer;
- have completed required prerequisite course work with a grade of C or higher in human biology, chemistry I and II, physics I, human anatomy, human physiology, exercise physiology, general psychology, biomechanics, nutrition, and statistics; and
- have completed additional recommended course work in medical terminology, introductory athletic training, public health, motor learning, or psychology courses in areas such as abnormal, adolescent, or sports psychology.

All application materials are due by February 1. A personal interview is required. Applicants will be notified of acceptance by April 1 and will begin course work during the summer session.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

Athletic trainers have opportunities for employment in many areas. They include career options in:

- public and private secondary schools, colleges and universities, professional and Olympic sports;

- youth leagues, municipal and independently owned youth sports facilities;

- physician offices;

- rural and urban hospitals, hospital emergency rooms, urgent and ambulatory care centers;

- clinics with specialties in sports medicine, cardiac rehabilitation, medical fitness, wellness and physical therapy;

- occupational health departments in commercial settings, which include manufacturing, distribution, and offices to assist with ergonomics;

- police and fire departments, and academies, municipal departments, and branches of the military; and

- performing arts areas, including professional and collegiate-level dance and music settings.

Otolaryngology—Head and Neck Surgery

Head

- Bruce J. Gantz

Faculty: <https://medicine.uiowa.edu/oto/people/primary-appointments>

Website: <https://medicine.uiowa.edu/oto/>

The Department of Otolaryngology—Head and Neck Surgery is one of the most comprehensive otolaryngology departments in the world. Founded in 1922, it is among the oldest in the United States. *U.S. News & World Report* has consistently ranked the department's program among the top 10 in the nation.

The department's chief focus areas are education and training, patient care, and research. M.D. students in the Carver College of Medicine, residents, and fellows benefit from a faculty dedicated to providing thorough training in all aspects of otolaryngology and patient care. Patients in the otolaryngology clinic enjoy access to comprehensive care in any of five subspecialties: pediatric otolaryngology, otology/neurotology, general otolaryngology and rhinology, head and neck oncology, and facial plastic and reconstructive surgery. University of Iowa faculty members from ophthalmology and visual sciences and radiation oncology hold joint appointments in otolaryngology, adding depth to the department's resources.

The department is home to prominent research programs in cleft palate and other craniofacial defects, head and neck oncology, cochlear implants, and molecular genetics. It also offers fellowships in otology/neurotology, pediatric otolaryngology, and head and neck oncology.

The department is located at University of Iowa Hospitals and Clinics.

Fellowships

The Department of Otolaryngology—Head and Neck Surgery offers a two-year fellowship in otology/neurotology and a one-year fellowship in pediatric otolaryngology, which are accredited by the Accreditation Council for Graduate Medical Education. It also offers a one-year fellowship in head and neck oncology accredited by the Advanced Training Council of the American Head and Neck Society.

The otology/neurotology fellowship program accepts one applicant every two years. Otology fellows spend a minimum of 20 months in clinical service. They attend all otology/neurotology clinics and neurotology cases in the operating room and are responsible for inpatient service. They also have one day of dedicated research time each week.

The pediatric otolaryngology fellowship program accepts one applicant each year. Fellows spend a year in clinical service, where they have the opportunity to train with all pediatric otolaryngology faculty members.

One applicant is accepted as a head and neck oncology fellow each year. Training is largely clinical, allowing fellows the opportunity to participate in a variety of procedures, ranging from skull base resection to laryngeal rehabilitation. Fellows routinely perform 35 to 45 free-tissue transfers during one year of training. They also complete a clinical and/or basic science research project relating to head and neck oncology.

Residency

The Department of Otolaryngology—Head and Neck Surgery offers a residency program accredited by the Accreditation Council for Graduate Medical Education. The program has two tracks: a five-year clinical track and a seven-year research track. Five applicants are accepted each year, three to the clinical track and two to the research track.

The clinical track provides five years of concentrated clinical study and application in all aspects of otolaryngology. Residents begin their training with a five-week intensive basic science course divided into an anatomy component and a 100-hour lecture series. The anatomy component includes a supervised cadaver dissection, and the lecture series details the study of otolaryngology and related disciplines. Residents also complete two research rotations in order to explore research areas that interest them.

The research track is a combined clinical-research program designed for residents interested in an otolaryngology research career. After an internship year, residents complete two years of research followed by four years of clinical training. The interaction of clinicians and basic scientists from several departments affords residents the opportunity for involvement in a wide spectrum of current research in areas such as electrophysiology of the auditory system, the genetics of head and neck cancer, and gene therapy.

Courses

Otolaryngology—Head and Neck Surgery Courses

OTO:8199 Basic Otolaryngologic Science **arr.**
Supervised cadaver head and neck dissection, with 14 areas in detail. Two weeks.

OTO:8301 Clinical Otolaryngology **2 s.h.**

OTO:8401 Sub-Internship in Otolaryngology **arr.**

OTO:8402 Advanced Otolaryngology **4 s.h.**

Students become proficient in physical examination of the head and neck; increase their ability to diagnose, evaluate, and manage common disorders of the ears, nose, and throat; and work in outpatient clinic, on inpatient services, and in operating room.

OTO:8497 Research in Otolaryngology **arr.**
Medical research, clinical or laboratory projects; individual study.

OTO:8498 Otolaryngology On Campus **arr.**

OTO:8499 Otolaryngology Off Campus **arr.**
Arranged by student with department approval.

Pathology

Chair

- Nitin J. Karandikar

Director, Clinical Functions

- Roseanne Meyer

Graduate degree: M.S. in pathology

Faculty: <https://medicine.uiowa.edu/pathology/people>

Website: <https://medicine.uiowa.edu/pathology/>

The Department of Pathology offers education and training for a broad range of students, from undergraduates through postgraduate fellows and researchers. It provides basic pathology courses to health sciences students, a clinical training program for medical laboratory scientists, a Master of Science program in pathology, residency training programs leading to American Board of Pathology certification in anatomic pathology and clinical pathology, fellowship training in pathology subspecialties, and postdoctoral research training in cellular and molecular pathology.

Undergraduate Education

Pathology courses are a major component of the University's program in Medical Laboratory Science, a Bachelor of Science program that trains medical laboratory scientists; see Medical Laboratory Science [p. 1571] in the Catalog.

Postgraduate Training

The Department of Pathology offers postgraduate clinical fellowship programs in hematopathology, transfusion medicine, clinical microbiology, cytopathology, molecular genetic pathology, and surgical pathology for physicians who have completed residency training in pathology. These fellowships consist of one to two years of diagnostic work and research.

The department provides postdoctoral research training in immunology, neuropathology, apoptosis, cancer biology, and clinical microbiology as well as in other areas of cellular and molecular pathology. These positions are open to individuals who have earned a Ph.D. or an M.D.

Programs

Graduate Program of Study

Major

- Master of Science in Pathology [p. 1607]

M.D. Training

The department provides five to seven 12-month fellowships for M.D. students (pathology externship), for students interested in careers as pathologists, and the Emory Warner Fellowship, a full-time research position in a facet of experimental pathology. It also offers clerkships for M.D. students in all areas of anatomical and clinical pathology.

Residency

The department offers 20 residency positions in pathology, which provide up to four years of training. Patients at

University of Iowa Hospitals and Clinics and the Iowa City VA Health Care System are integral to the residency programs.

Residents gain experience in systematic rotation through the varied laboratory services, including surgical pathology, autopsy pathology, neuropathology, dermatopathology, cytology, clinical chemistry, clinical microbiology, hematology, immunopathology, molecular pathology, and transfusion medicine. They also have the opportunity to pursue one or two years of additional fellowship training in many pathology subspecialties. To learn more, see Education on the Department of Pathology website.

Facilities

The Department of Pathology is well-equipped to carry out the sophisticated technology of modern cellular and molecular pathology. It administers more than 90,000 square feet of clinical laboratories at University of Iowa Hospitals and Clinics and has individual research and core facility laboratories, including histopathology and laser capture microscopy for cellular and molecular pathology research, in the Medical Research Center, Medical Laboratories, and at the Iowa City VA Health Care System. Also available are Carver College of Medicine research facilities for nucleic acid chemistry, hybridoma production, flow cytometry, ultrastructural studies, protein structure, image analysis, electron spin resonance, mass spectroscopy, nuclear magnetic resonance, and laboratory animal care.

Courses

Pathology Courses

PATH:4151 MLS Program Registration **0 s.h.**
Requirements: admission to Medical Laboratory Science Program.

PATH:5260 Translational Histopathology **3 s.h.**
Didactic sessions on human comparative histology, molecular and cellular pathology, and animal model applications; laboratory sessions on microscopy, histology, histotechnology, and immunohistochemistry, with group discussions of model papers; experience in scientific writing and oral presentation skills; for students who plan to investigate experimental models of human disease.

PATH:5270 Pathogenesis of Major Human Diseases **3 s.h.**
Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as IGPI:5270.

PATH:6220 Seminar in Pathology **1 s.h.**
Current research and literature. Requirements: pathology graduate standing.

PATH:7001 Molecular and Cellular Biology of Cancer **3 s.h.**
Fundamental aspects of oncology at the cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered fall semesters. Requirements: strong basic science background. Same as FRRB:7001.

PATH:7211 Research in Pathology arr.

Basic aspects of pathology or clinical patient material; emphasis on experimental design, methods, literature review, obtaining formal answers to specific questions. Requirements: M.D. enrollment or graduate standing.

PATH:8007 Medical Student Fellowships in Pathology (Externships) 0 s.h.

First-hand experience in autopsy, surgical and clinical pathology, teaching, and research to further understanding of disease mechanisms, normal and pathologic anatomy, laboratory use.

PATH:8008 Warner Fellowship in Experimental Pathology 0 s.h.

One-year, full-time membership in established research laboratory in the Department of Pathology or collaborating laboratory. Requirements: M.D. enrollment.

PATH:8133 Introduction to Human Pathology for Graduate Students 4 s.h.

Human disease; basic disease processes, organ-related and multisystem diseases; case analysis. Offered fall semesters. Same as PTRS:8133.

PATH:8301 Laboratory Medicine in Clinical Practice arr.

Issues in appropriate use of clinical laboratory and pathology resources in the primary care setting; case-based approach. Requirements: third- or fourth-year M.D. enrollment.

PATH:8401 Autopsy Pathology Clerkship arr.**PATH:8402 Hematopathology Clerkship arr.****PATH:8403 Surgical Pathology Clerkship arr.****PATH:8404 Transfusion Medicine arr.****PATH:8405 Clinical Microbiology 2,4 s.h.**

Students rotate through bacteriology, molecular microbiology, mycology, mycobacteriology, and virology while participating in clinical and technical activities.

PATH:8498 Pathology On Campus arr.**PATH:8499 Pathology Off Campus arr.**

Pathology, M.S.

The M.S. with a major in pathology prepares postbaccalaureate science majors for a range of biomedical careers. Graduate-level course work provides students with a foundation in cellular and molecular biology, as well as specialized knowledge in pathobiology. A laboratory intensive thesis project equips trainees with cutting edge research skills. Students typically complete the program in two and one-half years.

Requirements

The Master of Science program in pathology requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of course work and 9 s.h. of research leading up to the thesis.

The M.S. with a major in pathology requires the following course work.

Required Course Work

Code	Title	Hours
All of these:		
PATH:5260	Translational Histopathology	3
PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:6220	Seminar in Pathology (taken two semesters for 1 s.h. each)	2
BIOS:4120	Introduction to Biostatistics	3
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
Total Hours		14

Required course work results in:

- a basic understanding of molecular and cellular biology;
- a basic understanding of biostatistics; and
- an advanced understanding of pathobiology, histology, and mechanisms of human disease.

Remaining graduate-level course work consists of electives focused on the area or topic related to a student's thesis project. The elective courses are offered by a range of departments on the biomedical campus.

Thesis

The thesis project is carried out under the guidance of the mentor and thesis committee. The committee is composed of the student's mentor and two additional faculty members. In general, the thesis consists of four chapters with the first being a concise review of the literature; the second, materials and methods; and the last two, a scholarly description of the project results. The thesis must be defended before the committee prior to final approval.

For more information, view the Master of Science in Pathology on the Department of Pathology website.

Admission

Applicants must have a bachelor's degree in a science discipline and have a g.p.a. of at least 3.00. They must have taken the Graduate Record Exam (GRE) General Test, with a strong performance on all three portions of the exam. In addition, previous research experience is highly desired. Applicants who are available for an on-site interview are preferred. International students must submit Test of English as a Foreign Language (TOEFL) scores that meet institutional requirements.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Career Advancement

The M.S. program is designed for graduates to advance into research assistant or research scientist positions in academic and private sector laboratories, or to be competitive for advanced degree programs such as the Ph.D., M.B.A., or M.D.

Pharmacology

Chair

- Curt D. Sigmund

Faculty: <https://medicine.uiowa.edu/pharmacology/people>

Website: <https://medicine.uiowa.edu/pharmacology/>

The Department of Pharmacology provides professional training for health science students and participates with other departments in educational and research activities such as the Medical Scientist Training [p. 1574] Program, the Physician Scientist Training Pathway, the Molecular Medicine [p. 1481] Program, the Neuroscience [p. 1482] Program, the Holden Comprehensive Cancer Center, the Abboud Cardiovascular Research Center, and the UI Fraternal Order of Eagles Diabetes Research Center.

The department was a pioneer in offering pharmacology to undergraduate students with little or no science background. Currently, undergraduates can enroll in PCOL:2120 Drugs: Their Nature, Action, and Use. This course emphasizes the mechanisms of drug action and give students a background for rational decisions concerning use of drugs.

Department of Pharmacology graduate study includes both didactic and research experience. Students interested in doctoral studies in pharmacology should apply under the umbrella program in Biomedical Science [p. 1428] (pharmacology subprogram). Qualified students may pursue the combined M.D./Ph.D. in the University's Medical Scientist Training Program.

Pre- and postdoctoral students pursue research training in all areas of pharmacology in the department in preparation for career opportunities in academia, government, and industry.

Programs

Graduate Programs of Study

Majors

- Master of Science in Pharmacology
- Doctor of Philosophy in Pharmacology

Students interested in doctoral studies in pharmacology should apply under the umbrella program in Biomedical Science [p. 1428] (select pharmacology subprogram). Direct applications to the M.S. and Ph.D. in pharmacology are not currently being considered.

Courses

Pharmacology Courses

PCOL:2120 Drugs: Their Nature, Action, and Use 2 s.h.
Principles of drug action, toxicity, sedatives, stimulants, hallucinogens, narcotics, over-the-counter agents, antibiotics, and oral contraceptives. Offered spring semesters.
Requirements: closed to students enrolled in the Pharm.D. program.

PCOL:4130 Drug Mechanisms and Actions 3 s.h.
Introduction to principles of pharmacology, pharmacologic actions of drugs. Offered spring semesters. Requirements: undergraduate biochemistry and physiology courses.

PCOL:4199 Undergraduate Research in Pharmacology arr.

Experimental research under faculty supervision in department laboratories. Offered fall and spring semesters.

PCOL:5135 Principles of Pharmacology 1 s.h.
Basic pharmacological principles underlying drug absorption, drug distribution throughout the body, drug metabolism, and drug elimination; how these processes determine drug dosing and the means by which dosing parameters are characterized; drug receptor interactions and their quantitation. Offered spring semesters.

PCOL:5136 Pharmacogenetics and Pharmacogenomics 1 s.h.
Impact of genetic variation on the actions and metabolism of drugs; database search techniques to identify variants. Offered spring semesters. Prerequisites: PCOL:5135. Recommendations: undergraduate or graduate biochemistry and/or genetics.

PCOL:5137 Neurotransmitters 1 s.h.
Mechanisms of neurotransmission focusing on mechanisms of synthesis, regulation of release, mechanisms of action, means of degradation, and CNS pathways for major neurotransmitters; disease states involving various neurotransmitter systems. Offered spring semesters.

PCOL:5204 Basic Biostatistics and Experimental Design 1 s.h.
Overview of theory of experimental design and data analysis in biological sciences; types of analyses available for common types of data generated in biomedical sciences; review of statistical methods used in published studies; cursory coverage of mathematical computations involved in various analytical tests. Offered fall semesters.

PCOL:6015 Topics in Neuropharmacology 1 s.h.
Recent advances in neuropharmacology, developmental neurobiology, neuroendocrinology, and related neurosciences. Offered fall semesters.

PCOL:6020 Topics in Pharmacogenomics 1 s.h.
Recent advances in pharmacogenomics, pharmacogenetics, and related genetic fields. Offered fall semesters.

PCOL:6025 Topics in Cell Signaling and Cancer 1 s.h.
Recent advances in cell signaling mechanisms, mechanisms of cancer, cancer biology, and related sciences. Offered spring semesters.

PCOL:6030 Topics in Cardiovascular Pharmacology 1 s.h.
Recent advances in cardiovascular pharmacology, metabolic pharmacology, and related sciences. Offered spring semesters.

PCOL:6080 Pharmacology Seminar 1 s.h.

PCOL:6090 Graduate Research in Pharmacology arr.

PCOL:6099 Special Topics in Pharmacology arr.

PCOL:6203 Pharmacology for Graduate Students 6 s.h.
Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters. Prerequisites: BIOC:5243 and MPB:5153.

PCOL:6204 Pharmacology for Health Sciences: Nurse Anesthetist 5 s.h.
Principles of pharmacology; pharmacologic actions of drugs, correlation with therapeutic uses. Offered fall semesters. Prerequisites: ACB:6000 or NURS:6000. Requirements: enrollment in Anesthesia Nursing Program.

PCOL:6207 Ion Channel Pharmacology 1 s.h.

Heuristic, semiquantitative approach to concepts in ion channel physiology and pharmacology; up-to-date physical principles, classification, and structure/function relationships for major voltage-gated ion channels that facilitate application of abstract concepts to physiological, pharmacological, and general biological problems. Offered spring semesters.

PCOL:6208 G Proteins and G Protein-Coupled Receptors 1 s.h.

Structure and function of small molecular weight and G proteins; heteromeric G proteins and G protein-coupled receptors. Offered spring semesters of even years. Prerequisites: BIOC:5243. Recommendations: MMED:6225.

PCOL:6209 Steroid Receptor Signaling 1 s.h.

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as MPB:6209, NSCI:6209.

PCOL:6250 Advanced Problem Solving in Pharmacological Sciences 1 s.h.

Discussion of methodologies, strategies, and approaches commonly used to solve pharmacological sciences problems; use of interpersonal problem-solving skills to develop experimental study plans for solving contemporary scientific problems in pharmacology. Offered fall and spring semesters.

PCOL:8180 Pharmacology for Pharmacy Students I 1 s.h.

Principles of pharmacology, drug and toxic mechanisms; systemic and organ-specific pharmacologic and toxic responses. Offered fall semesters. Requirements: second-year Pharm.D. enrollment or graduate standing.

PCOL:8181 Pharmacology for Pharmacy Students II 2 s.h.

Continuation of PCOL:8180. Offered spring semesters. Prerequisites: PCOL:8180. Requirements: second-year Pharm.D. enrollment or graduate standing.

PCOL:8182 Pharmacology for Pharmacy Students III 1 s.h.

Continuation of PCOL:8181. Offered fall semesters. Prerequisites: PCOL:8180 and PCOL:8181. Requirements: third-year Pharm.D. enrollment or graduate standing.

PCOL:8240 Basic Pharmacology for Dental Students 3 s.h.

Principles of pharmacology, pharmacologic actions of drugs, correlation with therapeutic uses. Offered spring semesters. Prerequisites: BIOC:8101 and MPB:8115. Requirements: D.D.S. enrollment.

Physical Therapy and Rehabilitation Science

Chair

- Richard K. Shields

Graduate degrees: D.P.T.; M.A. in physical rehabilitation science; Ph.D. in physical rehabilitation science

Faculty: <https://medicine.uiowa.edu/pt/people/primary-appointments>

Website: <https://medicine.uiowa.edu/pt/>

Physical therapists provide services to patients and clients who have impairments, functional limitations, disabilities, pain, or changes in physical function resulting from injury, disease, or other causes. Physical therapists practice and collaborate with a variety of health professionals. In the area of health promotion and wellness, they provide screening examinations, prescribe fitness programs, and educate the public regarding healthy lifestyles. Research, teaching, consultation, and administration also are parts of a physical therapist's professional role.

The Department of Physical Therapy and Rehabilitation Science is located in the Carver College of Medicine on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. Students have access to faculty members in the basic sciences and medicine, basic sciences courses, clinical specialty expertise, and innovative learning experiences associated with a medical college environment.

Programs

Graduate Programs of Study

Majors

- Doctor of Physical Therapy [p. 1616]
- Master of Arts in Physical Rehabilitation Science [p. 1615]
- Doctor of Philosophy in Physical Rehabilitation Science [p. 1619]

Facilities

The department has state-of-the-art independent research laboratories and is well equipped for classroom and laboratory instruction and innovative research. The department's state-of-the-art research facilities include the Orthopedic Gait Analysis Laboratory and a spinal cord research laboratory at University Hospitals and Clinics; the Human Movement Control/Performance Laboratory; the Neurobiology of Pain Laboratory; the Neuromuscular Biomechanics Laboratory; the Human Integrative and Cardiovascular Physiology Laboratory; the Applied Neuroplasticity Laboratory; and the Human Performance and Clinical Outcomes Laboratory.

Courses

Physical Therapy and Rehabilitation Science Courses

PTRS:5100 Professional Issues and Ethics 1 s.h.

Evolution of physical therapy and rehabilitation science as a profession; contemporary issues in education and practice; ethical theory and approaches to analyzing and acting on ethical problems; professional and peer relationships.

PTRS:5101 Introduction to Physical Therapy Practice 2 s.h.

Lectures, case presentations, and group activities using the Guide to Physical Therapist Practice; elements of the patient/client management model, concepts of the disablement model, preferred practice patterns as applied in clinical problems; importance of professionalism, professional socialization; introduction to evidence-based practice; competence in medical terminology.

PTRS:5102 Principles of Physical Therapy I 2 s.h.

Patient management skills: interviewing, medical history taking, vital signs, positioning, draping, transfers, body mechanics, assisted gait, wheelchairs, and negotiation of architectural barriers.

PTRS:5103 Principles of Physical Therapy II 2 s.h.

Continuation of PTRS:5102; expansion of existing skills and provides new learning experiences in documentation, assessment of joint range of motion/goniometry, manual muscle testing, preambulatory intervention strategies, gait analysis; musculoskeletal, neuromuscular, and integumentary systems review. Prerequisites: PTRS:5102.

PTRS:5131 Therapeutic Physical Agents 2 s.h.

Theoretical and practical applications for safe, effective use of physical agents (superficial and deep heat, cold, hydrotherapy), electrotherapeutic modalities (biofeedback, NMES, TENS, iontophoresis); massage and soft tissue mobilization; emphasis on problem solving, clinical decision making.

PTRS:5144 Interprofessional Education I: Team-Based Approach to Health Care 1 s.h.

Development and interaction within small group of interprofessional students from physical therapy, medicine, pharmacy, dentistry, nursing, and public health; deans and faculty from each college facilitate; three-hour initial session for all disciplines followed by informal monthly electronic scenarios, second formal meeting followed by informal monthly electronic discussions.

PTRS:5201 Musculoskeletal Therapeutics I 3 s.h.

Musculoskeletal techniques and biomechanical principles applied to assessment and evaluation of common orthopedic problems of the spine; problem solving, case-study approach to clinical methods, skill acquisition.

PTRS:5205 Health Promotion and Wellness 3 s.h.

Overview of health promotion, fitness, and wellness strategies, including information on levels of health promotion, risk assessment, applied physiology (skeletal muscle, energy metabolism, and physiological responses to exercise), exercise testing and training guidelines, body composition assessment, and development of individual weight management and exercise training programs; classroom and laboratory experiences.

PTRS:5206 Cardiopulmonary Therapeutics 3 s.h.

Cardiorespiratory anatomy, physiology, and application of basic concepts, techniques in management of patients with acute and chronic cardiac, pulmonary disorders; laboratories.

PTRS:5209 Surface Anatomy 1 s.h.

Laboratory teaching activities that parallel the human anatomy course; observation, palpation, and problem solving skills; upper- and lower-limb, head and neck, thorax, and abdomen.

PTRS:5210 Kinesiology and Pathomechanics 4 s.h.

Normal and pathological movement based on understanding of muscle mechanics, segment and joint mechanics, muscle function; instructor- and student-centered learning experiences; EMG laboratories.

PTRS:5215 Applied Clinical Medicine 2 s.h.

Pathological disorders frequently encountered by physical therapists in clinical practice, addressed by physicians and health professionals who are not physical therapists; physical therapy management.

PTRS:5235 Case-Based Learning I 1 s.h.

Small group case study seminars and simulated patient instructor learning experiences; clinical problems coordinated with concurrent courses; student-centered, problem-based learning format with emphasis on evidence-based practice objectives. First in a two-course sequence.

PTRS:5236 Case-Based Learning II 1 s.h.

Small-group case study seminars and simulated patient instructor learning experiences; clinical problems coordinated with concurrent courses taken in curriculum; student centered, problem-based learning format; emphasis on evidence-based practice objectives. Second in a two-part series of integrated courses. Prerequisites: PTRS:5235.

PTRS:5790 Integrated Clinical Education in Physical Therapy I 1 s.h.

Integrated clinical experiences in area physical therapy clinics; overview of diverse nature of practice through half- or full-day experience; basic skills in examination, intervention, and documentation.

PTRS:5791 Integrated Clinical Education in Physical Therapy II 1 s.h.

Continuation of PTRS:5790; integrated half-day clinical experiences. Prerequisites: PTRS:5790.

PTRS:6120 Physical Therapy Management and Administration I 2 s.h.

The changing U.S. health care system; access to physical therapy services, reimbursement to health care providers, mechanisms for controlling costs while providing quality care; clinical vignettes, small group problem solving.

PTRS:6121 Physical Therapy Management and Administration II 1 s.h.

Principles of management in physical therapy practice; historical perspective, current health care environment; business principles; marketing, managing risk, medical/legal concerns, preparing for the future.

PTRS:6122 Psychosocial Aspects of Patient Care 1 s.h.

Emotional reactions to disability, psychosocial aspects of disability as they relate to patient-physical therapist interaction; specific problems of the angry, non-compliant, or chronic-pain patient; complementary roles of other health professionals; cultural competence in professional behavior and patient treatment; importance of holistic health care.

PTRS:6133 Pain Mechanisms and Treatment 1-2 s.h.

Introduction to basic science mechanisms, assessment, and management of pain; basic science mechanism involved in transmission and perception of painful stimuli after tissue injury, assessment and physical therapy management of pain; emphasis on scientific principles and published literature to support treatment techniques.

PTRS:6134 Physical Therapy Management of Integumentary System 2 s.h.

Overview of physical therapy examination and management of the integumentary system; wound pathology, diagnosis associated with the integumentary system, inflammation and repair, examination and reexamination techniques, documentation, clinical decision making, lecture and laboratory formats; interventions, including patient/client information, physical agents, electrotherapy, wound dressing.

PTRS:6143 Selected Topics in Physical Therapy Practice 2 s.h.

Specialty topics in physical therapy; geriatrics, wheelchair seating/positioning, women's health, home health, industrial physical therapy; alternative or new treatments; guest lectures, lab component.

PTRS:6145 Interprofessional Education II: Teaching Neural and Musculoskeletal Evaluation Principles 1 s.h.

Active involvement in integrating anatomy, kinesiology, and movement control principles as applied to a select group of pathologies with the goal of being able to teach content area; preassigned student group leaders; emphasis on student as active learner; opportunity to teach academic areas previously studied in first and second years of curriculum; may include teaching several of these musculoskeletal principles in a first-year medical student anatomy course.

PTRS:6170 Management of People with Prosthetic and Orthotic Needs 2 s.h.

Physical therapy management and assessment of patients in need of prosthetic and orthotic devices; principles and components of prosthetic and orthotic design and use.

PTRS:6172 Radiology/Imaging for Physical Therapists 2 s.h.

Basic principles and procedures for acquisition and interpretation of radiology and imaging in clinical practice and research; plain film radiographs, CT, MRI, other common imaging modalities; case-based, multidisciplinary approach.

PTRS:6173 Differential Diagnosis in Physical Therapy 2 s.h.

Use of physical therapy examination and evaluation skills to diagnose physical therapy problems; focus on use of good clinical decision-making skills when analyzing a patient's history and administering physical therapy tests and measures to confirm or rule out differential diagnoses; components of the medical examination; importance of collaboration between therapists and other health professionals; interactive case studies presented by clinical experts.

PTRS:6176 Pharmacology for Physical Therapists 3 s.h.

Contemporary pharmacology; overview of basic pharmacokinetic and pharmacodynamic principles; relation of drug therapy to therapeutic interventions provided by physical therapists; small group clinical case presentations.

PTRS:6200 Pediatric Physical Therapy 2 s.h.

Preparation for physical therapy practice in pediatric settings using interdisciplinary family-centered practice; normal and abnormal development, standardized assessment, service-delivery settings, interventions, management strategies specific to pediatrics.

PTRS:6202 Musculoskeletal Therapeutics II 3 s.h.

Pathology, assessment, management of orthopedic disorders of the upper quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: PTRS:5201.

PTRS:6203 Musculoskeletal Therapeutics III 4 s.h.

Pathology, assessment, management of orthopedic disorders of the lower quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: PTRS:6202.

PTRS:6204 Progressive Functional Exercise 2 s.h.

Therapeutic exercise options (e.g., isometrics, isotonic, isokinetics, plyometrics, endurance exercises, stretching exercises) and training principles; application to functional activities, including those of daily living, work, recreation, and sport; laboratory component.

PTRS:6224 Activity-Based Neural and Musculoskeletal Plasticity in Health Care 4 s.h.

Examination of neural, muscular, and skeletal plasticity to increased and decreased use in normal and pathological states (chronic inactivity, obesity, metabolic syndromes, orthopedic and neurological injuries); principles of genetic regulation with physical activity including underlying mechanisms contributing to acute and chronic adaptations of muscle, spinal circuitry, and supra-spinal centers; integration of movement control concepts through contemporary papers evaluating short and long latency reflexes, posture and balance control, spasticity, and motor learning in individuals with acute and chronic perturbations to the nervous system.

PTRS:6225 Neuromuscular Therapeutics 3 s.h.

Evidence-based application of clinical neuroscience, motor control, and learning principles to practice of neurological physical therapy; approaches to evaluation and therapeutic intervention for clients with adult-onset neurological conditions, with emphasis on examination, developing a diagnosis, clinical decision making, and prescribing interventions that help clients accomplish goals. Prerequisites: PTRS:6224.

PTRS:6237 Service Learning I 1 s.h.

Service-learning work experience with community partners; students develop individual learning goals for these experiences; classroom reflection on service activities, experiences with elderly and/or disabled, and social responsibility, advocacy, and professionalism in physical therapy; written reflection assignments. First in a two-course sequence.

PTRS:6238 Service Learning II 1 s.h.

Service-learning work experience with community partners; students develop individual learning goals for these experiences; classroom reflection on service activities, experiences with elderly and/or disabled, and social responsibility, advocacy, and professionalism in physical therapy; written reflection assignments. Second in a two-course sequence. Prerequisites: PTRS:6237.

PTRS:6250 Critical Inquiry I: Evidence-Based Practice 2 s.h.

Topics relevant to evidence-based practice and research design; identification of appropriate questions for research and clinical applications, location and evaluation of available evidence, identification of issues that affect validity of research designs, interpretation of basic statistical analyses.

PTRS:6251 Critical Inquiry II: Rehabilitation Research 2 s.h.

Experience conducting group research projects under faculty supervision; data collection and analysis, manuscript preparation, oral defense of research findings during a formal poster presentation. Prerequisites: PTRS:6250.

PTRS:6252 Critical Inquiry III: Clinical Application 1 s.h.

Principles and procedures learned in PTRS:6250 and PTRS:6251 applied to a clinical setting; students write and present a case report with an evidence-based practice focus, using a clinical case from their final internships. Prerequisites: PTRS:6251. Requirements: Physical Therapy and Rehabilitation Science program enrollment.

PTRS:6253 Functional Neuroanatomy arr.

Basic principles of neuroanatomy and neurophysiology; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord and brain. Offered spring semesters. Requirements: physical therapy and rehabilitation science enrollment or graduate standing. Same as ACB:6252.

PTRS:6792 Integrated Clinical Education in Physical Therapy IV 1 s.h.

Two-week, full-time clinical experience in physical therapy clinics in Iowa, under guidance of physical therapists; theory and practice of physical therapy procedures, competence building in basic skills. Prerequisites: PTRS:6793.

PTRS:6793 Integrated Clinical Education in Physical Therapy III 3 s.h.

Six-week, full-time clinical education experience with focus on acute, skilled, long term, or geriatric care in a general hospital, skilled nursing facility, long term care center, or home health setting. Prerequisites: PTRS:5791. Requirements: Doctor of Physical Therapy program enrollment.

PTRS:6794 Terminal Clinical Education in Physical Therapy I arr.

Nine week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6792. Requirements: Doctor of Physical Therapy program enrollment.

PTRS:6795 Terminal Clinical Education in Physical Therapy II 4 s.h.

Nine-week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6794. Requirements: Doctor of Physical Therapy program enrollment.

PTRS:6796 Terminal Clinical Education in Physical Therapy III 4 s.h.

Nine-week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6795. Requirements: Doctor of Physical Therapy program enrollment.

PTRS:7812 Biomedical Instrumentation and Measurement**3 s.h.**

Introduction to biomedical instrumentation and measurement; understanding sources of error and noise in biomedical research applications; basic circuit analysis, calibration of measurement tools, A/D conversion, digital filtering; lab components. Offered fall semesters of even years.

PTRS:7820 Seminar in Rehabilitation Science**1 s.h.**

Exploration of research related to rehabilitation science; lectures by faculty, graduate students, and guest scholars with expertise in areas relevant to rehabilitation science (e.g., neuroscience, physiology, medicine, engineering, pharmacology, integrated physiology).

PTRS:7826 Scientific Writing in Rehabilitation Science**3 s.h.**

Knowledge of and experience related to scientific writing, critical review of scientific literature, publication in the biomedical sciences, thesis/dissertation writing, grant writing, scientific presentation, writing used in academic and scientific careers.

PTRS:7875 Analysis of Activity-Based Neural and Musculoskeletal Plasticity**3 s.h.**

Examination of neural, muscular, and skeletal plasticity to increased/decreased use in normal and pathological states (chronic inactivity, obesity, metabolic syndromes, orthopedic and neurological injuries); genetic regulation with physical activity and underlying mechanisms contributing to acute and chronic adaptations of muscle, spinal circuitry, and supra-spinal centers; integration of movement control concepts through contemporary papers evaluating short and long latency reflexes, posture and balance control, spasticity, and motor learning in individuals with acute and chronic perturbations to the nervous system; individual research projects.

PTRS:7880 Teaching Practicum**arr.**

Individual instruction, observation, experimentation in teaching, guidance, analysis of evaluation processes in Physical Therapy and Rehabilitation Science.

PTRS:7884 Practicum in Research**arr.**

Laboratory experiences connected with investigative process; individual instruction, observation, activities in methodological development, data acquisition, data analysis aspects of research.

PTRS:7885 Biomechanical Analysis in Rehabilitation**3 s.h.**

Assessment of pathological movement through human movement analysis techniques, including link segment modeling and analysis, mechanical energy and power analysis, electromyography and muscle modeling.

PTRS:7895 Advanced Seminar in Rehabilitation Science**arr.**

Current status of research for biological, mechanical, psychological components pertinent to cardiopulmonary, musculoskeletal, neuromuscular areas of rehabilitation science; preparation for comprehensive exam.

PTRS:7899 Introduction to Pain: Overview of Theories, Concepts, and Mechanisms**1 s.h.**

Overview of pain concepts and mechanisms; general overview of pain, models of pain, peripheral and central mechanisms, and pain inhibition. Requirements: prior neuroscience course.

PTRS:7900 Rehabilitation Research Capstone Project**arr.**

Specific phases of the research process; development of a research question and associated hypotheses, collection and analysis of data, interpretation and discussion of the information's meaning; presentation to sponsoring mentor's laboratory/program, and written document.

PTRS:7901 Clinical Correlates of Pain: Syndromes and Management**1 s.h.**

Common pain conditions and management of pain using an interdisciplinary focus; lectures by University of Iowa Hospitals and Clinics clinicians on a variety of acute and chronic pain conditions and management approaches. Requirements: prior neuroscience course.

PTRS:7902 Molecular, Cellular, and Neural Mechanisms of Pain**2 s.h.**

Basic science mechanisms of pain and pain modulation; understanding molecular basis for pain in nociceptive afferents (peripheral sensitization), underlying molecular and neuronal mechanisms of central processing of pain (central sensitization), cortical pain processing, animal and human experimental pain models; readings from past and current literature. Prerequisites: PTRS:7899. Requirements: prior neuroscience course.

PTRS:7903 Rehabilitation Management of Pain**1 s.h.**

Basic principles of rehabilitation for pain control including education, exercise, and electrophysical modalities; evidence-based approach to rehabilitation covering mechanisms of action and clinical effectiveness; case studies. Prerequisites: PTRS:7899 and PTRS:7901.

PTRS:7925 Independent Study**arr.**

Problem-solving experience in physical therapy; commensurate with student's interest, ability.

PTRS:7927 Research in Rehabilitation Science**arr.**

Placement of physical therapy on sound scientific base; therapy; initiation, refinement, establishment of methods in physical therapy evaluation, treatment; direct clinical and laboratory approach, philosophical treatise, or research proposal.

PTRS:7930 Critical Thinking in Neuro-Mechanical Systems**arr.**

Problem solving experience in neuro-mechanical systems, commensurate with student interest, ability.

PTRS:7931 Critical Thinking in Pain**arr.**

Problem solving experience in pain, commensurate with student interest, ability.

PTRS:7932 Critical Thinking in Biomechanics and Human Performance Assessment**arr.**

Problem solving experience in biomechanics and human performance assessment, commensurate with student interest, ability.

PTRS:7933 Critical Thinking in Movement Control/ Human Performance**arr.**

Problem solving experience in movement control/human performance, commensurate with student interest, ability.

PTRS:7934 Critical Thinking in Neural Plasticity**arr.**

Problem solving experience in neural plasticity, commensurate with student interest, ability.

PTRS:7935 Critical Thinking in Sports Medicine**arr.**

Problem solving experience in sports medicine, commensurate with student interest; ability.

PTRS:7936 Critical Thinking in Cardiovascular

Physiology

arr.

Problem solving experience in cardiovascular physiology, commensurate with student interest, ability.

PTRS:7990 Thesis: Rehabilitation Science

arr.

Investigative process: formulation of problem, literature search and analysis, procedure for collecting data, data analysis, organization and writing of thesis proposal, thesis.

PTRS:8133 Introduction to Human Pathology for Graduate Students

4 s.h.

Human disease; basic disease processes, organ-related and multisystem diseases; case analysis. Offered fall semesters. Same as PATH:8133.

Physical Rehabilitation Science, M.A.

The Master of Arts program in physical rehabilitation science is granted to students working toward the Doctor of Philosophy in physical rehabilitation science.

Requirements

The Master of Arts with a major in physical rehabilitation science is awarded to students pursuing knowledge about the underlying science of rehabilitation. The M.A. degree does not prepare students to practice physical therapy. Students often work toward the Doctor of Philosophy in physical rehabilitation science with the goal to promote scholarship in the field. See the Ph.D. in physical rehabilitation science [p. 1619] in this section of the Catalog.

Doctor of Physical Therapy, D.P.T.

The Doctor of Physical Therapy (D.P.T.) is the entry-level professional degree for physical therapists. Based on the number of outstanding applicants, 40 students are annually enrolled in the D.P.T. program.

Requirements

The Doctor of Physical Therapy requires a minimum of 104 s.h. and is completed in two and a half years. The program is fully accredited by the Commission on Accreditation in Physical Therapy Education. Satisfactory completion of the professional program qualifies candidates to take the National Physical Therapy Examination for licensure to practice. The minimum passing score on the exam is the same in all jurisdictions.

Technical Standards for Graduation

Doctor of Physical Therapy graduates must possess and demonstrate the physical and cognitive skills and character attributes required to provide physical therapy services in a broad variety of clinical situations and environments. All D.P.T. candidates must perform, with or without reasonable accommodation, the following skills safely, effectively, efficiently, and in compliance with the legal and ethical standards set by the American Physical Therapy Association Code of Ethics and Standards of Practice:

- communicate effectively through appropriate verbal, nonverbal, and written communication with patients, families, and others;
- demonstrate ability to apply universal precautions;
- utilize appropriate tests and measures in order to perform a physical therapy examination; examples include, but are not limited to, examination and evaluation of cognitive/mental status, vital signs, skin and vascular integrity, wound status, endurance, segmental length, girth, volume, sensation, strength, tone, reflexes, movement patterns, coordination, balance, developmental stage, soft tissue, joint motion/play, cranial and peripheral nerve function, posture, gait, functional abilities, assistive devices fit/use, psychosocial needs, and the pulmonary system;
- demonstrate the ability to reach diagnostic and therapeutic judgments through analysis and synthesis of data gathered during patient/client examination in order to develop an appropriate plan of care;
- perform fully, or in a reasonably independent manner, physical therapy interventions appropriate to the patient's status and desired goals;
- apply teaching/learning theories and methods in health care and community environments;
- accept criticism and respond by appropriate behavior modification; and
- possess the perseverance, diligence, and consistency to complete the physical therapy curriculum and enter the practice of physical therapy.

Applicants with health conditions or disabilities who need accommodation to meet the technical standards for

graduation should contact the University's Student Disability Services office.

Curriculum

The Doctor of Physical Therapy degree requires the following course work.

Code	Title	Hours
First Year, Summer Session		
PTRS:5101	Introduction to Physical Therapy Practice	2
PTRS:5102	Principles of Physical Therapy I	2
PTRS:5205	Health Promotion and Wellness	3
First Year, Fall Semester		
PTRS:5100	Professional Issues and Ethics	1
PTRS:5103	Principles of Physical Therapy II	2
PTRS:5144	Interprofessional Education I: Team-Based Approach to Health Care	1
PTRS:5209	Surface Anatomy	1
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:5235	Case-Based Learning I	1
PTRS:5790	Integrated Clinical Education in Physical Therapy I	1
PTRS:8133	Introduction to Human Pathology for Graduate Students	4
ACB:5108	Human Anatomy	5
First Year, Spring Semester		
PTRS:5131	Therapeutic Physical Agents	2
PTRS:5201	Musculoskeletal Therapeutics I	3
PTRS:5206	Cardiopulmonary Therapeutics	3
PTRS:5215	Applied Clinical Medicine	2
PTRS:5236	Case-Based Learning II	1
PTRS:5791	Integrated Clinical Education in Physical Therapy II	1
PTRS:6253	Functional Neuroanatomy	4
Second Year, Summer Session		
PTRS:6120	Physical Therapy Management and Administration I	2
PTRS:6143	Selected Topics in Physical Therapy Practice	2
PTRS:6176	Pharmacology for Physical Therapists	3
PTRS:6793	Integrated Clinical Education in Physical Therapy III	3
Second Year, Fall Semester		
PTRS:6122	Psychosocial Aspects of Patient Care	1
PTRS:6134	Physical Therapy Management of Integumentary System	2

PTRS:6145	Interprofessional Education II: Teaching Neural and Musculoskeletal Evaluation Principles	1
PTRS:6170	Management of People with Prosthetic and Orthotic Needs	2
PTRS:6200	Pediatric Physical Therapy	2
PTRS:6202	Musculoskeletal Therapeutics II	3
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:6237	Service Learning I	1
PTRS:6250	Critical Inquiry I: Evidence-Based Practice	2
Second Year, Spring Semester		
PTRS:6121	Physical Therapy Management and Administration II	1
PTRS:6133	Pain Mechanisms and Treatment	2
PTRS:6172	Radiology/Imaging for Physical Therapists	2
PTRS:6173	Differential Diagnosis in Physical Therapy	2
PTRS:6203	Musculoskeletal Therapeutics III	4
PTRS:6204	Progressive Functional Exercise	2
PTRS:6225	Neuromuscular Therapeutics	3
PTRS:6238	Service Learning II	1
PTRS:6251	Critical Inquiry II: Rehabilitation Research	2
PTRS:6792	Integrated Clinical Education in Physical Therapy IV	1
Third Year, Summer Session		
PTRS:6794	Terminal Clinical Education in Physical Therapy I	4
Third Year, Fall Semester		
PTRS:6252	Critical Inquiry III: Clinical Application	1
PTRS:6795	Terminal Clinical Education in Physical Therapy II	4
PTRS:6796	Terminal Clinical Education in Physical Therapy III	4
Total Hours		104

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. They must have completed a baccalaureate degree and all prerequisite course work from an accredited institution in the United States, or anticipate completing the degree before enrolling in the D.P.T. program. They must have a cumulative g.p.a. of at least 3.00 and must have completed the following prerequisite course work, preferably with a g.p.a. of at least 3.00. All science courses must include the appropriate laboratory instruction. The prerequisite courses must have been taken for a letter grade.

Credit awarded through advanced placement testing may be applied only to the mathematics requirement.

Biological sciences: a complete introductory series of courses in principles of general biology or zoology and advanced course work in biology or zoology (for which an introductory course is prerequisite) equivalent to 12 s.h.

Anatomy: human or comparative vertebrate anatomy, preferably with a lab component, equivalent to 3 s.h.

Physiology: a systemic human physiology course equivalent to 3 s.h.

A two-course sequence of anatomy and physiology equivalent to 6 s.h., preferably with a lab component, can fulfill the physiology and anatomy prerequisites.

Physics: a complete introductory series equivalent to 8 s.h.

Chemistry: a complete introductory series equivalent to 8 s.h.

Psychology: courses equivalent to 6 s.h.

Mathematics: a college-level mathematics course, at the level of trigonometry or higher, equivalent to 3 s.h.

Statistics: a statistical methods course equivalent to 3 s.h.

All applicants must take the Graduate Record Examination (GRE) General Test. They must take the test early enough for their scores to be received prior to the application deadline.

Applications are submitted online through the Physical Therapist Centralized Application Service (PTCAS). PTCAS allows applicants to use a single application and one set of materials to apply to multiple physical therapy programs. Once the application portfolio is complete with PTCAS, they will forward it to the University of Iowa.

The physical therapy admissions committee requires personal, on-campus interviews. Since the number of students admitted into each class is limited, not all who apply for admission are invited for an interview. Interviews are typically scheduled in October and November. Notification of acceptance is made by early January.

Applications are accepted July 1 for entry into the D.P.T. program the following summer. Applicants who apply early and by September 15 will be given priority status in the admissions process. It is to the applicant's benefit to apply as soon as possible after July 1 as the admissions committee will begin the application review process to select those for interviews starting in August. The final deadline to submit applications to PTCAS is October 1.

Background Checks

Enrollment in the Doctor of Physical Therapy program is contingent on a successful criminal background check. Drug screening may be required for some clinical rotations.

Expenses

Applicants admitted to the D.P.T. program must make an advance tuition payment which is forfeited if the applicant does not enroll. In addition to paying University of Iowa tuition and fees, students are assessed laboratory fees for the human anatomy and neuroanatomy courses and are responsible for purchasing supplies, such as lab coats, patient evaluation kits, and course packets. Students also are responsible for all costs associated with clinical experiences.

All students are required to comply with the pre-entry and periodic health screening program developed by Student

Health & Wellness in cooperation with University of Iowa Hospitals and Clinics. All costs incurred for the health screenings are the student's responsibility. Students also are required to have health insurance.

Career Advancement

The employment outlook for physical therapy graduates is strong. Opportunities exist for professional practice in inpatient, outpatient, and community-based organizations. These include general or specialized hospitals, programs for children with disabilities, private physical therapy clinics, extended care facilities, nursing homes, community and governmental agencies, rehabilitation centers, the armed forces, foreign service, home health agencies, school systems, fitness centers, and athletic facilities. Teaching and research positions also are available as well as options for successful self-employment.

Physical therapists report a very high level of job satisfaction, driven both by prevalent employment opportunities and social interaction.

Physical Rehabilitation Science, Ph.D.

Through course work and participation in research, the Doctor of Philosophy program in physical rehabilitation science emphasizes the development of an individual's expertise as a researcher in rehabilitation science. Approximately 20 students are enrolled in the Ph.D. program each year.

Graduates who complete the program are prepared for academic appointments that emphasize research, scholarship, and teaching. They possess:

- theoretical and scientific knowledge to perform basic, applied, or clinical-level original research that leads to scientific presentations, publication in peer-reviewed journals, and competition for extramural funding through scientific grant writing;
- breadth of knowledge in exercise physiology, biomechanic, neuroscience, or motor control specialty areas as they relate to impairment, functional limitation, and disability; and
- theoretical and practical skills required for college or university teaching at the professional entry and advanced graduate levels.

Requirements

The Doctor of Philosophy with a major in physical rehabilitation science requires a minimum of 72 s.h. of graduate credit. The program is designed to advance a student's ability to independently develop and carry out research that establishes the scientific basis for prevention, evaluation, and treatment of impairments, functional limitations, and disability. The curriculum is flexible enough to accommodate research focusing on basic, applied, or clinical studies in the rehabilitation sciences. Students have access to the program's research laboratories (see Facilities [p. 1610] in this section of the Catalog).

Curriculum

Students and their faculty advisor develop an individualized study plan. A preliminary study plan is developed within the first 9 s.h. of graduate study; a final plan is submitted to the Graduate College when the Ph.D. comprehensive examination is scheduled.

To ensure breadth of knowledge, all students complete specific core, research, and scientific specialty area content courses. Elective courses are selected to provide in-depth study of the specialty; they are complemented by an advanced seminar course specific to a student's specialty and taken in preparation for the comprehensive examination.

Students must satisfactorily complete the comprehensive examination, which is taken after all required course work is completed. Doctoral study culminates with 12 s.h. of thesis research and an oral examination.

General Core Requirement

Ph.D. students must complete the following core requirements. In addition to the courses below, the Collaborative Institutional Training Initiative (CITI)—online, web-based training—must be completed before a student enrolls in BMED:7270 Scholarly Integrity/Responsible Conduct

of Research I and BMED:7271 Scholarly Integrity/Responsible Conduct of Research II.

Code	Title	Hours
All of these:		
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7820	Seminar in Rehabilitation Science (taken twice)	1
PTRS:7880	Teaching Practicum	arr.
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
HHP:3900	Writing for Health and Human Physiology	3
PSQF:7385/ EDTL:7385/ EPLS:7385/ GRAD:7385/ RCE:7385	Teaching and Learning in Higher Education	3
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Research Requirement

Students complete at least 24 s.h. from the following. The capstone course PTRS:7900 Rehabilitation Research Capstone Project is recommended but not required for students who enter the program with a master's or doctoral-level degree; however, it is required for students who enter with a bachelor's degree.

Code	Title	Hours
PTRS:7884	Practicum in Research	arr.
PTRS:7895	Advanced Seminar in Rehabilitation Science	arr.
PTRS:7900	Rehabilitation Research Capstone Project	arr.
PTRS:7927	Research in Rehabilitation Science	arr.
PTRS:7930	Critical Thinking in Neuro-Mechanical Systems	arr.
PTRS:7931	Critical Thinking in Pain	arr.
PTRS:7932	Critical Thinking in Biomechanics and Human Performance Assessment	arr.
PTRS:7933	Critical Thinking in Movement Control/Human Performance	arr.
PTRS:7934	Critical Thinking in Neural Plasticity	arr.
PTRS:7935	Critical Thinking in Sports Medicine	arr.
PTRS:7936	Critical Thinking in Cardiovascular Physiology	arr.

PTRS:7990 Thesis: Rehabilitation Science arr.

Specialty Content Requirement

Students must complete at least 9 s.h. in their scientific specialty area. Students may choose courses from the following list, but other courses suited to a student's background knowledge and interest area are considered.

Code	Title	Hours
Anatomy and Cell Biology		
ACB:8401	Advanced Human Anatomy	arr.
Epidemiology		
EPID:6900	Design of Intervention and Clinical Trials	3
Health and Human Physiology		
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6300	Motor Control Seminar	1
HHP:6410	Advanced Exercise Physiology	1,3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6480	Advanced Human Pharmacology	1,3
Neuroscience		
NSCI:7235	Neurobiology of Disease	3
Nursing		
NURS:3460	Professional Role II: Research	3
Occupational and Environmental Health		
OEH:4310	Occupational Ergonomics: Principles	3
OEH:6310	Occupational Ergonomics: Applications	3
Pharmacology		
PCOL:5137	Neurotransmitters	1
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
Physical Therapy		
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:5206	Cardiopulmonary Therapeutics	3
PTRS:6250	Critical Inquiry I: Evidence-Based Practice	2
PTRS:6251	Critical Inquiry II: Rehabilitation Research	2
PTRS:6253	Functional Neuroanatomy	arr.
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3
PTRS:7885	Biomechanical Analysis in Rehabilitation	3

PTRS:7899 Introduction to Pain: Overview of Theories, Concepts, and Mechanisms 1

PTRS:7901 Clinical Correlates of Pain: Syndromes and Management 1

PTRS:7902 Molecular, Cellular, and Neural Mechanisms of Pain 2

PTRS:7903 Rehabilitation Management of Pain 1

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. They should have a cumulative g.p.a. of at least 3.00 and scores at or above the 50th percentile for each section of the Graduate Record Exam (GRE) General Test. A minimum of two years of clinical experience may be considered highly desirable, depending on the research interest area.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Application materials must include a complete Graduate College application form, test scores, transcripts, three letters of recommendation, and a statement of purpose.

Personal interviews are required of all applicants selected for consideration by the admissions committee. On-campus interviews are preferred, but telephone interviews may be substituted when necessary.

Application deadlines are October 15 for spring semester entry (notification by December 15); March 15 for summer entry (notification by May 15); and May 15 for fall semester entry (notification by July 15).

Financial Support

A number of assistantships are available for Ph.D. students. Faculty advisors provide guidance for students seeking external scholarship support through foundations and federal programs that support Ph.D. training.

Career Advancement

The Ph.D. program trains students to obtain positions as professors and researchers in rehabilitation science.

Physician Assistant Studies and Services

Chair

- David P. Asprey

Director

- Anthony E. Brenneman

Director, Clinical Education

- Carol S. Gorney

Director, Curriculum and Evaluation

- Theresa E. Hegmann

Medical Director

- George R. Bergus

Graduate degree: M.P.A.S.

Faculty: <https://medicine.uiowa.edu/pa/physician-assistant-program-faculty>

Website: <https://medicine.uiowa.edu/pa/>

The physician assistant profession is one of the newest and most exciting in health care. Physician assistants (PAs) are licensed to practice medicine with physician supervision. They are responsible for making medical decisions and providing a broad range of diagnostic and therapeutic services.

In the traditional office setting, PAs see patients, obtain histories, perform physical examinations, and order necessary laboratory and/or radiological studies. Based on this information, the PA establishes a diagnosis, develops an appropriate management plan, and initiates treatment that may include prescribing medications. The physician is consulted as needed and remains ultimately responsible for the care provided by the physician/PA team. PAs also are involved in both patient and community health education.

The Department of Physician Assistant Studies and Services is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals.

Programs

Graduate Program of Study

Major

- Master of Physician Assistant Studies [p. 1624]

Courses

Physician Assistant Studies and Services Courses

PA:8211 Clinical Decision Making II 1 s.h.

Core concepts of evidence-based medicine; development of the knowledge and practical skills to search the medical literature for answers to clinical questions and critically appraise the evidence found.

PA:8212 Fundamentals of EKG and ACLS for Physician Assistant Students 2 s.h.

Theory and practice with basic analysis of EKG strips and interpretation, including rhythm disturbances; completion of American Heart Association's Advanced Cardiac Life Support (ACLS) program.

PA:8213 Fundamentals of Radiology for Physician Assistant Students 1 s.h.

Theory and practice for interpretation of radiographs including general radiology, body, chest, musculoskeletal, pediatrics, and neurology. Requirements: enrollment in physician assistant studies and services.

PA:8214 Fundamentals of Clinical Laboratory Medicine for Physician Assistant Students 1 s.h.

Theory and practice of selected clinical laboratory techniques and procedures; emphasis on effective utilization of clinical laboratory in diagnosis and management of disease states. Requirements: enrollment in physician assistant studies and services.

PA:8300 Physician Assistant Clinical Second Year arr.

PA:8301 Seminar for Physician Assistant Students 1 s.h.

Professional issues that affect the physician assistant's practice of medicine.

PA:8302 Physician Assistant Professional and Clinical Skills 1 s.h.

Hands-on experience and activities; suturing, injections, prescription and order writing, medical records, patient confidentiality, Iowa Law governing physician assistant practice, motivational interviewing, toddler and disability exams.

PA:8303 Physician Assistant Senior Capstone 1 s.h.

Demonstration of strong clinical knowledge base and proficiency in basic clinical problem solving; focus on student's ability to think logically and critically, integrate and synthesize knowledge, access evidence-based medical resources, document patient care appropriately, apply clinical knowledge, and demonstrate professional behavior. Requirements: enrollment in physician assistant studies and services.

PA:8304 Emergency Medicine for Physician Assistant Students arr.

Obtaining and recording pertinent historical data, obtaining indicated laboratory studies, assessing the results, arriving at a diagnosis, formulating a treatment plan, implementing appropriate therapy.

PA:8305 Gynecology for Physician Assistant Students 4 s.h.

Opportunity to develop proficiency in history and physical exams of gynecological patients; outpatient, family planning, gynecological cancer, concepts of diagnostic techniques and therapy.

PA:8306 Family Practice I for Physician Assistant Students 4 s.h.

Obtaining and recording complete history and physical exams; formulation of differential diagnosis and problem list; ordering, obtaining, and interpreting lab and diagnostic studies; implementation of therapeutic procedures and treatment plans.

PA:8307 Family Practice II for Physician Assistant Students 4 s.h.

Opportunity to participate in delivery of ambulatory primary care; at a different site from PA:8306.

PA:8308 General Surgery for Physician Assistant Students**6 s.h.**

Preparation for work as an assistant to the generalist; outpatient and inpatient surgical services, including surgical procedures and management of postoperative course.

PA:8309 Internal Medicine for Physician Assistant Students**6 s.h.**

Eliciting a medical history, doing a pertinent physical exam, obtaining indicated lab studies, assessment of results, formulation of management plan and implementation of appropriate therapy for common internal medicine problems.

PA:8310 Pediatrics for Physician Assistant Students

Knowledge and skills required for providing appropriate medical care to infants, children, and adolescents; initiation and promotion of interpersonal relationships.

PA:8311 Psychiatry for Physician Assistant Students**4 s.h.**

Training in history and physical exams of psychiatry patients, including individual and family therapy, vocational testing and guidance, development of interviewing skills.

PA:8312 Long-Term Care for Physician Assistant Students**arr.**

Development of clinical knowledge and skill in diagnosing, treating, and performing procedures for patients of long-term care settings; knowledge of relevant conditions.

PA:8320 Dermatology Elective for Physician Assistant Students**arr.**

Recognizing dermatologic diseases and disorders, instituting appropriate management of patients with dermatologic problems.

PA:8321 Neurology Elective for Physician Assistant Students**arr.**

Performing general and neurological exams, establishing diagnosis, recommending lab studies, instituting appropriate management of common neurological diseases and disorders, recognizing the need for urgent treatment.

PA:8322 Obstetrics for Physician Assistant Students**arr.**

Proficiency in physical exam of OB patients; applying concepts of diagnostic techniques and therapy; following patients' course, including labor, delivery, and postpartum care.

PA:8323 Ophthalmology Elective for Physician Assistant Students**arr.**

Proficiency in recognizing ophthalmology problems; how to institute appropriate management of these conditions.

PA:8324 Otolaryngology Elective for Physician Assistant Students**arr.**

Proficiency in recognizing otolaryngology problems; how to institute appropriate management of these conditions; opportunity for involvement in varied surgical procedures.

PA:8325 Pediatric Elective for Physician Assistant Students**arr.**

Experience working with children and adolescents.

PA:8326 Radiology Elective for Physician Assistant Students**arr.**

Proficiency in systematic evaluation of normal and abnormal routine radiologic examinations; listing indications for special exam procedures, including details of prepping the patient.

PA:8327 Pediatric Elective (Hematology/Oncology) for Physician Assistant Students**arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and management of pre- and post-bone-marrow transplant patients.

PA:8328 Pediatric (Cardiology) Elective for Physician Assistant Students**arr.**

Cardiovascular assessment and problem management of pediatric patients; experience with a range of acute, chronic, common, and rare cardiology diseases.

PA:8329 Psychiatry Elective for Physician Assistant Students**arr.**

Training in evaluation and treatment of psychiatry patients.

PA:8330 Surgery Elective for Physician Assistant Students**arr.**

Experience in a wide range of surgical problems, procedures, and treatments, including diagnosis, care and treatment, and postoperative courses of surgical patients.

PA:8331 Surgery Elective (Transplant/Organ Retrieval) for Physician Assistant Students**arr.**

Extensive experience in care of patients with end-stage organ failure; evaluation of potential transplant candidates, participation in surgical procedures on transplant service.

PA:8332 Surgery Elective (Burn Unit) for Physician Assistant Students**arr.**

Involvement in care on burn unit and in operating room; skills in burn debridement, grafting techniques, skin storage techniques, dressing changes, tub baths, and physical therapy procedures.

PA:8333 Surgery Elective (Cardiac Surgery) for Physician Assistant Students**arr.**

Development of technical skills in operating room; essentials of preoperative evaluation and postoperative management of cardiac surgical patient.

PA:8334 Orthopedics Elective for Physician Assistant Students**arr.**

Recognition of varied orthopedic problems and treatments; musculoskeletal diseases and disorders, both emergencies and common conditions, and how to establish appropriate management.

PA:8335 Internal Medicine Elective for Physician Assistant Students**arr.**

Training in varied internal medicine problems; recognition, appropriate treatment.

PA:8336 Internal Medicine (Cardiology) Elective for Physician Assistant Students**arr.**

Cardiovascular assessment and problem management; experience with wide range of acute, chronic, common, and rare diseases.

PA:8337 Internal Medicine (EKG) Elective for Physician Assistant Students**arr.**

Experience reading electrocardiograms, interpreting cardiac arrhythmias, performing and evaluating EKG stress tests.

PA:8338 Internal Medicine (Gastroenterology) Elective for Physician Assistant Students**arr.**

Experience with a wide range of gastrointestinal pathology; history and physical exams of gastrointestinal diagnostic procedures, follow-up care of patients through outpatient clinics.

PA:8339 Internal Medicine (Oncology) Elective for Physician Assistant Students**arr.**

Experience to develop diagnostic skills in clinical oncology and gain familiarity with methods of staging common cancers; assistance in therapy and outpatient management of cancer patients.

PA:8340 Internal Medicine (Geriatrics) Elective for Physician Assistant Students arr.

Familiarity with broad spectrum of medical conditions among the elderly; experience in history and physical exams, diagnosis of geriatric patients along with follow-up visits.

PA:8341 Internal Medicine (Pulmonary) Elective for Physician Assistant Students arr.

Development of basic clinical knowledge and skills for diagnosis, treatment, and management of pulmonary diseases.

PA:8342 Internal Medicine (Palliative Care/Hospice) Elective for Physician Assistant Students arr.

Work on a hospice care team performing evaluation, treatment, and education of patients with terminal illnesses; dealing with the prospect of death.

PA:8343 Internal Medicine (Infectious Disease) Elective for Physician Assistant Students arr.

Development of basic clinical knowledge and skills for diagnoses, treatment, and management of infectious diseases.

PA:8345 Urology Elective for Physician Assistant Students arr.

Proficiency in managing patients with urologic conditions; skill in taking a urologic history, performing physical exams, interpreting laboratory studies and data.

PA:8346 Family Practice Elective for Physician Assistant Students arr.

Proficiency in delivering ambulatory primary care.

PA:8347 Gynecology Elective (Women's Health) for Physician Assistant Students arr.

Experience in annual gynecologic exams, PAP screening, gynecology problems, contraception issues, STD screening and counseling, common gynecologic procedures.

PA:8348 Migrant Health Elective for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions related to environmental exposure in migrant worker populations.

PA:8349 Occupational Medicine Elective for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of work-related diseases, injuries, and conditions related to environmental exposure.

PA:8350 Pediatrics (Neonatology) Elective for Physician Assistant Students arr.

Basic clinical knowledge and skill for diagnosis, treatment, and management of critically ill infants.

PA:8351 Internal Medicine (Rheumatology) for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis, treatment, and management of rheumatologic diseases.

PA:8352 Medical Intensive Care for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis, treatment, and management of critically ill patients.

PA:8353 International Medicine for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions relevant to international medicine.

PA:8354 Interventional Radiology for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis and treatment of conditions requiring interventional therapy.

PA:8355 Gynecologic Oncology Elective for Physician Assistant Students arr.

Experience developing diagnostic skills in clinical gynecologic oncology, learning methods of staging specific cancers; and assisting in therapy and outpatient management of patients with varied cancers.

PA:8356 Wilderness Medicine for Physician Assistant Students arr.

Four-week emergency medicine elective taken in conjunction with Carver College of Medicine; mix of didactic and experiential learning; ten-day trip to Colorado to learn about hypothermia, altitude medicine, search and rescue, field evaluation, treatment and evacuation of common back country injuries; lectures and simulations.

PA:8357 Physician Assistant Transitions to Clinical Rotations 1 s.h.

Additional didactic and hands-on skills essential for preparation prior to core and elective clinical rotations. Requirements: enrollment in physician assistant studies and services.

PA:8358 Internal Medicine (Endocrinology) Elective for Physician Assistant Students arr.

Basic clinical knowledge and skills for diagnosis treatment and management for common endocrinology diseases.

PA:8359 Surgery Elective for Physician Assistant Students (Plastics and Reconstruction) arr.

Experience in a wide range of surgical problems, procedures, and treatments in medical reconstruction, plastics, and trauma; includes diagnosis, care and treatment, and postoperative courses for surgical patients.

PA:8360 Physician Assistant Summer Clinicals 6 s.h.

Clinical course for physician assistant students during their second summer session.

PA:8361 Physician Assistant Remediation and Self Study arr.

Completion of remediation or self-study program requirements.

Master of Physician Assistant Studies, M.P.A.S.

The Master of Physician Assistant Studies (M.P.A.S.) program emphasizes primary care medicine, particularly family medicine. It also offers elective clinical rotations in selected medical subspecialties. Students who complete the program are eligible to take the National Certifying Examination for Primary Care Physician Assistants, which they must complete successfully in order to register as physician assistants in the United States.

The Department of Physician Assistant Studies and Services is accredited by the Accreditation Review Commission on Education for the Physician Assistant and is a member of the Physician Assistant Education Association.

Requirements

The Master of Physician Assistant Studies requires a minimum of 114 s.h. of credit. The curriculum spans 28 months and consists of a preclinical phase and a clinical phase. The program begins in August.

The Master of Physician Assistant Studies requires the following work.

Preclinical Curriculum

The M.P.A.S. program's preclinical phase is built on a triple-helix model whose three strands consist of clinical and professional skills (CAPS), mechanisms of health and disease (MOHD), and medicine and society (MAS). The strands are interwoven, assuring that their material is integrated and revisited throughout the preclinical phase, so that students' understanding and mastery of the material deepens progressively.

The preclinical curriculum consists of the following courses.

Human Anatomy and Foundations of Life

ACB:8101 Medical Gross Human Anatomy involves complete dissection of the human body. Students learn to identify the human body's components and learn how their structures and locations relate to their functions. They also learn much of the language they will need in order to communicate accurately and specifically with patients and other physicians.

MED:8123 Foundations of Cellular Life covers genetics, embryology, molecular biology, biochemistry, cell biology, and histology. Students learn the molecular events required for cellular life and how cells grow and interact to form the basic tissues of the human body. This course provides the necessary framework students will need in order to begin the mechanisms of health and disease series.

Clinical and Professional Skills

The clinical and professional skills (CAPS) strand provides students with the knowledge, skills, and attitudes required for professional development and clinical excellence, including the sense of inquiry and lifelong habits of skill acquisition, self-assessment, and reflective practice. CAPS features developmental learning through increasingly challenging

experiences across the curriculum, repeated practice opportunities, observation and feedback, and self-directed learning and reflection. CAPS requires the following three courses.

MED:8121 Clinical and Professional Skills I introduces students to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice as well as the principles of biomedical ethics. The Longitudinal Clinical Mentor (LCM) program allows early clinical interactions and helps place classroom experiences into the context of patient care. Through interactions with students from other health sciences colleges, M.P.A.S. students begin to explore the interprofessional approach to caring for patients.

MED:8131 Clinical and Professional Skills II reinforces clinical reasoning concepts from MED:8121 and introduces additional elements of clinical reasoning, which are practiced through interactions with standardized patients and through Longitudinal Clinical Mentor clinical visits. The varied experiences help students gain a deeper appreciation for issues in biomedical ethics. As part of interprofessional education, students focus on the strengths and barriers involved in providing comprehensive interdisciplinary patient care.

MED:8221 Clinical and Professional Skills III develops advanced clinical reasoning skills through focused patient encounters and interactions with special patient populations. Emphasis is on students' ability to integrate and use concepts from the other curricular strands that are required for cost-conscious, patient-centered, interdisciplinary care.

Mechanisms of Health and Disease

The mechanisms of health and disease (MOHD) strand focuses on multisystem mechanisms. MOHD requires the following five courses.

MED:8124 Mechanisms of Health and Disease I covers normal and healthy processes within and among the mechanisms of oxygenation, metabolism, and genetics/development.

MED:8133 Mechanisms of Health and Disease II covers normal and healthy processes within and among the mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8134 Mechanisms of Health and Disease III covers abnormalities or disruptions leading to disease within and among the mechanisms of oxygenation, metabolism, and genetics/development.

MED:8223 Mechanisms of Health and Disease IV covers abnormalities or disruptions leading to disease within and among the mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8224 Mechanisms of Health and Disease Keystone provides a transition from classroom instruction in MED:8124, MED:8133, MED:8134, and MED:8223 to clinical practice. Foundational information from those courses is approached from the perspective of common clinic encounters. Students make diagnostic and management decisions about common important clinical problems using the foundational knowledge they gained from those courses.

Medicine and Society

The medicine and society (MAS) strand teaches students about disease prevention, health promotion services, public health, epidemiology, health services organizations and

delivery, and community dimensions of medical practice. MAS requires the following three courses.

MED:8122 Medicine and Society I introduces social determinants of health. Students investigate the influence and impact of culture and the community on health care, learn about community resources, and apply health and risk assessment to individual patients and to themselves.

MED:8132 Medicine and Society II focuses on public health and epidemiology, with attention to screening, global health, and environmental hazards.

MED:8222 Medicine and Society III focuses on health services organization and delivery, with emphasis on community dimensions of medical practice and patient safety.

Foundational Clinical Experience

The foundational clinical experience consists of a six-week summer session that includes preclinical workshop material in cardiology and radiology. Students complete a two-week introduction to clinical medicine before beginning the clinical rotations. Foundational clinical experience requires the following five courses.

Code	Title	Hours
PA:8212	Fundamentals of EKG and ACLS for Physician Assistant Students	2
PA:8213	Fundamentals of Radiology for Physician Assistant Students	1
PA:8214	Fundamentals of Clinical Laboratory Medicine for Physician Assistant Students	1
PA:8301	Seminar for Physician Assistant Students	1
PA:8302	Physician Assistant Professional and Clinical Skills	1

Clinical Curriculum

The program's second phase concentrates on clinical education. Students complete four weeks of preclinical workshops and rotations and a 36-week core of required primary care clinical rotations, including general internal medicine, surgery, family medicine, pediatrics, emergency medicine, gynecology, and psychiatry. Students then select eight weeks of electives, which may include rotations such as geriatrics, cardiology, dermatology, and orthopedics.

The primary care clinical rotations are designed to provide instruction and experience in caring for patients in a way that enables students to integrate the knowledge, skills, behaviors, and attitudes they learned in the program's didactic phase. Clinical training is provided at University of Iowa Hospitals and Clinics, the Iowa City VA Health Care System, the VA Central Iowa Health Care System and Broadlawns Medical Center in Des Moines, and other affiliated hospitals throughout Iowa. In elective rotations, students gain additional clinical experience through placement with selected preceptors involved in office-based practices, typically in medically underserved rural areas.

Students also complete a master's degree project as part of the clinical curriculum.

Required Clinical Rotation

The following clinical rotations are required.

Code	Title	Hours
PA:8304	Emergency Medicine for Physician Assistant Students	4
PA:8305	Gynecology for Physician Assistant Students	4
PA:8306	Family Practice I for Physician Assistant Students	4
PA:8307	Family Practice II for Physician Assistant Students	4
PA:8308	General Surgery for Physician Assistant Students	6
PA:8309	Internal Medicine for Physician Assistant Students	6
PA:8310	Pediatrics for Physician Assistant Students	4
PA:8311	Psychiatry for Physician Assistant Students	4

Elective Clinical Rotations

Students select elective clinical rotations from these.

Code	Title	Hours
PA:8320	Dermatology Elective for Physician Assistant Students	arr.
PA:8321	Neurology Elective for Physician Assistant Students	arr.
PA:8322	Obstetrics for Physician Assistant Students	arr.
PA:8323	Ophthalmology Elective for Physician Assistant Students	arr.
PA:8324	Otolaryngology Elective for Physician Assistant Students	arr.
PA:8325	Pediatric Elective for Physician Assistant Students	arr.
PA:8326	Radiology Elective for Physician Assistant Students	arr.
PA:8327	Pediatric Elective (Hematology/Oncology) for Physician Assistant Students	arr.
PA:8328	Pediatric (Cardiology) Elective for Physician Assistant Students	arr.
PA:8329	Psychiatry Elective for Physician Assistant Students	arr.
PA:8330	Surgery Elective for Physician Assistant Students	arr.
PA:8331	Surgery Elective (Transplant/Organ Retrieval) for Physician Assistant Students	arr.
PA:8332	Surgery Elective (Burn Unit) for Physician Assistant Students	arr.
PA:8333	Surgery Elective (Cardiac Surgery) for Physician Assistant Students	arr.
PA:8334	Orthopedics Elective for Physician Assistant Students	arr.

PA:8335	Internal Medicine Elective for Physician Assistant Students	arr.
PA:8336	Internal Medicine (Cardiology) Elective for Physician Assistant Students	arr.
PA:8337	Internal Medicine (EKG) Elective for Physician Assistant Students	arr.
PA:8338	Internal Medicine (Gastroenterology) Elective for Physician Assistant Students	arr.
PA:8339	Internal Medicine (Oncology) Elective for Physician Assistant Students	arr.
PA:8340	Internal Medicine (Geriatrics) Elective for Physician Assistant Students	arr.
PA:8341	Internal Medicine (Pulmonary) Elective for Physician Assistant Students	arr.
PA:8342	Internal Medicine (Palliative Care/Hospice) Elective for Physician Assistant Students	arr.
PA:8343	Internal Medicine (Infectious Disease) Elective for Physician Assistant Students	arr.
PA:8345	Urology Elective for Physician Assistant Students	arr.
PA:8346	Family Practice Elective for Physician Assistant Students	arr.
PA:8347	Gynecology Elective (Women's Health) for Physician Assistant Students	arr.
PA:8348	Migrant Health Elective for Physician Assistant Students	arr.
PA:8349	Occupational Medicine Elective for Physician Assistant Students	arr.
PA:8350	Pediatrics (Neonatology) Elective for Physician Assistant Students	arr.
PA:8351	Internal Medicine (Rheumatology) for Physician Assistant Students	arr.
PA:8352	Medical Intensive Care for Physician Assistant Students	arr.
PA:8353	International Medicine for Physician Assistant Students	arr.
PA:8354	Interventional Radiology for Physician Assistant Students	arr.
PA:8355	Gynecologic Oncology Elective for Physician Assistant Students	arr.

Admission

Applicants must:

- be citizens or permanent residents of the United States;
- hold a baccalaureate degree from an accredited institution in the United States (the degree does not have to be

completed at the time of admission, but must be conferred prior to the start of the program)*;

- have a minimum cumulative g.p.a. of 3.00 on a 4.00 scale;
- have a minimum overall science g.p.a. of 3.20 on a 4.00 scale or a science g.p.a. of at least 3.20 on a 4.00 scale on the most recent 40 s.h. of college-level, science-based course work (science courses are subject to department approval);
- have completed the prerequisite courses no more than 10 years before they apply and all courses must be taken for letter grades (see "Prerequisite Science Courses" below);
- have taken the Graduate Record Examination (GRE) General Test no more than 10 years before they apply (must score at the 25th percentile or higher in each of the individual sections—quantitative, verbal, and analytical) or the Medical College Admission Test (MCAT) no more than 10 years before they apply (no minimum MCAT score is required at this time);
- have completed a minimum of 1,000 hours of direct patient health care experience by December 31 of the application year (hours subject to departmental approval and applicants can be awarded between 0-100 percent of hours completed);
- submit three letter of recommendations (one must be from a collegiate academic reference and one must be from a health care supervisor (shadowing experience does not count, but may be used for the third recommendation letter));
- meet the admission requirements of the Graduate College (see the Manual of Rules and Regulations of the Graduate College);
- have taken the Test of English as a Foreign Language (TOEFL) if English is not their native language (only the internet-based test will be accepted and applicants must have a total score of at least 93 with a speaking score of at least 26)**; and
- be able to meet the program's technical standards (see "Technical Standards" below).

*International applicants will have their credentials reviewed for degree completion and equivalency.

**International applicants who do not speak English as their native language should have TOEFL scores sent from the Educational Testing Service (ETS) to the Department of Physician Assistant Studies and Services. The TOEFL requirement may be waived for applicants with a master's or doctoral degree from an accredited U.S. institution.

Prerequisite Science Courses

Applicants must have completed preparatory science courses in biological, chemical, and statistical sciences. Prerequisite courses can be in progress at the time of admission unless stated below. Science-based courses are subject to the approval by the Physician Assistant Studies and Services Program.

Biological Science

These courses are required:

An introductory biology or zoology course sequence (minimum of a two semester sequence unless otherwise approved).

An animal, exercise, or human physiology course.

A minimum of three additional upper-level biological science courses. To qualify as upper level, the biological

science courses must require a prerequisite course to enroll. Courses that have been used to satisfy this requirement include cell biology, cell physiology, endocrinology, genetics, histology, immunology, microbiology, molecular biology, neurobiology, pharmacology, and other related disciplines.

Chemical Science

These courses are required:

An introductory chemistry course sequence (a minimum of a two-semester sequence, unless otherwise approved).

At least one semester of organic chemistry (must be at a higher level than a survey of organic chemistry course).

At least one semester of biochemistry (must be at a higher level than a survey of biochemistry course and should be completed at the time of application).

Statistical Science

This course is required:

Any course with a statistical focus, such as a general, introductory, psychological, or business statistics course; or biostatistics; or a qualitative research methods course.

Satisfaction of the basic admission requirements does not ensure acceptance to the program. The admission committee selects the applicants it considers best qualified. The admission committee requests interviews with the most qualified applicants.

Technical Standards

Individuals admitted to the Department of Physician Assistant Studies and Services must possess the capability to complete the entire curriculum and earn the Master of Physician Assistant Studies (M.P.A.S.) degree. The curriculum requires demonstrated proficiency in a variety of cognitive, problem solving, manipulative, communicative, and interpersonal skills. Thus, the following abilities and expectations must be possessed by students admitted to the program.

Applicants must:

- be able to observe and participate in all demonstrations and experiments in the basic sciences, including computer-assisted instruction;
- be able to learn to analyze, synthesize, solve problems, and reach diagnostic and therapeutic judgments;
- have sufficient use of the senses of vision and hearing necessary to directly perform a physical examination that include inspection, palpation, auscultation, and percussion;
- be able to relate reasonably to patients and establish a sensitive, professional, and effective relationship with patients;
- be able to communicate the results of the examination to the patient and to their colleagues with accuracy, clarity, and efficiency;
- possess the ability to work collaboratively with all members of the health care team;
- be able to learn and perform routine laboratory tests, and diagnostic and therapeutic procedures;
- be able to display good judgment in the assessment and treatment of patients that includes being able to learn and demonstrate the ability to recognize

limitations in their knowledge, skills, and abilities and to seek appropriate assistance with their identified limitations;

- be able to learn to respond with precise, quick, and appropriate action in emergency situations;
- be able to accept criticism and adopt appropriate modifications in their behavior; and
- possess the perseverance, diligence, and consistency to complete the physician assistant curriculum and enter into the practice of medicine as a certified and licensed physician assistant.

Application Timeline and Process

Applications are accepted from the end of April to October 15 for entry into the program the following August. Applicants must apply through the Central Application Service for Physician Assistants (CASPA).

The admission committee prefers that the majority of prerequisite course requirements be completed by the October 15 application deadline date.

All materials must be received and verified by CASPA, and all additional information requested by the Physician Assistant Studies and Services Program submitted by the October 15 deadline.

All final decisions related to admission deadlines, process, and decisions regarding admission are up to the department administrator, in collaboration with the admission committee.

Career Advancement

Physician assistants work in a variety of settings, including medical offices, hospital emergency rooms, nursing homes, rural satellite clinics, health maintenance organizations, and patients' homes.

Psychiatry

Chair

- Peggy C. Nopoulos

Faculty: <https://medicine.uiowa.edu/psychiatry/people/primary-appointments>

Website: <https://medicine.uiowa.edu/psychiatry/>

The Department of Psychiatry teaches M.D. students, principally during their third year, and trains resident physicians for academic and clinical careers in psychiatry.

Research

Department of Psychiatry staff members are involved in genetic and family studies of psychiatric disorders and research in genetic and biological psychiatry, neurochemistry, neuroimaging, neurophysiology, neuropsychiatry, and psychosocial aspects of behavior.

The department's students and residents have many research opportunities in psychiatry and in the basic science areas of neurochemistry, neurophysiology, and electrophysiology. The clinical areas of psychology, child psychiatry, and psychotherapy also offer opportunities for research and further study to a limited number of students.

Residency

The department offers a four-year training program approved by the Residency Review Committee of the American Medical Association. Training experiences are available at University of Iowa Hospitals and Clinics and at the Iowa City VA Health Care System. Additional experiences are available at affiliated institutions: Broadlawns Medical Center in Des Moines, the Iowa Medical and Classification Center at Oakdale, the Community Mental Health Center for Mid-Eastern Iowa in Iowa City, and the Independence Mental Health Institute (Iowa Department of Human Services).

The department also offers an approved two-year residency in child psychiatry. Fellowships in geriatrics and psychosomatic medicine are available after residency training.

Courses

Psychiatry Courses

- PSYC:8267 Psychiatric Epidemiology** 3 s.h.
Population-based studies of psychiatric disorders and associated etiologic tools; diagnostic criteria used in psychiatric research, common structured interviews and rating scales; recent research relevant to common psychiatric disorders; experience writing a research idea using NIH PHS grant form. Recommendations: EPID:6400 or two years of resident training in psychiatry. Same as EPID:6670.
- PSYC:8301 Clinical Psychiatry** 4 s.h.
Requirements: third-year M.D. enrollment.
- PSYC:8401 Adult Psychiatry, Pappajohn Pavilion** arr.
Requirements: M.D. enrollment.
- PSYC:8402 Child Psychiatry, Pappajohn Pavilion** arr.
Roles of child psychiatry as a consultation service. Requirements: M.D. enrollment.

PSYC:8403 Adult Outpatient Psychiatry and Psychotherapy 2,4 s.h.

Diagnostic assessment, evaluation, treatment of psychiatric patients; exposure to both psychotherapeutic, psychopharmacologic treatments. Requirements: M.D. enrollment.

PSYC:8404 Women's Wellness and Counseling Service 4 s.h.

Experience evaluating and treating women with mental illness, with some emphasis on practitioner's autonomy; four-week rotation. Requirements: psychiatry clerkship.

PSYC:8405 Subinternship in Medical Psychiatry 4 s.h.

Hands-on experience in evaluation and treatment of patients with combined medical and psychiatric disease; decisions regarding appropriate consultations, diagnostic tests, treatment; etiology and pathophysiology. Requirements: M.D. enrollment.

PSYC:8408 Subinternship in Mood/Psychotic Disorders 4 s.h.

Subinternship in adult psychiatry; experiences that maximize autonomy and responsibility; inpatient rotation focuses on one subspecialty area (psychotic disorders or mood disorders); emphasis on substantial medical comorbidity; assess and address medical and psychiatric needs of assigned patients in a collaborative and integrative fashion; assess and manage patients independently at the level of a psychiatry intern, reporting directly to the attending; call is required; didactic curriculum focuses on critical appraisal of medical literature. Prerequisites: PSYC:8301. Requirements: fourth-year M.D. enrollment.

PSYC:8409 Eating Disorders 2,4 s.h.

Inpatient rotation; emphasis on co-occurring psychiatric and comorbid medical conditions associated with eating disorders; patient assessment and management at an advanced level; direct patient care and engagement in clinical decision making for complex patients with substantial comorbidity; call is required; student experience maximizes autonomy and responsibility; didactic curriculum; focus on critical appraisal of relevant medical literature. Prerequisites: PSYC:8301. Requirements: fourth-year M.D. enrollment.

PSYC:8410 Intellectual Disability 2,4 s.h.

In-depth two week clinical experience in the interdisciplinary approach to assessment and management of individuals with intellectual disability. Requirements: M.D. enrollment.

PSYC:8411 Substance Abuse 2,4 s.h.

In-depth clinical experience in assessment and management of individuals with alcohol and drug abuse. Requirements: M.D. enrollment.

PSYC:8412 Emergency Psychiatry 2,4 s.h.

In-depth clinical experience in assessment and management of acute psychiatric illness under supervision of faculty with expertise in care within this setting; clinical experiences centered in emergency department at University of Iowa Hospitals and Clinics. Prerequisites: PSYC:8301. Requirements: third- or fourth-year M.D. enrollment.

PSYC:8413 The Thriving Physician 2 s.h.

Two-week elective for medical students in their clinical years; designed to promote awareness, wellbeing, compassion, and career satisfaction through contemplative practices and the integration of concepts of positive psychology into daily living; through readings, discussions, and experiential activities, physicians-in-training will learn how to engage in reflective personal and professional self-care; classes will be half-day in length with time outside of class dedicated to practicing and incorporating skills into everyday activities. Requirements: M.D. enrollment.

PSYC:8414 Consultation Psychiatry 2,4 s.h.

Opportunity for in-depth clinical experience in psychiatric assessment and management of general medical and surgical patients; elective clerks serve on consultation-liaison psychiatry teams at the University of Iowa Hospitals and Clinics and the Iowa City Veterans Affairs Health Care System; may include opportunities for outpatient work in relevant settings (e.g., emergency psychiatry, outpatient clinics providing integrated psychiatric and medical care). Requirements: M.D. enrollment.

PSYC:8450 Continuity of Care in Psychiatry 4 s.h.

Experience in Psychiatry Continuity of Care Clinic; maximizes autonomy and responsibility in an outpatient continuous care setting. Requirements: fourth-year M.D. enrollment.

PSYC:8497 Research Psychiatry arr.

Experience and training in practical application of scientific methodology; work with research project at psychiatric service or affiliated cooperating research centers. Requirements: fourth-year M.D. enrollment.

PSYC:8498 Psychiatry On Campus arr.

Arranged by student with departmental approval. Requirements: M.D. enrollment.

PSYC:8499 Psychiatry Off Campus arr.

Requirements: M.D. enrollment.

Radiation Oncology

Chair

- John M. Buatti

Director, Medical Physics Residency Program

- Daniel E. Hyer

Director, Physician Residency Program

- Carryn M. Anderson

Faculty: <https://medicine.uiowa.edu/radiationoncology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/radiationoncology/>

Radiation oncology specializes in the delivery of radiation treatments for cancer patients. It includes treatments with linear accelerators as well as isotopes and temporary and permanent surgically implanted sources. Radiation oncologists also use these methods to treat some benign diseases, such as Graves' ophthalmopathy and trigeminal neuralgia.

The Department of Radiation Oncology is dedicated to educating undergraduate and graduate students, M.D. and other health professions students, and residents. Its faculty members provide instruction for Doctor of Philosophy students in the Free Radical and Radiation Biology [p. 1564] Program through their participation in FRRB:3110 Medical Physics I, FRRB:3215 Medical Physics II, FRRB:5000 Radiation Biology, FRRB:7000 Redox Biology and Medicine, and FRRB:7001 Molecular and Cellular Biology of Cancer.

The department's professional staff provides training in radiation therapy technology for undergraduate students in the Radiation Sciences [p. 1631] Program by teaching courses RSTH:3120 Radiation Therapy Clinical Internship I, RSTH:3225 Radiation Therapy Clinical Internship II, RSTH:3325 Radiation Therapy Clinical Internship III, RSTH:4125 Radiation Therapy Clinical Internship IV, and RSTH:4225 Radiation Therapy Clinical Internship V.

The department also offers specialized research projects and sponsors postdoctoral students in biology, physics, and clinical disciplines by arrangement with the instructor or mentor.

Residency

The department provides a four-year physician residency training program in radiation oncology that includes clinical care and education. It also has a residency program in medical physics.

M.D. students can elect a four-week radiation oncology rotation and/or a two-week multidisciplinary cancer care elective. Nursing students, dental residents, and fellows in gynecologic oncology and in adult and pediatric hematology and oncology complete rotations in the department.

Courses

Radiation Oncology Courses

RADO:8401 Radiation Oncology for Medical Students **4 s.h.**

Integration of clinical oncology, physics, and cancer biology; clinical work with faculty mentors; experience in clinical evaluation, technical physics, biological application.

RADO:8497 Research in Radiation Oncology **arr.**
Medical research, clinical or laboratory projects; individual study.

RADO:8498 Radiation Oncology Research **arr.**
Arranged by student with department approval.

RADO:8499 Radiation Oncology Off Campus **arr.**
Arranged by student with department approval.

Radiation Sciences

Director, Undergraduate Program

- Anthony W. Knight

Director, Diagnostic Medical Sonography Program

- Stephanie Ellingson

Director, Radiation Therapy Program

- Jared L. Stiles

Director, Radiologic Technology Program

- Jean E. Wiese

Director, Student Affairs

- Jennifer J. Maiers

Undergraduate major: radiation sciences (B.S.)

Website: <https://medicine.uiowa.edu/radsci/>

Radiation sciences professionals work with physicians to gather accurate patient information for diagnosis, treatment, and/or research of disease and injury. They provide direct patient care, produce quality images, and deliver treatment using a variety of radiation sources. The radiation sciences professional must apply knowledge, skill, and mature judgment while operating complex equipment safely and efficiently. Strong communication, organizational, and patient care skills are essential for a successful career in radiation sciences.

The University of Iowa's radiation sciences educational programs are designed to provide students with opportunities for intellectual, professional, and social growth. Students learn with faculty members and instructors who are committed to radiation sciences education.

Radiation sciences is one of two undergraduate majors in the field of medical imaging offered by the Carver College of Medicine. It encompasses radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, diagnostic medical sonography, and radiation therapy programs. The other undergraduate major in medical imaging is nuclear medicine technology; see Nuclear Medicine Technology [p. 1589] in the Catalog.

The Carver College of Medicine is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals and Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine [p. 1525] in the Catalog.

Programs

Undergraduate Program of Study

Major

- Major in Radiation Sciences (Bachelor of Science) [p. 1638]

Courses

- Cardiovascular Interventional Program Courses [p. 1631]
- Computed Tomography Program Courses [p. 1632]
- Magnetic Resonance Program Courses [p. 1633]

- Diagnostic Medical Sonography Program Courses [p. 1633]
- Radiation Sciences Program Courses [p. 1635]
- Radiologic Technology Program Courses [p. 1636]
- Radiation Therapy Courses [p. 1637]

Cardiovascular Interventional Program Courses

RSCI:4110 Vascular Anatomy 3 s.h.

Normal arterial and venous anatomy of the circulatory system, illustrated through angiographic, magnetic resonance imaging (MRI), and computed tomography (CT) images; common variants. Prerequisites: ACB:3113 or ACB:3110 or HHP:1100 or ACB:1199 or HHP:1150.

RSCI:4120 CVI Principles 4 s.h.

Imaging and accessory equipment for vascular interventional and cardiac interventional procedures; imaging equipment quality control; fundamental principles of vascular and cardiac procedures; patient preparation and care, radiation safety, contrast medium, pharmacology, and sedation. Corequisites: RSCI:4110. Requirements: acceptance to B.S. radiation science RT/CVI track or ARRT primary RT certification.

RSCI:4130 Electrocardiogram and Hemodynamics 3 s.h.

ECG analysis, hemodynamic principles and waveform analysis, cardiac output, vascular resistance, calculations of stenotic valves. Prerequisites: ACB:3113 or ACB:3110 or ACB:1199 or HHP:1100.

RSCI:4140 CVI Peripheral Procedures and Pathology 3 s.h.

Angiographic and interventional procedures of the abdomen, thorax, and upper and lower extremities; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120, if not taken as a prerequisite. Requirements: RSCI:4110 or three months CVI experience.

RSCI:4150 CVI Neurology and Nonvascular Procedures and Pathology 3 s.h.

Angiographic and interventional procedures of the head and neck; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120, if not taken as a prerequisite. Requirements: RSCI:4110 or three months CVI experience.

RSCI:4160 CVI Cardiac Procedures and Pathology 4 s.h.

Cardiac diagnostic and interventional procedures; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120 and RSCI:4130, if not taken as prerequisites. Requirements: RSCI:4110 or three months CVI experience.

RSCI:4170 Cardiac Interventional Clinical Internship 4 s.h.

Scheduled cardiac-interventional clinical time at UI Hospitals and Clinics and Mercy Hospital, Iowa City; rotations in adult cardiac, electrophysiology, and pediatric catheterization; competency and objective-based education provided with clinical performance evaluations and constructive feedback from CI staff and clinical coordinator; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies. Corequisites: RSCI:4130 and RSCI:4160, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/CVI track.

RSCI:4180 Vascular Interventional Clinical Internship 4 s.h.

Scheduled vascular-interventional clinical time at UI Hospitals and Clinics; labs specialize in peripheral, neuro- and non-vascular procedures; competency and objective-based education; clinical performance evaluations providing constructive feedback from VI staff and clinical coordinator; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies. Corequisites: RSCI:4140 and RSCI:4150, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/CVI track.

RSCI:4190 CVI Clinical Internship 2 s.h.

Introduction to VI and CI labs, including basic set up, equipment, and procedures; preparation to spend more concentrated time in each area for future internships; provides 192 hours of clinical experience over a 12-week period. Requirements: acceptance to radiation sciences RT/CVI degree track or CVI clinical internship.

Computed Tomography Program Courses

RSCT:4100 Sectional Anatomy for Imaging Sciences 3 s.h.

Sectional anatomy identifiable on computed tomography and magnetic resonance imaging, including transverse, coronal, and sagittal planes. Prerequisites: ACB:1199 or HHP:1100 or ACB:3110 or ACB:3113 or HHP:1150.

RSCT:4105 Computed Tomography Clinical Internship I 1 s.h.

Clinical internship scheduled at UI Hospitals and Clinics; rotation through CT scanners, 3-D lab, and radiation therapy departments; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as student gains experience and skills. Requirements: acceptance to B.S. radiation sciences RT/CT track.

RSCT:4110 CT/MRI Pathology 3 s.h.

Common pathological conditions found in CT and MRI images; protocol appearance variations; units of CNS, musculoskeletal, neck/thorax, and abdominopelvic pathology; textbook readings, in-class discussions, special projects including case studies and presentations. Requirements: concurrent enrollment in RSCT:4100, if not taken as a prerequisite, or at least 3 months fulltime CT/MRI clinical experience.

RSCT:4115 Computed Tomography Clinical Internship II 3 s.h.

CT scanners, 3-D lab, and radiation therapy department rotation at University of Iowa Hospitals and Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4105.

RSCT:4120 Computed Tomography Procedures I 3 s.h.

Computed tomography procedures of the head, neck, thorax, mediastinum, abdomen, and pelvis; positioning techniques, patient preparation, monitoring and care, indications and contraindications for procedures; contrast media usage; basic protocol information with adjustments to tailor procedures for patient's indications; brief units on patient care relevant to CT; CT parameters and equipment. Corequisites: RSCT:4100. Requirements: acceptance to B.S. radiation sciences RT/CT track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

RSCT:4125 Computed Tomography Procedures II 3 s.h.

Imaging information in musculoskeletal exams, 3-D reconstruction, CTAs; cardiac, including gating, biopsies, drains, post-myelography, radiation therapy planning, and 4-D imaging; CT arthrography, PET/CT, SPECT/CT, virtual colonoscopy; procedure indications and contraindications, patient and room preparation, positioning techniques, contrast media usage, and scan parameters; basic protocol information and how to tailor procedures to a patient's indications. Prerequisites: RSCT:4120. Corequisites: RSCI:4110, if not taken as a prerequisite.

RSCT:4130 Computed Tomography Physical Principles and QC 4 s.h.

Physical principles and instrumentation; historical development and evolution of CT; characteristics of radiation, beam attenuation, linear attenuation coefficients, tissue characteristics, Hounsfield numbers, data acquisition, image manipulation techniques, tube configuration, collimation design and function, detectors, image quality factors, functions of CT computer and array processor; image processing and display examined from data acquisition through postprocessing and archiving; radiation protection practices and QC. Requirements: acceptance to B.S. radiation sciences RT/CT degree track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

RSCT:4140 Computed Tomography Clinical Internship 6 s.h.

Completion of clinical documentation needed to take the ARRT certification examination in computed tomography; 32 hours per week in UI Healthcare's computed tomography department. Corequisites: RSCT:4120 and RSCT:4130, if not taken as prerequisites. Requirements: ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy; and acceptance to CT internship.

RSCT:4215 Computed Tomography Clinical Internship III 3 s.h.

CT scanners, 3-D lab, and radiation therapy department rotation at University of Iowa Hospitals and Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4115.

Magnetic Resonance Imaging Program Courses

RSMR:4110 Fundamentals for the MRI Technologist

3 s.h.

Care-giving skills specific to patients undergoing MRI examinations, including techniques in effectively communicating for safety and comfort; maintaining patient and personnel safety; patient preparation, monitoring, and venipuncture; technologist's role in a wide variety of MRI examinations and patient conditions. Requirements: acceptance to B.S. radiation sciences RT/MRI track or ARRT primary certification in radiologic technology, nuclear medicine, sonography, or radiation therapy.

RSMR:4120 MRI Procedures I

4 s.h.

Imaging techniques related to central nervous and musculoskeletal systems; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria; anatomical structures and the plane that best demonstrates anatomy; signal characteristics of normal and abnormal structures. Prerequisites: RSCT:4100 and RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

RSMR:4130 MRI Procedures II

3 s.h.

MRI techniques related to neck, thorax, breast, abdomen, and pelvis; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria. Prerequisites: RSMR:4120.

RSMR:4140 MRI Acquisition and Principles I

3 s.h.

Physics and hardware used in obtaining a magnetic resonance signal, including magnetism, NMR signal production, tissue characteristics, spatial localization, pulse sequencing, imaging parameters and options, and special applications; exploration of skills useful in maximizing MR image quality. Prerequisites: RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

RSMR:4150 MRI Acquisition and Principles II

3 s.h.

Advanced MRI techniques; MR angiography and further investigation of fast image acquisition sequences; overview of MR magnets, installation, operation, and facility design; computers and digital image acquisition as they apply to MR; outline of quality assurance procedures. Prerequisites: RSMR:4140.

RSMR:4160 MRI Clinical Internship I

2 s.h.

MRI clinical internship scheduled at UI Hospitals and Clinics; rotation through each MRI department scanning room; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as student gains experience and skills. Prerequisites: RSMR:4110. Corequisites: RSMR:4120 and RSMR:4140, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

RSMR:4170 MRI Clinical Internship II

3 s.h.

MRI clinical internship scheduled at UI Hospitals and Clinics; rotation through each MRI department scanning room; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as student gains experience and skills. Prerequisites: RSMR:4160. Corequisites: RSMR:4140, if not taken as a prerequisite. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

RSMR:4175 MRI Clinical Internship III

4 s.h.

Rotation through MRI department scanning rooms at University of Iowa Hospitals and Clinics; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSMR:4170.

Diagnostic Medical Sonography Courses

RSMS:3100 Cardiac Sonography I

3 s.h.

Anatomy and physiology of cardiovascular system imaged sonographically; proper sonographic imaging techniques, normal anatomy, exam protocol, and proper instrument settings; pathology and pathophysiology of common conditions related to adult cardiovascular system. Prerequisites: RSMS:3110 with a minimum grade of C.

RSMS:3101 Cardiac Sonography I Lab

1 s.h.

Laboratory-based learning and simulation experience involving basic sonographic adult cardiac imaging and clinical history analysis; students will perform sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3100.

RSMS:3110 Foundations of Sonography

3 s.h.

Sonography history, ergonomics, terminology, image orientation; basic theories of sound waves, echo production, transducers, equipment operation, body imaging, Doppler, hemodynamics.

RSMS:3111 Foundations of Sonography Lab

1 s.h.

Sonography history, ergonomics, terminology, image orientation; basic theories of sound waves, echo production, transducers, equipment operation, body imaging, Doppler, and hemodynamics. Corequisites: RSMS:3110.

RSMS:3115 Diagnostic Medical Sonography Clinical Internship I

2 s.h.

Introductory clinical experience in healthcare setting developing a basic understanding of sonography clinical environment and professional practice standards; applying patient care techniques and developing professional communication skills. Prerequisites: RSP:2120.

RSMS:3120 Abdominal Sonography I 3 s.h.

Embryology, anatomy, and physiology of various abdominal structures imaged sonographically; abdominal vasculature, hepatobiliary system, pancreas, urinary system, adrenals, spleen, male anatomy; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: RSMS:3110 with a minimum grade of C.

RSMS:3121 Abdominal Sonography I Lab 1 s.h.

Laboratory-based learning and simulation experience in sonographic abdominal imaging; students will perform exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3120.

RSMS:3130 Obstetrical and Gynecological Sonography I 3 s.h.

Embryology, anatomy, and physiology of the female reproductive system and developing fetus; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: RSMS:3110 with a minimum grade of C.

RSMS:3131 Obstetrical and Gynecological Sonography I Lab 1 s.h.

Laboratory-based learning and simulation experience involving basic sonographic obstetrical and gynecological imaging and clinical history analysis; students will perform sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plan orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3130.

RSMS:3140 Vascular Sonography I 3 s.h.

Anatomy and physiology of peripheral and cerebral vascular systems; analysis of hemodynamics, Doppler waveforms, pressure measurements, plethysmography, sonographic appearance, scanning techniques; evaluation of pathology and pathophysiology common to the lower extremity arterial and venous systems, and cerebrovascular system. Prerequisites: RSMS:3110 with a minimum grade of C.

RSMS:3141 Vascular Sonography I Lab 1 s.h.

Laboratory-based learning and simulation experience involving basic vascular sonographic imaging and clinical history analysis; students will perform non-imaging vascular physiologic tests and sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3140.

RSMS:3150 Cardiac Physiology and Hemodynamics 3 s.h.

Analysis of cardiac physiology and hemodynamics related to sonography; correlation with Doppler application in cardiovascular imaging, ECG, auscultation, cardiac catheterization; advanced and developing imaging techniques.

RSMS:3205 Cardiac Sonography II 3 s.h.

Sonographic evaluation of advanced pathophysiology of human heart; sonographic appearance, imaging techniques, and exam modification. Prerequisites: RSMS:3100.

RSMS:3206 Cardiac Sonography II Lab 1 s.h.

Laboratory-based learning and simulation experience involving the application of advanced sonographic cardiac imaging and clinical history analysis. Prerequisites: RSMS:3101. Corequisites: RSMS:3205.

RSMS:3215 Diagnostic Medical Sonography Clinical Internship II 3 s.h.

Application of the basic skills of sonographic imaging and physiologic vascular testing in the healthcare setting.

RSMS:3230 Sonography Principles, Physics, and Instrumentation 3 s.h.

Physical principles of sound waves, their applications to imaging of the human body, operation and physical characteristics of various ultrasound transducers, method by which the sound wave is converted into a visual image, instrumentation components and their functions, Doppler principles, image artifacts, advanced hemodynamics, and spectral Doppler waveform analysis. Prerequisites: RSMS:3110.

RSMS:3231 Sonography Principles, Physics, and Instrumentation Lab 1 s.h.

Laboratory-based learning and simulation experience in the application of sonographic imaging emphasizing physics principles, instrumentation, and quality assurance testing. Corequisites: RSMS:3230.

RSMS:3240 Abdominal Sonography II 3 s.h.

Pathology and pathophysiology of abdominal and superficial structures imaged sonographically; interventional sonographic procedures; post-procedure protocol; associated clinical and laboratory findings; imaging techniques, analysis of findings, and documentation of pathology. Prerequisites: RSMS:3120.

RSMS:3250 Obstetrical and Gynecological Sonography II 3 s.h.

Sonographically related pathological and abnormal congenital conditions of gynecology and obstetrics, infertility, assisted reproductive therapy, invasive procedures in obstetrics and gynecology, postpartum complications and maternal-fetal bonding; clinical findings, laboratory studies, and prognosis correlated with sonographic findings; appropriate image analysis and documentation of pathology. Prerequisites: RSMS:3130.

RSMS:3260 Breast Sonography 2 s.h.

Embryology, anatomy, physiology, and pathophysiology of the breast as it relates to sonographic imaging; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings; sonographic findings of diseases involving the breast.

RSMS:3270 Vascular Sonography II 3 s.h.

Pathology and pathophysiology of complex diseases of the peripheral, cerebral, and abdominal vascular systems evaluated sonographically; associated clinical findings; techniques in physiologic, nonimaging tests, and duplex sonography; analysis of findings and documentation of pathology. Prerequisites: RSMS:3140.

RSMS:3300 Pediatric Sonography 3 s.h.

Anatomy, sonographic anatomy, pathophysiology, sonographic appearance and Doppler correlation of disorders affecting the pediatric population, including abdominal, musculoskeletal, peripheral vascular, and cerebrovascular systems, neonatal brain and spinal cord.

RSMS:3315 Diagnostic Medical Sonography Clinical Internship III 4 s.h.

Application of the skills of sonographic imaging and physiologic vascular testing in the healthcare setting; students develop competency in basic exams.

RSMS:3325 Abdominal Sonography II Lab 1 s.h.

Laboratory-based learning and simulation utilizing computer-aided learning and scanning simulation to develop skills in interventional sonographic procedures with real-time ultrasound guidance; advanced abdominal and superficial structure imaging; exploring case studies; image analysis in identifying pathologies and differential diagnoses. Prerequisites: RSMS:3121.

RSMS:3376 Vascular Sonography II Lab 1 s.h.

Laboratory-based learning and simulation experience to develop skills in advanced sonographic imaging of the vascular system and performance of advanced nonimaging vascular physiologic tests; analysis of findings and documentation of pathology. Prerequisites: RSMS:3141.

RSMS:4110 Advanced Sonography 3 s.h.

Exploration of advanced sonographic imaging techniques and new technologies. Prerequisites: (RSMS:3240 with a minimum grade of C and RSMS:3250 with a minimum grade of C and RSMS:3270 with a minimum grade of C) or (RSMS:3205 with a minimum grade of C and RSMS:3270 with a minimum grade of C).

RSMS:4111 Advanced Sonography Lab 1 s.h.

Laboratory-based learning and simulated application of advanced sonographic imaging techniques and new technologies. Prerequisites: (RSMS:3325 with a minimum grade of C and RSMS:3376 with a minimum grade of C) or (RSMS:3206 with a minimum grade of C and RSMS:3376 with a minimum grade of C). Corequisites: RSMS:4110.

RSMS:4115 Diagnostic Medical Sonography Clinical Internship IV 5 s.h.

Application of the skills of sonographic imaging and physiologic vascular testing in the health care setting; students develop competency in high level procedures. Prerequisites: RSMS:3315 with a minimum grade of C and RSMS:3376 with a minimum grade of C.

RSMS:4120 Advanced Cardiac Sonography 3 s.h.

Study of advanced cardiac sonographic imaging techniques, quantifications, and new technologies; analysis of applications and limitations of imaging techniques. Prerequisites: RSMS:3205 with a minimum grade of C and RSMS:3270 with a minimum grade of C.

RSMS:4121 Advanced Cardiac Sonography Lab 1 s.h.

Laboratory-based learning and simulated application of advanced cardiac sonographic imaging techniques, quantifications, and new technologies. Prerequisites: RSMS:3206 with a minimum grade of C. Corequisites: RSMS:4120.

RSMS:4215 Diagnostic Medical Sonography Clinical Internship V 5 s.h.

Application of the skills of sonographic imaging and physiologic vascular testing in the health care setting; students develop advanced skills. Prerequisites: RSMS:4115 with a minimum grade of C and RSMS:4110 with a minimum grade of C and RSMS:4111 with a minimum grade of C.

RSMS:4220 Multidisciplinary Capstone Seminar 3 s.h.

Case-based learning course; students are expected to analyze and synthesize data, determine the proper course of action, evaluate outcomes; this course will complete the student's preparation for the professional work environment. Prerequisites: RSMS:4110.

Radiation Sciences Program Courses

RSP:1100 Introduction to the Radiation Sciences 1 s.h.

Exploration of radiation sciences field (radiologic technology, nuclear medicine and PET, diagnostic medical sonography, radiation therapy, computed tomography, magnetic resonance imaging, cardiovascular interventional); introduction to basic principles and modalities associated with the field in preparation for application to radiation sciences or nuclear medicine technology major.

RSP:2110 Pathology for Radiation Sciences 2 s.h.

General pathologic processes; introduction to imaging modalities; pathological terms that describe the body's response to stress and disease; how the body responds to and forms pathological diseases (e.g., infectious and parasitic diseases, inflammation and repair, immunopathology, neoplasia, genetic disorders, dietary deficiencies and excesses, hemodynamic disorders, trauma and emergencies). Requirements: acceptance to radiation science degree track.

RSP:2120 Patient Care for the Radiation Sciences 3 s.h.

Foundation for providing care to clients during radiographic examinations; taking medical histories, basic life support, medical emergencies, vital sign assessment, body mechanics, infection control, sterile techniques, intravenous equipment, administration; advance concepts in client assessment and monitoring, including evaluation and monitoring of clients in pain, and clients in acute and chronic states of illness; communication techniques, role playing. Requirements: acceptance to radiation science degree track.

RSP:3130 Radiation Safety and Radiobiology 2 s.h.

Instruction on safe operation of radiation producing equipment and handling of radioactive materials; origin and/or derivation of certain formulae and techniques useful in radiation protection programs; regulatory agencies, regulations, and regulatory guides pertinent to student's field; emphasis on applied aspects of radiation protection; characteristics and biological effects of ionizing radiations, properties and uses of radioisotopes, medical applications, and biological basis for protection procedures. Requirements: enrollment in radiation sciences or nuclear medicine technology program. Same as FRRB:3130.

RSP:3210 Medical Ethics and Law 2 s.h.

Introduction to ethical reasoning and problem solving; integration of knowledge about patient care and ethical/legal issues which occur in process of providing care; ethical principles of autonomy, beneficence, justice, nonmaleficence, paternalism, Patient's Bill of Rights, resolving moral dilemmas; legal principles of malpractice, intentional torts, negligence. Requirements: radiation science or nuclear medicine technology major.

RSP:3220 Radiation Sciences Quality Management and Health Care Administration 2 s.h.

Introduction to health care administration; quality management, safety, and patient satisfaction concepts for the radiation sciences professional. Requirements: radiation sciences or nuclear medicine technology major.

RSP:4110 Research Methodology for Radiation Sciences 3 s.h.

Introduction to research concepts and methods for the radiation science professional. Requirements: radiation sciences or nuclear medicine technology major.

Radiologic Technology Program Courses

RSRT:2110 Radiographic Procedures and Analysis I 4 s.h.

Introduction to radiographic positioning principles; technical, positioning, and analysis information needed to perform and evaluate images of chest and abdomen on adult and pediatric patients; emphasis on quality patient care and adaptation to a variety of client conditions; labs. Requirements: acceptance to radiation sciences RT/CT, CVI, or MRI degree track.

RSRT:2120 Radiologic Technology Clinical Internship I 1 s.h.

Student rotations through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Requirements: acceptance to radiation sciences RT/CT, CVI, or MRI degree track.

RSRT:2225 Radiologic Technology Clinical Internship II 4 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2120.

RSRT:2230 Radiographic Procedures II arr.

Technical and radiographic positioning information needed to perform images of upper and lower extremity; emphasis on quality patient care and adaptation to a variety of client conditions. Prerequisites: RSRT:2110.

RSRT:2240 Radiographic Analysis II 3 s.h.

Radiographic procedure and image analysis information needed to evaluate images of upper and lower extremity and shoulder; emphasis on quality patient care and adaptation to a variety of client conditions; labs. Prerequisites: RSRT:2110.

RSRT:2250 Radiographic Fluoroscopic Procedures 2 s.h.

Technical, radiographic positioning, and analysis information needed to perform radiographic procedures that utilize fluoroscopy; emphasis on quality patient care and adaptation to a variety of client conditions. Prerequisites: RSRT:2110.

RSRT:2325 Radiologic Technology Clinical Internship III 3 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2225.

RSRT:3115 Radiographic Procedures and Analysis III 4 s.h.

Technical, positioning, and analysis information needed to perform and evaluate images of hip, pelvis, spine, thorax, skull, and GU system radiographic procedures; emphasis on quality patient care and adaptation to a variety of client conditions; labs.

RSRT:3125 Radiologic Technology Clinical Internship IV 4 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2325.

RSRT:3140 Radiographic and Digital Imaging 5 s.h.

Factors that govern and influence production of radiographic image; X-ray and scatter production; patient interactions; function of kVp, mAs, and distance as applied to contrast and spatial resolution; practical issues concerning automatic exposure control and grid usage; labs to practice and apply theoretical principles associated with production of quality images. Requirements: acceptance to radiation sciences RT/CT, CVI or MRI degree track.

RSRT:3220 Emotional Intelligence for the Health Care Professional arr.

Introduction to emotional intelligence; scientific background for why emotional intelligence exists and exploring its applications to the health care setting; connection of emotional intelligence to interactions that occur between health care professional and their patients, patient families, and coworkers.

RSRT:3225 Radiologic Technology Clinical Internship V 3 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3125.

RSRT:3230 Radiographic Physics and Imaging Equipment 4 s.h.

Characteristics of atomic structure, electricity, and X-ray machines; properties of X-rays and their interaction with matter; measurement of radiation exposure; construction principles and theories of operation of specialized imaging equipment, including fundamentals of acquisition for imaging intensification, geometric tomography, mobile/portable radiography, and magnification principles.

RSRT:3325 Radiologic Technology Clinical Internship VI 2 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3225.

RSRT:4125 Radiologic Technology Clinical Internship VII 1 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3325.

RSRT:4225 Radiologic Technology Clinical Internship VIII 1 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals and Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:4125.

Radiation Therapy Program Courses

RSTH:3100 Introduction to Radiation Therapy 2 s.h.

Introduction to cancer as a disease; defining methods to treat cancer with emphasis on radiation therapy; simulation, planning, and treatment delivery of radiation therapy. Requirements: acceptance to radiation sciences therapy program.

RSTH:3110 Medical Physics I 1-3 s.h.

Introduction to radiation used in clinical setting; fundamental physical units, measurements, principles, atomic structure and types of radiation; X-ray generating equipment, X-ray production, and its interaction with matter. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program, and maxillofacial or radiation oncology resident. Same as FRRB:3110.

RSTH:3120 Radiation Therapy Clinical Internship I 3 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Requirements: acceptance to radiation sciences therapy program.

RSTH:3205 Principles of Radiation Therapy I 2 s.h.

Didactic and laboratory work in principles of radiation therapy; historic and current aspects of cancer treatment; role of radiation therapist; patient care, treatment delivery accessories, tumor localization treatment delivery protocols. Prerequisites: RSTH:3100. Requirements: enrollment in radiation sciences therapy program.

RSTH:3215 Medical Physics II 0-3 s.h.

Treatment units used in external radiation therapy; beam calculations, isodose distributions, brachytherapy, quality assurance and quality management, protection and safety. Prerequisites: RSTH:3110. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program. Same as FRRB:3215.

RSTH:3225 Radiation Therapy Clinical Internship II 3 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3120. Requirements: acceptance to radiation sciences therapy program.

RSTH:3325 Radiation Therapy Clinical Internship III 4 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3225. Requirements: acceptance to radiation sciences therapy program.

RSTH:4105 Principles of Radiation Therapy II 2 s.h.

Evaluation and management of neoplastic disease using knowledge in arts and sciences; critical thinking and basis of ethical clinical decision making; epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease. Prerequisites: RSTH:3205. Requirements: enrollment in radiation sciences therapy program.

RSTH:4125 Radiation Therapy Clinical Internship IV 4 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3325. Requirements: acceptance to radiation sciences therapy program.

RSTH:4225 Radiation Therapy Clinical Internship V 5 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:4125. Requirements: acceptance to radiation sciences therapy program.

RSTH:4230 Radiation Therapy Capstone 3 s.h.

Professional development; review of concepts. Requirements: acceptance to radiation sciences therapy program.

Radiation Sciences, B.S.

The Radiation Sciences Program offers two paths toward completing the major:

- an on-campus program in radiologic technology, diagnostic medical sonography, or radiation therapy for students who have not completed a radiation sciences modality; or
- an online program for registered radiologic technologists who would like to earn a Bachelor of Science degree by distance education.

Undergraduate study in radiation sciences is guided by the academic rules and procedures outlined under Undergraduate Rules and Procedures [p. 1526] in the Carver College of Medicine section of the Catalog.

Requirements

The Bachelor of Science with a major in radiation sciences requires a minimum of 120 s.h. Work for the on-campus degree includes a set of courses that are prerequisite to entering the radiation sciences major, completion of one of six radiation sciences professional programs, and elective course work sufficient to complete the minimum of 120 s.h. required for graduation. Students must complete the radiation sciences professional program at the University of Iowa. Registered radiologic technologists interested in earning the degree by distance education should see RT to B.S. (Online) [p. 1646] in this section of the Catalog.

Admission to the radiation sciences major is competitive and selective; acceptance into a professional program or the major is not guaranteed. Students who wish to enter the major must first be admitted to the University of Iowa as College of Liberal Arts and Sciences (CLAS) students with a radiation sciences interest. As CLAS students, they must apply to the radiation sciences professional program of their choice by January 15 of the year in which they wish to enter; see Apply on the Radiation Sciences Program website. Transfer students are encouraged to apply in early December to allow for time for transfer course articulation. Accepted students enter a professional program, the radiation sciences major, and the Carver College of Medicine the following fall semester.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University of Iowa English Proficiency Evaluation and satisfy the University's English Proficiency Requirements before they apply to a professional program. Students must have permission to register for a full academic load before they may be admitted to a radiation sciences professional program.

The radiation sciences major requires students to complete a minimum of two years of a high school world language prior to admission.

For additional information on UI admission requirements, contact the University's Office of Admissions.

First-year and transfer applicants admitted to the College of Liberal Arts and Sciences as radiation sciences interest students must complete all courses that are prerequisite to the radiation sciences major (including approved transfer equivalents) by June 1 before they may begin one of the radiation sciences professional programs and enter the major. The only exception to this deadline is that the physics course required for the diagnostic medical sonography program may

be completed in the summer session. Prerequisite courses vary slightly depending on which professional program a student wishes to enter.

Students who have declared a radiation sciences interest but have not yet applied and been accepted to a professional program are advised at the University's Academic Advising Center. After they have been accepted to a professional program, they are advised by the Radiation Sciences Program.

Upon successful completion of the professional program, students are eligible to apply for national certification exams for their program's specialty area(s). Once they have completed the professional program and all other requirements for graduation, they are granted a Bachelor of Science degree.

The Bachelor of Science with a major in radiation sciences requires the following work.

Prerequisites to the Radiation Sciences Major

Students must complete the following prerequisite courses (25-27 s.h.) before they may enter the program and the major. Students who wish to enter the radiation therapy professional program must complete a total of 60 s.h. of college course work, including the following prerequisites, before they may enter the program and the major. Students are advised for success, based on academic strength, not necessarily for a four-year plan. Prerequisite courses for the radiologic technology and diagnostic medical sonography professional programs may take more than one year to complete. Prerequisite courses for the radiation therapy professional program may take more than two years to complete.

Code	Title	Hours
Rhetoric		
This course:		
RHET:1030	Rhetoric	4
Anatomy		
One of these:		
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3105	Anatomy for Human Physiology	3
HHP:3115	Anatomy for Human Physiology with Lab	5
Physiology		
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5
Physics		
Students interested in diagnostic medical sonography or radiation therapy programs complete one of these:		
PHYS:1400	Basic Physics	3-4

PHYS:1511 College Physics I 4

Quantitative or Formal Reasoning

One of these:

MATH:1020 Elementary Functions 4

MATH:1440 Mathematics for the Biological Sciences 4

Psychology

This course:

PSY:1001 Elementary Psychology 3

Medical Terminology

This course:

CLSA:3750 Medical and Technical Terminology 2

Culture, Society, and the Arts

Two courses for 3 s.h. each in two of these areas:

Diversity and Inclusion

Historical Perspectives

International and Global Issues

Literary, Visual, and Performing Arts

Values and Culture

See GE CLAS Core [p. 459] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the culture, society, and the arts areas listed above.

Recommended Pre-Major Work

The Radiation Sciences Program recommends that before students submit an application to a radiation sciences professional program and the major, they job-shadow a professional who works in their area of interest, gain hands-on patient care experience, and complete the following additional preparatory courses.

Code	Title	Hours
These courses:		
RSP:1100	Introduction to the Radiation Sciences	1
BIOL:1140	Human Biology	4
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
One of these:		
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4
One of these:		
CS:1020	Principles of Computing	3
MSCI:1500	Business Computing Essentials	2
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

Electives

In order to earn the minimum of 120 s.h. required for graduation, students may need to complete elective course work in addition to the prerequisite course work listed above and one of the professional programs in medical imaging.

They should plan their elective courses in consultation with their advisor.

Radiation Sciences Professional Programs

Students must complete one of the following on-campus radiation sciences professional programs at University of Iowa Hospitals and Clinics:

- radiologic technology and computed tomography [p. 1641];
- radiologic technology and magnetic resonance imaging [p. 1641];
- radiologic technology and cardiovascular interventional [p. 1641];
- diagnostic medical sonography and general/vascular [p. 1639];
- diagnostic medical sonography and cardiac/vascular [p. 1639]; or
- radiation therapy [p. 1644].

Each program offers modality-specific didactic and supervised clinical education courses. Graduates of the professional programs and associated internships are eligible to apply for one or more certification exams.

The radiologic technology programs and diagnostic medical sonography programs last three years, and the radiation therapy program lasts two years. Each program begins in the fall.

Students must apply to the program of their choice by January 15 of the year in which they intend to enter the program. Students must first apply to the College of Liberal Arts and Sciences (CLAS) as a radiation sciences interest major and complete all prerequisite course work. Students with transfer credit are encouraged to apply to CLAS by early December to allow time for transcript course articulation.

Admission to all radiation sciences professional programs is competitive; each program accepts a limited number of students and acceptance is not guaranteed. In addition to the prerequisite courses listed above, students must have earned a cumulative college g.p.a. of at least 2.50 prior to professional program admission.

Diagnostic Medical Sonography

A diagnostic medical sonographer is a skilled professional who uses high-frequency sound wave equipment to create diagnostic images and data that assist health care professionals in their diagnosis of patients with disease. Ultrasound imaging is used on many parts of the body, including the abdomen, heart, blood vessels, and the developing fetus of a pregnant woman. When determining normal and abnormal findings, the sonographer must demonstrate sectional anatomy through transducer manipulation. The sonographer uses independent judgment in recognizing the need to extend the scope of the study according to the diagnostic findings. The sonographer spends extended time with the patient obtaining a thorough history of symptoms, explaining the exam, answering questions, and performing the exam.

Each of the radiation sciences diagnostic medical sonography (DMS) degree tracks consist of two professional programs—DMS and general and vascular sonography or DMS and cardiac and vascular sonography. Each of these three-year programs is selective and competitive; acceptance

is not guaranteed. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into the diagnostic medical sonography professional program following an application and selection process; see Diagnostic Medical Sonography on the Radiation Sciences Program website.

Diagnostic Medical Sonography and General and Vascular Sonography

The diagnostic medical sonography program in general and vascular sonography provides a multispecialty education in obstetrical, abdominal, and vascular sonography (ultrasound imaging). Students learn about sonographic imaging and evaluation, hemodynamics and Doppler evaluation, sonography equipment, sectional anatomy, pathology, patient care, medical ethics, and quality assurance methods. They become proficient in using sonographic imaging equipment and in performing obstetrical and gynecological, abdominal, and vascular sonographic procedures, including invasive procedures, emergency exams, and 3-D imaging. They also participate in supervised clinical education. Elective courses are available in pediatric and breast sonography.

Upon completing the program, graduates are eligible to apply for the national certification exams in diagnostic medical sonography in the specialty areas of obstetrics and gynecology, abdomen, and vascular technology.

Students who will have completed all prerequisite courses by June 1 (except physics, which may be completed in the summer session) are eligible to apply to this three-year program. Application deadline is January 15. Nine students are accepted into this track each year, which begins in the fall.

Plan of Study

Code	Title	Hours
Second Year, Fall		
All of these:		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSCI:4110	Vascular Anatomy (online)	3
Recommended:		
CS:1020 or MSCI:1500	Principles of Computing Business Computing Essentials	2-3
STAT:1020	Elementary Statistics and Inference	3
Second Year, Spring		
RSP:3210	Medical Ethics and Law	2
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSMS:3110	Foundations of Sonography	3
RSMS:3111	Foundations of Sonography Lab	1
RSMS:3115	Diagnostic Medical Sonography Clinical Internship I	2
Third Year, Fall		
RSMS:3120	Abdominal Sonography I	3

RSMS:3121	Abdominal Sonography I Lab	1
RSMS:3130	Obstetrical and Gynecological Sonography I	3
RSMS:3131	Obstetrical and Gynecological Sonography I Lab	1
RSMS:3140	Vascular Sonography I	3
RSMS:3141	Vascular Sonography I Lab	1
Third Year, Spring		
RSMS:3215	Diagnostic Medical Sonography Clinical Internship II	3
RSMS:3230	Sonography Principles, Physics, and Instrumentation	3
RSMS:3231	Sonography Principles, Physics, and Instrumentation Lab	1
RSMS:3240	Abdominal Sonography II	3
RSMS:3250	Obstetrical and Gynecological Sonography II	3
RSMS:3270	Vascular Sonography II	3
Third Year, Summer		
All of these:		
RSMS:3315	Diagnostic Medical Sonography Clinical Internship III	4
RSMS:3325	Abdominal Sonography II Lab	1
RSMS:3376	Vascular Sonography II Lab	1
Recommended:		
RSMS:3260	Breast Sonography (online elective)	2
RSMS:3300	Pediatric Sonography (online elective)	3
Fourth Year, Fall		
RSP:4110	Research Methodology for Radiation Sciences	3
RSMS:4110	Advanced Sonography	3
RSMS:4111	Advanced Sonography Lab	1
RSMS:4115	Diagnostic Medical Sonography Clinical Internship IV	5
Fourth Year, Spring		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSMS:4215	Diagnostic Medical Sonography Clinical Internship V	5
RSMS:4220	Multidisciplinary Capstone Seminar	3
Elective (if needed)		

Diagnostic Medical Sonography and Cardiac and Vascular Sonography

The diagnostic medical sonography program in cardiac and vascular sonography provides a multispecialty education in cardiac (echocardiography) and vascular sonography (ultrasound imaging). Students learn about sonographic

imaging and evaluation, hemodynamics and Doppler evaluation, sonography equipment, sectional anatomy, pathology, patient care, medical ethics, and quality assurance methods. They become proficient in using sonographic imaging equipment and in performing cardiac and vascular sonographic procedures, including invasive procedures, emergency exams, and 3-D imaging. They also participate in supervised clinical education.

Upon completing the program, graduates are eligible to apply for the national certification exams in diagnostic medical sonography in the specialty areas of cardiac (echocardiography) and vascular technology.

Students who have completed all prerequisite courses by June 1 (except physics, which may be completed in the summer session) are eligible to apply to this three-year program. Application deadline is January 15. Six students are accepted into this track each year, which begins in the fall.

Plan of Study

Code	Title	Hours
Second Year, Fall		
All of these:		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSCI:4110	Vascular Anatomy (online)	3
Recommended elective credit:		
CS:1020 or MSCI:1500	Principles of Computing Business Computing Essentials	2-3
STAT:1020	Elementary Statistics and Inference	3
Second Year, Spring		
RSP:3210	Medical Ethics and Law	2
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSMS:3110	Foundations of Sonography	3
RSMS:3111	Foundations of Sonography Lab	1
RSMS:3115	Diagnostic Medical Sonography Clinical Internship I	2
Third Year, Fall		
RSMS:3100	Cardiac Sonography I	3
RSMS:3101	Cardiac Sonography I Lab	1
RSMS:3140	Vascular Sonography I	3
RSMS:3141	Vascular Sonography I Lab	1
RSMS:3150	Cardiac Physiology and Hemodynamics	3
Electives (if needed)		
Third Year, Spring		
RSMS:3205	Cardiac Sonography II	3
RSMS:3206	Cardiac Sonography II Lab	1
RSMS:3215	Diagnostic Medical Sonography Clinical Internship II	3
RSMS:3230	Sonography Principles, Physics, and Instrumentation	3

RSMS:3231	Sonography Principles, Physics, and Instrumentation Lab	1
RSMS:3270	Vascular Sonography II	3
Third Year, Summer		
RSMS:3315	Diagnostic Medical Sonography Clinical Internship III	4
RSMS:3376	Vascular Sonography II Lab	1
Fourth Year, Fall		
RSP:4110	Research Methodology for Radiation Sciences	3
RSMS:4110	Advanced Sonography	3
RSMS:4111	Advanced Sonography Lab	1
RSMS:4115	Diagnostic Medical Sonography Clinical Internship IV	5
RSMS:4120	Advanced Cardiac Sonography	3
RSMS:4121	Advanced Cardiac Sonography Lab	1
Fourth Year, Spring		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSMS:4215	Diagnostic Medical Sonography Clinical Internship V	5
RSMS:4220	Multidisciplinary Capstone Seminar	3
Electives (if needed)		

Radiologic Technology

A radiologic technologist is a professional, qualified by education and clinical experience, who provides radiological (x-ray) services using a variety of exams and procedures. While utilizing excellent patient care skills, the technologist operates radiological equipment so that optimum radiographic quality is achieved with the minimum radiation exposure to the patient. Radiographers are employed primarily in hospitals, clinics, and doctors' offices, where they work closely with other members of the health care team to help diagnose and treat patients.

Each of the radiation sciences radiologic technology (RT) degree tracks consist of three professional programs—RT and computed tomography (CT), RT and magnetic resonance imaging (MRI), or RT and cardiovascular interventional (CVI). Each of these three-year programs is selective and competitive; acceptance is not guaranteed. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into the radiologic technology professional program following an application and selection process; see Radiologic Technology on the Radiation Sciences Program website.

Radiologic Technology and Computed Tomography

The radiologic technology component of this program provides education in pathology, radiation biology, radiation protection, patient care, and ethics. Students learn about radiographic procedures, imaging, and evaluation. They become acquainted with imaging equipment, study quality

assurance, and participate in supervised clinical education in radiography and computed tomography (CT). The computed tomography component concentrates on sectional anatomy, single and multislice CT, electron beam CT, physiologic and 3-D imaging, CT simulation, physics and imaging, and procedures and pathology.

Upon completing the program, graduates are eligible to apply for the national certification exams in radiography and computed tomography.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this three-year program. Application deadline is January 15. Six students are accepted into this track each year, which begins in the fall.

Plan of Study

Code	Title	Hours
Second Year, Fall		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
Second Year, Spring		
RSP:3210	Medical Ethics and Law	2
RSRT:2225	Radiologic Technology Clinical Internship II	4
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
Second Year, Summer		
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSRT:2325	Radiologic Technology Clinical Internship III	3
Third Year, Fall		
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
Third Year, Spring		
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
Third Year, Summer		
RSCI:4110	Vascular Anatomy (online)	3
RSCT:4105	Computed Tomography Clinical Internship I	1

RSRT:3325	Radiologic Technology Clinical Internship VI	2
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Fourth Year, Fall

RSP:4110	Research Methodology for Radiation Sciences	3
RSCT:4115	Computed Tomography Clinical Internship II	3
RSCT:4120	Computed Tomography Procedures I (online)	3
RSCT:4130	Computed Tomography Physical Principles and QC (online)	4
RSRT:4125	Radiologic Technology Clinical Internship VII	1

Fourth Year, Spring

RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSCT:4110	CT/MRI Pathology (online)	3
RSCT:4125	Computed Tomography Procedures II (online)	3
RSCT:4215	Computed Tomography Clinical Internship III	3
RSRT:4225	Radiologic Technology Clinical Internship VIII	1

Radiologic Technology and Magnetic Resonance Imaging

The radiologic technology component of this program provides education in pathology, radiation biology, radiation protection, patient care, and ethics. Students learn about radiographic procedures, imaging, and evaluation. They become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and magnetic resonance imaging (MRI). The magnetic resonance imaging component offers intensive study and practice in MRI, including patient care procedures, pathophysiology, physics, sectional anatomy, and instrumentation.

Upon completing the program, graduates are eligible to apply for the national certification exams in radiography and magnetic resonance imaging.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this three-year program. Application deadline is January 15. Six students are accepted into this track each year, which begins in the fall.

Plan of Study

Code	Title	Hours
Second Year, Fall		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
Second Year, Spring		

RSP:3210	Medical Ethics and Law	2
RSRT:2225	Radiologic Technology Clinical Internship II	4
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2

Second Year, Summer

RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSRT:2325	Radiologic Technology Clinical Internship III	3

Third Year, Fall

RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5

Third Year, Spring

RSCT:4110	CT/MRI Pathology (online)	3
RSMR:4110	Fundamentals for the MRI Technologist (online)	3
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4

Third Year, Summer

RSCI:4110	Vascular Anatomy (online)	3
RSMR:4160	MRI Clinical Internship I	2
RSRT:3325	Radiologic Technology Clinical Internship VI	2

Fourth Year, Fall

RSP:4110	Research Methodology for Radiation Sciences	3
RSMR:4120	MRI Procedures I (online)	4
RSMR:4140	MRI Acquisition and Principles I (online)	3
RSMR:4170	MRI Clinical Internship II	3
RSRT:4125	Radiologic Technology Clinical Internship VII	1

Fourth Year, Spring

RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSMR:4130	MRI Procedures II (online)	3
RSMR:4150	MRI Acquisition and Principles II (online)	3
RSMR:4175	MRI Clinical Internship III	4
RSRT:4225	Radiologic Technology Clinical Internship VIII	1

Radiologic Technology and Cardiovascular Interventional

The radiologic technology component of this program provides education in pathology, radiation biology, radiation protection, patient care, and ethics. Students learn about radiographic procedures, imaging, and evaluation. They

become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography, cardiac interventional, and peripheral/neurological interventional. The cardiovascular interventional component concentrates on imaging equipment; pharmacology; sterile techniques; cardiac monitoring; vascular anatomy and physiology; cardiovascular, peripheral, and neurological procedures and pathology; therapeutic intervention techniques; and digital angiography.

Upon completing the program, graduates are eligible to apply for the national certification exams in radiography, vascular interventional technology, and cardiac interventional technology.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this three-year program. Application deadline is January 15. Two students are accepted into this track each year, which begins in the fall.

Plan of Study

Code	Title	Hours
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Second Year, Fall

RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1

Second Year, Spring

RSP:3210	Medical Ethics and Law	2
RSRT:2225	Radiologic Technology Clinical Internship II	4
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2

Second Year, Summer

RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSRT:2325	Radiologic Technology Clinical Internship III	3

Third Year, Fall

RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5

Third Year, Spring

RSCI:4110	Vascular Anatomy (online)	3
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3225	Radiologic Technology Clinical Internship V	3

Third Year, Summer

RSCI:4120	CVI Principles (online)	4
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RSCI:4190	CVI Clinical Internship (online)	2
RSRT:3325	Radiologic Technology Clinical Internship VI	2
Fourth Year, Fall		
RSP:4110	Research Methodology for Radiation Sciences	3
RSCI:4140	CVI Peripheral Procedures and Pathology (online)	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology (online)	3
RSCI:4180	Vascular Interventional Clinical Internship	4
RSRT:4125	Radiologic Technology Clinical Internship VII	1
Fourth Year, Spring		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCI:4160	CVI Cardiac Procedures and Pathology (online)	4
RSCI:4170	Cardiac Interventional Clinical Internship	4
RSRT:4225	Radiologic Technology Clinical Internship VIII	1

Radiation Therapy

A radiation therapist functions as a member of a team with physicians (radiation oncologist), physicists, dosimetrists, and nurses to provide treatment using ionizing radiation sources for patients with malignant and some benign diseases. The radiation therapist is responsible for the daily delivery of the prescribed treatment according to the treatment plan prepared by their physician in consultation with the medical physicist. The therapist works with the oncology nurse in the daily assessment of the patient's status and needs during their course of therapy. Radiation therapists are employed in radiation therapy facilities located in hospitals and freestanding centers.

Students completing the Radiation Therapy Program are trained to deliver therapeutic radiation. This two-year program is selective and competitive; acceptance is not guaranteed. Since the program duration is two years, students must have completed a total of 60 s.h., including prerequisite courses by June 1, prior to the start of the program. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into the Radiation Therapy professional program following an application and selection process; see Radiation Therapy on the Radiation Sciences Program website. Training is provided by University of Iowa Hospitals and Clinics faculty in the Department of Radiation Oncology, with a hands-on component under the close guidance of licensed radiation therapists.

Radiation Therapy

The radiation therapy professional program teaches theory and techniques of radiation therapy technology, with emphasis on competence in areas of oncology treatment planning, treatment delivery, dosimetry, and use of megavoltage radiation-producing equipment to administer

treatment. Students participate in clinical education in radiation therapy. Radiation therapy students also complete course work in sectional anatomy and computed tomography (CT)/magnetic resonance imaging (MRI) pathology. Students have the option of completing course work in CT procedures and physics, MRI fundamentals and acquisition, or courses in both modalities.

Upon completing the program, graduates are eligible to apply for the national certification exam in radiation therapy. Students will have completed the course work but not the clinical component to be eligible to apply for the national certification exam in computed tomography and/or magnetic resonance imaging.

Students typically apply to this two-year program during their sophomore year and begin it in fall of their junior year. Application deadline is January 15. Seven students are accepted into this track each year.

Plan of Study

The second year schedule is recommended.

Code	Title	Hours
Second Year, Fall		
CHEM:1070 or CHEM:1110	General Chemistry I Principles of Chemistry I	3-4
CS:1020 or MSCI:1500	Principles of Computing Business Computing Essentials	2-3
PHYS:1400 or PHYS:1511	Basic Physics College Physics I	3-4
Electives		4
Second Year, Spring		
CHEM:1080 or CHEM:1120	General Chemistry II Principles of Chemistry II	3-4
PHYS:1512	College Physics II	4
STAT:1020 or STAT:3510 or STAT:4143	Elementary Statistics and Inference Biostatistics Introduction to Statistical Methods	3
Electives		2

Upon acceptance into the radiation therapy professional program, students will complete required courses and internships during their third and fourth years.

Code	Title	Hours
Third Year, Fall		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSTH:3100	Introduction to Radiation Therapy	2
RSTH:3110	Medical Physics I	2
RSTH:3120	Radiation Therapy Clinical Internship I	3
Third Year, Spring		
RSP:3210	Medical Ethics and Law	2
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3

RSTH:3205	Principles of Radiation Therapy I	2
RSTH:3215	Medical Physics II	2
RSTH:3225	Radiation Therapy Clinical Internship II	3

Students choose from three options for course work in their last year of the program, starting with the summer before the fourth year.

Option 1 (MRI Course Work)

Code	Title	Hours
Third Year, Summer		
Both of these:		
RSMR:4110	Fundamentals for the MRI Technologist (online)	3
RSTH:3325	Radiation Therapy Clinical Internship III	4
Recommended:		
RSCI:4110	Vascular Anatomy (online elective)	3
Fourth Year, Fall		
All of these:		
RSP:4110	Research Methodology for Radiation Sciences	3
RSMR:4140	MRI Acquisition and Principles I (online)	3
RSTH:4105	Principles of Radiation Therapy II	2
RSTH:4125	Radiation Therapy Clinical Internship IV	4
Recommended:		
RSMR:4120	MRI Procedures I (online elective)	4
Fourth Year, Spring		
All of these:		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSCT:4110	CT/MRI Pathology (online)	3
RSTH:4225	Radiation Therapy Clinical Internship V	5
RSTH:4230	Radiation Therapy Capstone	3
Recommended:		
RSMR:4130	MRI Procedures II (online elective)	3
RSMR:4150	MRI Acquisition and Principles II (online elective)	3

Option 2 (CT Course Work)

Code	Title	Hours
Third Year, Summer		
This course:		
RSTH:3325	Radiation Therapy Clinical Internship III	4
Recommended:		
RSCI:4110	Vascular Anatomy (online elective)	3
Fourth Year, Fall		
All of these:		

RSP:4110	Research Methodology for Radiation Sciences	3
RSCT:4120	Computed Tomography Procedures I (online)	3
RSCT:4130	Computed Tomography Physical Principles and QC (online)	4
RSTH:4105	Principles of Radiation Therapy II	2
RSTH:4125	Radiation Therapy Clinical Internship IV	4

Fourth Year, Spring

All of these:		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSCT:4110	CT/MRI Pathology (online)	3
RSTH:4225	Radiation Therapy Clinical Internship V	5
RSTH:4230	Radiation Therapy Capstone	3
Recommended:		
RSCT:4125	Computed Tomography Procedures II (online elective)	3

Option 3 (CT and MRI Course Work)

Code	Title	Hours
Third Year, Summer		
Both of these:		
RSMR:4110	Fundamentals for the MRI Technologist (online)	3
RSTH:3325	Radiation Therapy Clinical Internship III	4
Recommended:		
RSCI:4110	Vascular Anatomy (online elective)	3
Fourth Year, Fall		
All of these:		
RSP:4110	Research Methodology for Radiation Sciences	3
RSCT:4130	Computed Tomography Physical Principles and QC (online)	4
RSTH:4105	Principles of Radiation Therapy II	2
RSTH:4125	Radiation Therapy Clinical Internship IV	4
Recommended:		
RSCT:4120	Computed Tomography Procedures I (online elective)	3
RSMR:4140	MRI Acquisition and Principles I (online elective)	3
RSMR:4120	MRI Procedures I (online elective)	4
Fourth Year, Spring		
All of these:		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSCT:4110	CT/MRI Pathology (online)	3

RSTH:4225	Radiation Therapy Clinical Internship V	5
RSTH:4230	Radiation Therapy Capstone	3
Recommended:		
RSCT:4125	Computed Tomography Procedures II (online elective)	3
RSMR:4130	MRI Procedures II (online elective)	3
RSMR:4150	MRI Acquisition and Principles II (online elective)	3

RT to B.S. (Online)

The RT to B.S. is an online program designed for registered radiologic technologists who wish to earn a Bachelor of Science degree with a major in radiation sciences by distance education. The program requires a minimum of 120 s.h. Students who successfully complete a radiologic technology (RT) program are awarded 60 s.h. of credit. They also are awarded credit for equivalent course work that is prerequisite to entering the major. Upon admission to the major, students complete an online modality, advanced courses, and electives for graduation.

Students choose one of three online modalities: cardiovascular interventional (CVI), computed tomography (CT), or magnetic resonance imaging (MRI). The modalities do not require an internship.

In order to be admitted to the radiation sciences major, students must pass the American Registry of Radiologic Technologists (ARRT) radiography board certification exam. They also must have completed all course work prerequisite to entering the major with a g.p.a. of at least 2.50, not including RT program courses. Students may count approved transfer credit toward the required prerequisites; learn more by visiting Transfer Courses in MyUI.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University of Iowa English Proficiency Evaluation and satisfy the University's English Proficiency Requirements.

The radiation sciences major requires students to complete a minimum of two years of a high school world language prior to admission.

For additional information on UI admission requirements, contact the University's Office of Admissions.

Prerequisites to the Radiation Sciences Major

Students must complete the following prerequisite courses (25-27 s.h.) before they may enter the radiation sciences major.

Code	Title	Hours
Rhetoric		
RHET:1030	Rhetoric	4
Anatomy		
One of these:		
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4

HHP:3105	Anatomy for Human Physiology	3
HHP:3115	Anatomy for Human Physiology with Lab	5

Natural Sciences

One of these:

BIOL:1140	Human Biology	4
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4

Quantitative or Formal Reasoning

One of these:

MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4

Psychology

PSY:1001	Elementary Psychology	3
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Medical Terminology

CLSA:3750	Medical and Technical Terminology	2
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Culture, Society, and the Arts

Two courses for 3 s.h. each in two of these areas:

Diversity and Inclusion
Historical Perspectives
International and Global Issues
Literary, Visual, and Performing Arts
Values and Society

See GE CLAS Core [p. 459] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the culture, society, and the arts areas listed above.

Once students are admitted to the Carver College of Medicine and the radiation sciences major, they must at least complete their final consecutive 30 s.h. at the University of Iowa, including an online modality (22-25 s.h.), two advanced courses (6 s.h.), and sufficient elective course work to complete the minimum 120 s.h. and the final consecutive 30 s.h. required for graduation.

Online Modality

Students complete one of the following three online modalities.

Cardiovascular Interventional

The cardiovascular interventional online modality requires the following course work (total of 23 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCI:4120	CVI Principles	4
RSCI:4130	Electrocardiogram and Hemodynamics	3

RSCI:4140	CVI Peripheral Procedures and Pathology	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology	3
RSCI:4160	CVI Cardiac Procedures and Pathology	4
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

Computed Tomography

The computed tomography online modality requires the following course work (total of 22 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCT:4110	CT/MRI Pathology	3
RSCT:4120	Computed Tomography Procedures I	3
RSCT:4125	Computed Tomography Procedures II	3
RSCT:4130	Computed Tomography Physical Principles and QC	4

Magnetic Resonance Imaging

The magnetic resonance imaging online modality requires the following course work (total of 25 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCT:4110	CT/MRI Pathology	3
RSMR:4110	Fundamentals for the MRI Technologist	3
RSMR:4120	MRI Procedures I	4
RSMR:4130	MRI Procedures II	3
RSMR:4140	MRI Acquisition and Principles I	3
RSMR:4150	MRI Acquisition and Principles II	3

Course schedules can be found on the Online RT to BS page of the Radiation Sciences Program website.

Advanced Courses

Code	Title	Hours
Management and Leadership		
One of these:		
COMM:1819	Organizational Leadership	3
MGMT:2100	Introduction to Management	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
Statistics		
One of these:		
STAT:1020	Elementary Statistics and Inference	3

STAT:4143	Introduction to Statistical Methods	3
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Electives

Students choose elective course work to complete the minimum 120 s.h. required and the final consecutive 30 s.h. necessary to qualify for graduation.

Career Advancement

The majority of radiation sciences graduates are employed shortly after graduation. Graduates generally find jobs in hospitals, clinics, imaging centers, and physicians' offices. With experience, and sometimes additional education, they may find related jobs in management, sales, education, or as application specialists. Some students choose to continue their education in a master's, physician assistant, or other related medical program.

Most radiation sciences professionals with full-time jobs work 40 hours a week and may have holiday, weekend, evening, night, and on-call hours.

Students who complete Iowa's professional radiation sciences programs are eligible to apply for national certification exams administered by the appropriate agency in order to practice.

Licensure laws for radiographers, sonographers, and radiation therapists vary from state to state. Iowa is a licensing state, requiring radiographers to have a permit to practice. Passing the national exam is a criterion used to issue a permit to practice.

More information on radiation sciences careers and outcomes may be found on the Radiation Sciences Program website. The Pomerantz Career Center offers multiple resources to help students find jobs.

Radiology

Chair

- Colin P. Derdeyn

Faculty: <https://medicine.uiowa.edu/radiology/our-people>

Website: <https://medicine.uiowa.edu/radiology/>

The Department of Radiology has a three-fold mission of education, research, and patient care. It trains Doctor of Medicine students, residents, and fellows and offers programs for medical professionals. It is a leader in innovative research relating to diagnosis and treatment across the clinical subspecialties, including MRI, PET, breast imaging, cardiac and pulmonary imaging, and imaging informatics. Residents, fellows, medical students, and graduate students have opportunities to participate in research projects in the department. The radiology library provides varied resources and services for department faculty and staff.

The department also provides diagnostic and therapeutic radiology services for patients and families in Iowa and surrounding states through its clinical services at University of Iowa Hospitals and Clinics. Visit the Department of Radiology website to learn more about the department's activities and resources.

Undergraduate Education

The Department of Radiology offers clinical education to students in the Nuclear Medicine Technology [p. 1589] and Radiation Sciences [p. 1631] Programs.

M.D. Training

The Department of Radiology offers a clerkship for Doctor of Medicine students and provides additional courses, research experiences, and externships for students interested in learning more about radiology. Several of the department's programs are open to medical students from other institutions. See Medical Student Training and Externship Program on the Department of Radiology website.

Residency

The department offers two residency programs: one in diagnostic radiology and one in nuclear medicine; see Education on the Department of Radiology website.

Fellowships are available in these specialties: body imaging, breast imaging, musculoskeletal radiology, neuroendovascular surgery, neuroradiology, pediatric radiology, PET-CT imaging, and vascular and interventional radiology. Practicing radiologists have access to several departmental traineeships that provide category 1 continuing medical education credit through the Carver College of Medicine.

Courses

Radiology Courses

RAD:8301 Clinical Radiology 2 s.h.
Two-week clerkship. Requirements: M.D. enrollment.

RAD:8401 Advanced Clinical Radiology arr.
Requirements: M.D. enrollment.

RAD:8402 Vascular and Interventional Radiology arr.
Requirements: M.D. enrollment.

RAD:8497 Research in Radiology arr.
Medical research, clinical or laboratory projects; individual study.

RAD:8498 Radiology On Campus arr.
Requirements: M.D. enrollment.

RAD:8499 Radiology Off Campus arr.
Requirements: M.D. enrollment.

Stead Family Department of Pediatrics

Chair

- Raphael Hirsch

Faculty: <https://medicine.uiowa.edu/pediatrics/people>

Website: <https://medicine.uiowa.edu/pediatrics/>

The Stead Family Department of Pediatrics provides a solid foundation for M.D. students and postgraduate trainees. It offers extensive opportunities for general pediatrics and subspecialties training.

Affiliated programs add depth to the educational program in community pediatrics and primary care. The department is affiliated with the child and material health programs of the Bureau of Family Health, Iowa Department of Public Health, University of Iowa Stead Family Children's Hospital, the Center for Disabilities and Development, the Blank Children's Hospital in Des Moines, and community sites.

M.D. Training

Didactic lectures and physical examination of newborns, toddlers, and older children provide M.D. students with their initial pediatric patient contact. This experience includes taking a history, performing a physical examination, appraisal of growth and development, nutrition, and symptomatology of newborns, toddlers, and adolescents.

For core and advanced medical students, the inpatient service provides training in the complex problems of disease and critical illness. Students participate in daily rounds involving general pediatrics and all subspecialties. Challenging and interesting cases are presented for discussion of diagnosis and treatment.

Outpatient experience, available in the core clerkship and advanced electives, stresses principles and practices required for the maintenance of children's health, treatment of common general pediatric disorders, and the diagnosis and treatment of subspecialty ambulatory patients.

Residency

Residency Program, Fellowships

The department offers an accredited three-year residency program designed to prepare trainees for professional careers in general pediatrics or for further fellowship training. The program meets the eligibility requirements of the American Board of Pediatrics (ABP) and is approved for 15 residents and one child neurology resident per year by the Accreditation Council for Graduate Medical Education (ACGME).

Fellowships are available in multiple pediatrics subspecialties. Fellowship programs encourage development of knowledge and skill through research and clinical experiences in the chosen discipline. Upon satisfactory completion of the program, fellows meet the ABP eligibility requirements in their subspecialty.

Facilities

The Stead Family Department of Pediatrics has inpatient and outpatient facilities in the University of Iowa Stead Family

Children's Hospital. Additional outpatient facilities are located at Iowa River Landing in Coralville.

The pediatric inpatient service has approximately 189 beds, and more than 60,000 patients are seen each year in the general, specialty, continuity care, and field clinics and in the University's Emergency Department. The Center for Disabilities and Development provides resources for children with intellectual or developmental disabilities and cerebral palsy.

The department maintains a number of laboratories that perform both clinical and research studies.

Courses

Pediatrics (Stead Family Department of Pediatrics) Courses

PEDS:6101 Primary Care: Infants, Children, and Adolescents II **3 s.h.**

Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Prerequisites: NURS:6100. Corequisites: NURS:6702. Same as NURS:6101.

PEDS:7245 Evaluation of Children with ADHD and LD **arr.**

Clinical experience in conducting pediatric neuropsychology examinations in the Pediatric Attention/Learning Disorders Clinic. Requirements: course on psychological testing (including IQ) and graduate psychology standing (school, counseling, rehabilitation, clinical). Same as PSQF:7245.

PEDS:7255 Autism Spectrum Disorders **2 s.h.**

Overview of autism spectrum disorders (ASDs), including autistic disorder, Asperger's disorder, other pervasive developmental disorders; ASD diagnoses and their etiology; tools used in assessing individuals with ASDs; common interventions for ASDs; resources for work with individuals who have ASDs.

PEDS:7258 Seminar in Pediatric Psychology **2 s.h.**

Basic introduction to the field of pediatric psychology; professional issues in pediatric psychology; consultation and professional relations with physicians; psychological services in pediatric psychology; specialized populations, such as childhood chronic illness, children's hospitalization and surgery. Requirements: enrollment in an applied doctoral program in a psychological field.

PEDS:7261 Autism Assessment and Behavioral Intervention **1-3 s.h.**

Foundation in evidence-supported psychological assessment, behavioral assessment, and/or intervention for children with autism spectrum disorders (ASDs); emphasis on evaluating and providing treatment services to young children with ASDs and their families.

PEDS:7262 Biobehavioral Assessment and Intervention **1-3 s.h.**

Experience conducting brief functional assessments and behavioral treatments for children and adults with developmental disabilities; interviews with caregivers, behavioral assessments, matched treatments (e.g., functional communication training); follow-up with caregivers.

PEDS:7263 Evaluation and Treatment of Pediatric Feeding Disorders 1-3 s.h.

Experience evaluating children with varied feeding disorders, such as food overselectivity by texture or type, dependence on gastrostomy or nasogastrostomy tubes, failure to grow adequately due to inadequate caloric intake; methods to evaluate feeding behaviors, evaluate design interventions, and measure outcomes; caregiver training and follow-up.

PEDS:7264 Clinical Applications of Applied Behavior Analysis 1-3 s.h.

Experience behavioral observations, consultation, and/or conducting behavioral assessments (including preference assessments and functional analyses), matched treatments; interviews with care providers, collect behavioral data, conduct behavioral assessments, matched treatments; follow-up with care providers.

PEDS:7300 Pediatric Independent Study arr.**PEDS:8301 Clinical Pediatrics 6 s.h.**

Principles, practices of health maintenance and treatment of acute and chronic illnesses in children; emphasis on diagnosis and evaluation, nutrition, behavior problems, disorders affecting children; patient care, daily rounds, ward work. Requirements: third-year M.D. enrollment.

PEDS:8401 Pediatric Inpatient Care Subinternship arr.

Experience on pediatric inpatient team caring for patients ranging from infants through adolescents; evaluation, formulation of differential diagnoses, diagnostic workups, appropriate therapy programs. Requirements: fourth-year M.D. enrollment.

PEDS:8402 Subinternship in Pediatrics: Blank Children's Hospital, Des Moines arr.

Experience in the care of general pediatric inpatients; daily rounds and teaching by senior residents and faculty members; daily didactic conferences. Requirements: fourth-year M.D. enrollment.

PEDS:8403 Neonatology (NICU) arr.

Experience caring for ill neonates, proficiency in using diagnostic tests and procedures; responsibility for care of several infants; reference and literature review, conferences, teaching, clinical rounds. Requirements: fourth-year M.D. enrollment.

PEDS:8404 Critical Care (PICU) 4 s.h.

Direct care of critically ill children in a multidisciplinary medical/surgical/cardiac intensive care unit, under supervision of pediatric residents and staff; participation in educational activities and formal clinical rounds. Requirements: fourth-year M.D. enrollment.

PEDS:8405 Emergency Room Blank Children's Hospital, Des Moines arr.

Pediatric emergencies and urgent care, proficiency in pediatric medicine procedures; expansion of basic knowledge. Requirements: fourth-year M.D. enrollment.

PEDS:8406 Pediatric Allergy/Immunology and Pulmonary arr.

Experience in evaluating and treating respiratory and allergic diseases in infants, children, and adolescents. Requirements: fourth-year M.D. enrollment.

PEDS:8407 Pediatric Cardiology arr.

Participation in clinical activities; observation of cardiac catheterization; experience in cardiac auscultation, ECG, radiography; emphasis on physical diagnosis, approach to heart disease and murmurs in children. Requirements: fourth-year M.D. enrollment.

PEDS:8408 Pediatric Gastroenterology arr.

Diagnosis, management, treatment of diseases of gastrointestinal tract, liver, pancreas in children; ward rounds, consultations, clinics, diagnostic procedures, conferences. Requirements: fourth-year M.D. enrollment.

PEDS:8409 Pediatric Hematology/Oncology arr.

Basic concepts of clinical approach to hematologic and oncologic problems in children and adolescents; primarily outpatient experience. Requirements: fourth-year M.D. enrollment.

PEDS:8410 Pediatric Neurology arr.

Participation in outpatient and inpatient activities, teaching, morning ward rounds. Requirements: fourth-year M.D. enrollment.

PEDS:8411 Child Abuse and Neglect 2,4 s.h.

Hospital- and community-based multidisciplinary responses to child abuse and neglect; experience developing diagnostic skills to recognize, assess, and report cases of child abuse and neglect. Requirements: fourth-year M.D. enrollment.

PEDS:8412 Developmental and Behavioral Pediatrics 2,4 s.h.

Normal developmental sequence of gestation and early childhood, impact of environmental influences; antecedents of developmental disabilities; methods to detect cognitive and motor delays in preschool children; long-term consequences of developmental disabilities for children, their families; advantages of interdisciplinary teamwork. Requirements: fourth-year M.D. enrollment.

PEDS:8415 Medical Genetics for the Senior Student arr.

Participation in diagnostic, therapeutic problems; techniques for evaluation, appropriate counseling in genetic cases; conferences. Requirements: fourth-year M.D. enrollment.

PEDS:8416 Neonatal Intensive Care Unit, Blank Children's Hospital 4 s.h.

Experience equivalent to intern on neonatal intensive care unit teaching service at Blank Children's Hospital, Des Moines; four-week rotation.

PEDS:8417 Community Pediatric Outpatient Elective 2 s.h.

Opportunity to participate as active members of a community-based general pediatric office; work directly with community-based faculty and non-physician team members; build on clinical skills developed in M3 pediatric clerkship. Requirements: M.D. enrollment.

PEDS:8418 Pediatric Intensive Care Unit, Blank Children's Hospital 4 s.h.

Development of knowledge and clinical skills in recognition of critical illness in children; basic strategies of initial resuscitation and management.

PEDS:8420 Pediatric Palliative Care 2,4 s.h.

Palliative medicine as a specialty which enhances quality of life, reduces suffering for patients with serious illnesses, and provides education and support for their families; interdisciplinary consult teamwork with patient's primary medical providers for inpatient or outpatient management of symptoms, goal setting, and decision making; introduction to pediatric palliative care with option to be involved in adult palliative care and local hospice services. Requirements: M.D. enrollment.

PEDS:8421 Pediatric Endocrinology 2,4 s.h.

Diagnosis, management, and treatment of pediatric endocrine diseases: growth disorders (short stature, tall stature, delayed puberty, precocious puberty), thyroid disorders (hypothyroidism, hyperthyroidism, thyroid nodules), diabetes mellitus, diabetes insipidus, dysgenetic syndromes, ambiguous genitalia, adrenal insufficiency or adrenal steroid excess, and hypopituitarism. Requirements: M.D. enrollment.

PEDS:8431 Pediatric Nephrology 2,4 s.h.

Introduction to general pediatric nephrology cases and management. Requirements: M.D. enrollment.

PEDS:8450 Continuity of Care in Outpatient General Pediatrics 4 s.h.

Work with experienced general pediatrician in a longitudinal clinical experience for the academic year; paired with faculty pediatrician to see patients in a weekly clinic, provide clinical care to a defined patient population; growth and development, health supervision, and management of common acute and chronic clinical problems. Requirements: fourth-year M.D. enrollment.

PEDS:8495 Pediatric Intensive Care Off Campus arr.

Arranged by student and department. Requirements: fourth-year M.D. enrollment.

PEDS:8497 Research in Pediatrics arr.

Medical research, clinical or laboratory projects; individual study.

PEDS:8498 Pediatrics On Campus arr.

Requirements: fourth-year M.D. enrollment.

PEDS:8499 Pediatrics Off Campus arr.

Requirements: fourth-year M.D. enrollment.

Surgery

Chair

- Ronald Weigel

Faculty: <https://medicine.uiowa.edu/surgery/people/primary-appointments>

Website: <https://medicine.uiowa.edu/surgery/>

The Department of Surgery offers didactic instruction as well as clinical and other practical experiences for medical students. It also hosts a wide spectrum of clinical and scientific research.

Faculty

The faculty's strengths center in pathophysiology and problems of severe burns, trauma, organ transplantation, surgical control of morbid obesity, surgical oncology, bowel disease, biliary tract disease, pediatric surgery, endocrine disease, plastic surgery, and vascular surgery.

M.D. Training

Department of Surgery courses provide a unique combination of experience oriented toward patient care and understanding of surgery's place among a physician's skills. Surgery courses are open only to M.D. students and qualified students in associated health sciences.

Students develop an awareness of surgery's role in the treatment of disease. Emphasis is placed on general surgery, basic emergency surgery, trauma, oncology, burns, gastrointestinal and biliary tract disease, endocrine disease, pediatric surgery, transplantation, plastic and reconstructive surgery, and peripheral vascular surgery.

The majority of surgery courses involve patient-centered discussions and practical exercises interwoven with operating room experience. Lectures and conferences are scheduled regularly on specific topics.

The department offers independent study courses in selected surgery topics and clinical experiences; some are available to fourth-year M.D. students by arrangement with the faculty.

Facilities

Abundant patient contact provides education in a wide variety of surgical diseases. The Department of Surgery provides training in the only burn unit in Iowa approved by the American College of Surgeons and in the Level I Trauma Center at University of Iowa Hospitals and Clinics.

Laboratories provide equipment, space, and technical expertise to support teaching and a wide spectrum of clinical and scientific research. Projects are available in gastrointestinal surgery, surgical microbiology, peripheral vascular surgery, transplantation, wound healing, organ preservation, vascular surgery, pediatric surgery, and surgical oncology.

Courses

Surgery Courses

SURG:8301 Clinical Surgery 6 s.h.

Experience as active member of surgical team; work on inpatient units, in clinics and operating room; assist in elective and emergency patient care.

SURG:8401 Advanced General Surgery 4 s.h.

Opportunity to strengthen clinical skills through experiences in the operating rooms, clinics, wards, and intensive care units of University of Iowa Hospitals and Clinics.

SURG:8402 Subinternship in General Surgery 4 s.h.

Responsibility for management of selected surgical inpatients, on a surgical service. Prerequisites: SURG:8301.

SURG:8406 General Surgery, Des Moines, IA 4 s.h.

Care of general surgery patients in private hospital setting. Prerequisites: SURG:8301.

SURG:8407 Intensive Care Unit - Trauma, Iowa Methodist 4 s.h.

Subinternship on trauma service team; evaluation and management of critically ill patients in the emergency room, operating room, intensive care unit. Prerequisites: SURG:8301. Requirements: fourth-year M.D. enrollment.

SURG:8409 General Surgery, Davenport, IA 4 s.h.

Participation in diagnosis and management of general surgical patients under supervision of attending surgeons from Davenport Surgical Group, Genesis Medical Center. Prerequisites: SURG:8301. Requirements: fourth-year M.D. enrollment.

SURG:8411 Multidisciplinary Breast Elective 2,4 s.h.

Evaluation and management of benign and malignant breast diseases; focus on multidisciplinary nature of treatment of breast disease; for students who plan to pursue residency in general surgery, obstetrics and gynecology, family practice, or other field with focus on women's health. Requirements: M.D. enrollment.

SURG:8497 Research Surgery arr.

Project with faculty member. Prerequisites: 075:005 (SURG:8301).

SURG:8498 Surgery On Campus arr.

Surgery on campus; individually arranged. Prerequisites: SURG:8301.

SURG:8499 Surgery Off Campus arr.

Prerequisites: SURG:8301.

Urology

Chair

- Karl Kreder

Faculty: <https://medicine.uiowa.edu/urology/people/primary-appointments>

Website: <https://medicine.uiowa.edu/urology/>

Urology encompasses the subspecialty areas of urologic nephrology, oncology, and endocrinology; male reproductive physiology; erectile dysfunction; neurourology; pediatric urology; urinary tract stone and infection, including endourology; laparoscopic and robotic urology; trauma and reconstructive urology; urodynamics and female urology; diagnostic urology; and urinary tract obstruction.

The Department of Urology offers instruction in all of these areas to M.D. and graduate students and provides continuing education for the delivery of urologic care.

Continuing Education

The department offers continuing education activities throughout the year for urologic and family practitioners. These activities are conducted by the faculty, whose interests include pediatric urology, reproductive physiology and male infertility, urologic oncology, urinary tract stone (including endourology/laparoscopy), robotic surgical procedures, trauma and reconstructive urology, female urology, and prostatic diseases.

Research

The department has earned international recognition for its studies of prostatic diseases. The urological laboratories conduct research and offer instruction in experimental oncology, cellular immunology, and infertility.

M.D. Training

The Department of Urology cooperates with several University of Iowa basic science departments to educate first-year M.D. students in the relationship between urology and the basic sciences. It collaborates with the Department of Microbiology and Immunology [p. 1576] in teaching and research concerning immunology of genitourinary cancers and renal transplantation.

In the first-year M.D. course, MED:8134 Mechanisms of Health and Disease III, and the second-year courses, MED:8221 Clinical and Professional Skills III and MED:8224 Mechanisms of Health and Disease Keystone, the department presents illustrative lectures and demonstrations related to diagnosis and treatment of genitourinary tract diseases.

Second-, third-, and fourth-year M.D. students take Department of Urology courses that provide experience in all areas of urology. The department's selective two-week clerkship covers the fundamentals of these areas through experience in outpatient clinics, surgical settings, and inpatient units at University of Iowa Hospitals and Clinics, the Iowa River Landing, and the Iowa City VA Health Care System. M.D. students can take advanced elective courses of intensive study in any of the urologic subspecialties after completion of URO:8301 Clinical Urology.

Courses

Urology Courses

URO:8301 Clinical Urology 2 s.h.

Work in urology unit, clinic; responsibility for patient care, working with residents.

URO:8401 Advanced Urology 4 s.h.

Experience as integral member of urological staff, junior resident level. Requirements: M.D. enrollment.

URO:8402 Pediatric Urology 2,4 s.h.

In-depth study of pediatric urology topics. Requirements: M.D. enrollment.

URO:8403 Urologic Oncology 2,4 s.h.

Multispecialty exposure to diagnosis and treatment of patients with current and newly diagnosed urologic malignancies. Requirements: M.D. enrollment.

URO:8404 Female Pelvic Floor Dysfunction 2,4 s.h.

Requirements: M.D. enrollment.

URO:8496 Individual Study and Research arr.

Preclinical or clinical projects; may include research presentation, collaboration on a publication.

URO:8497 Research in Urology arr.

Medical research, clinical or laboratory projects; individual study.

URO:8498 Urology On Campus arr.

Clinical clerkship; individually arranged by student with departmental approval.

URO:8499 Urology Off Campus arr.

Individually arranged by students with department approval.

College of Nursing

Dean

- Julie Zerwic

Interim Associate Dean for Academic Affairs

- Anita M.T. Stineman

Associate Dean for Faculty

- Keela Herr

Associate Dean for Research

- Ann Marie McCarthy

Associate Dean for Undergraduate Programs

- Anita C. Nicholson

Assistant Dean for Graduate Practice Programs

- Mary S. Dirks

Director, Ph.D. Program

- Sandra E. Daack-Hirsch

Undergraduate degree: B.S.N.

Graduate degrees: M.S.N.; D.N.P.; Ph.D. in nursing

Graduate certificates: adult gerontology acute care nurse practitioner; adult gerontology primary care nurse practitioner; family nurse practitioner; health systems; pediatric nurse practitioner-acute care; pediatric nurse practitioner-primary care; psychiatric/mental health nurse practitioner

Faculty: <https://nursing.uiowa.edu/faculty-staff/faculty-directory>

Website: <https://nursing.uiowa.edu/>

The College of Nursing is an integral part of the University of Iowa health science campus, sharing in and contributing to teaching, research, and patient care resources that have earned international recognition. The University provides an unusually fine setting for nursing preparation because the educational and clinical resources vital to educating nurses are available on or near the campus. Faculty and students participate fully in University life and contribute their time, interests, and abilities to the many general and special activities of a major research university.

The college's Bachelor of Science in Nursing (B.S.N.), the Clinical Nurse Leader (CNL) program (in the Master of Science in Nursing), and the Doctor of Nursing Practice (D.N.P.) programs are accredited by the Commission on Collegiate Nursing Education (CCNE), an autonomous accrediting arm of the American Association of Colleges of Nursing (AACN). They also are approved by the Iowa Board of Nursing. The anesthesia nursing program (in the Doctor of Nursing Practice) is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs.

Graduates of the prelicensure B.S.N. qualify to take the National Council Licensure Examination (NCLEX) required for practice as registered nurses (RN). Graduates of advanced practice majors in the graduate program are eligible to take certification examinations and apply for Advanced Registered Nurse Practitioner (ARNP) licensure.

Related Minor and Certificates

Aging and Longevity Studies

College of Nursing students may participate in the Aging and Longevity Studies Program, which provides undergraduate students with a multidisciplinary approach to gerontology. The program offers a certificate and a minor. Students plan their course of study with their academic advisor in close cooperation with the Aging and Longevity Studies Program coordinator. The Aging and Longevity Studies Program is administered by the School of Social Work (College of Liberal Arts and Sciences). For more information, see Aging and Longevity Studies [p. 32] in the Catalog (College of Liberal Arts and Sciences).

Informatics (Health Informatics Subprogram)

The Graduate College offers the Certificate in Informatics with a health informatics subprogram. The subprogram emphasizes the organization, management, and use of health care information; health care research, education, and practice; and information technology developments in the socioeconomic context of health care.

College of Nursing students working toward the certificate complete IGPI:5200 Health Informatics I, which explores decision-making processes and technological tools to support health care administration, management, and practice; and EPID:5200 Principles of Public Health Informatics, which focuses on systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics.

Students earn additional credit in foundational informatics course work, including one elective chosen in consultation with their major program advisor and their certificate advisor. Students who earn credit for a thesis, project, or independent study in their major program of study may apply the credit as an elective if the certificate advisor determines that the subject matter is pertinent.

To learn more, see the Certificate in Informatics [p. 1471] (Graduate College) in the Catalog. For additional information, see Health Informatics on the Graduate College website.

Professional Improvement

Registered nurses who wish to take University of Iowa course work to fulfill professional or personal improvement objectives may request admission in the professional improvement (PI) category. This admission status allows students to take some graduate courses at the University without committing to a degree objective.

Admission as a nursing professional improvement student requires a formal application, including submission of three current written recommendations and all academic transcripts. Graduate Record Examination (GRE) General Test scores, required by the University, must be submitted before the end of first semester registration.

Application deadlines are July 15 for fall semester admission, December 1 for spring semester admission, and May 1 for summer session admission.

Since acceptance as a PI student does not influence acceptance to the college's graduate degree programs, PI students interested in earning a graduate degree in nursing must apply for admission to the degree program

(see Programs [p. 1655] and then "Admission" under each graduate program of study in this section of the Catalog). Students may count a maximum of 6 s.h. or two required nursing core courses that they complete as PI students toward M.S.N. requirements. Professional improvement students may not enroll in Ph.D. courses.

Continuing Education

The college offers nonacademic, short-term continuing education programs for nurses. Continuing Education Units (CEUs) are awarded for these programs. The College of Nursing is an Iowa Board of Nursing approved provider of continuing education (Provider Number 1).

Student Organizations

All College of Nursing B.S.N. prelicensure students are members of the National Student Nurses Association and its local chapter, the Iowa Association of Nursing Students (IANS). The University of Iowa Association of Nursing Students (UIANS) provides opportunities for professional growth and development in nursing. UIANS representatives are members of the University of Iowa Student Government (UISG).

The University of Iowa Multicultural Nursing Association (UIMNA) provides support, network opportunities for leadership and professional growth, and development for underrepresented students who are undergraduate nursing interest and nursing majors, graduate nursing students, and underrepresented nursing professionals in the region.

University of Iowa Men in Nursing (UIMiN) provides opportunities for nurses to meet, to recruit, to talk, and to influence the environment for men in nursing. It is open to all nursing students.

The college's Association of Graduate Nursing Students (AGNS) provides opportunities for professional growth, sharing of research, and representation on varied college and University committees.

See Nursing Student Organizations on the College of Nursing website.

Programs

Undergraduate Program of Study

Major

- Bachelor of Science in Nursing [p. 1666]

Graduate Programs of Study

Majors

- Master of Science in Nursing [p. 1672]
- Doctor of Nursing Practice [p. 1673]
- Doctor of Philosophy in Nursing [p. 1683]

Certificates

- Adult Gerontology Acute Care Nurse Practitioner [p. 1684]
- Adult Gerontology Primary Care Nurse Practitioner [p. 1685]
- Family Nurse Practitioner [p. 1686]
- Health Systems [p. 1687]
- Pediatric Nurse Practitioner-Acute Care [p. 1688]

- Pediatric Nurse Practitioner-Primary Care [p. 1689]
- Psychiatric/Mental Health Nurse Practitioner [p. 1690]

Facilities

The College of Nursing Building is centrally located on the University's main campus, in close proximity to the Carver College of Medicine, the College of Dentistry, the College of Pharmacy, the College of Public Health, University of Iowa Hospitals and Clinics, and the Hardin Library for the Health Sciences.

Renovation to the College of Nursing Building began in spring 2018 to provide collaborative classrooms and learning spaces that further enhance the learning opportunities for students. Scheduled to be completed in summer 2019, the renovation project will create new flexible classrooms, meeting spaces, and administrative offices. The project also will update audiovisual systems in select spaces on the third and fourth floors. The renovation project enables the College of Nursing to create a more cohesive student-centered space and meet future growth in programs. Student lounge and doctoral student office spaces continue to be provided.

The Nursing Clinical Education Center provides clinical experiences for nursing students and serves as a resource for the University's professional nursing staff. Located at University of Iowa Hospitals and Clinics, the center offers the latest technology in an 11-room clinical simulation lab. It also has an 86-seat classroom, a resource library, and gathering spaces for private study. The center is operated collaboratively by the College of Nursing and UI Hospitals and Clinics Department of Nursing Services and Patient Care.

Courses

College of Nursing Courses

NURS:1020 First-Year Seminar 1 s.h.

Introduces first-year undergraduate students to the intellectual life of the University of Iowa; provides an opportunity to work closely with a faculty member or senior administrator; seminars help students make the transition to college-level learning through active participation in their own learning.

NURS:1030 Human Development and Behavior 3 s.h.

Normal developmental transitions experienced by individuals and family systems throughout the lifespan, including physical, cognitive, and social-emotional development. Requirements: nursing or nursing-interest major.

NURS:1700 Global Health Nursing 3 s.h.

Complexity of health and nursing in a global context; overview of the biological, social, epigenetic, and environmental contributors to health and diseases in populations around the world and nursing's role in improving health; includes case studies of various global organizational and educational structures and systems relative to population health, selected infectious diseases, nutritional deficiencies, and health effects of environmental change. Same as GHS:1700.

NURS:1800 Aging Matters: Introduction to Gerontology 3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, SSW:1800, TR:1800.

NURS:3099 Leadership U 1-3 s.h.

Development of leadership in nursing; application of leadership theory in practice by participating in activities such as attending professional organization meetings, acting as a delegate, writing legislation, holding a board position, or being part of a multidisciplinary or international team to organize events for community involvement. Requirements: nursing major.

NURS:3110 Healthcare Finance 3 s.h.

Basic structure of U.S. health care system and how it is funded; tools for making decisions about available financial resources.

NURS:3128 Health Assessment and Communication Across the Lifespan 3 s.h.

Assessment and communication skills; development and application of cognitive skills to perform systematic, holistic, and culturally competent health assessments; emphasis on application of clinical reasoning involving assessment, nursing diagnoses, interventions, and outcomes. Corequisites: NURS:3138 and NURS:3150 and NURS:3160 and NURS:3518. Requirements: admission to the College of Nursing.

NURS:3138 Nursing and Pharmacological Interventions I 5 s.h.

First of a two-part series focusing on basic biophysical concepts that inform nursing and pharmacological interventions, including sleep, immobility, skin care, wound healing, infection, and human response to illness; selected disorders and/or diseases, including GI disease, disorders of bowel and urine elimination, diabetes, and cancer; introduction to health literacy and principles of health education. Prerequisites: CHEM:1070 and MATH:1440 and BIOL:1141 and ACB:3110 and MICR:3164 and (HHP:1300 or HHP:3500) and CHEM:1080. Corequisites: NURS:3128 and NURS:3150 and NURS:3160 and NURS:3518. Requirements: 64 s.h. of undergraduate course work, including successful completion of required science courses and general education liberal arts and sciences requirements and electives.

NURS:3150 Clinical Simulation Laboratory I 3 s.h.

First of a two-part series focusing on laboratory-based learning and simulation experience involving basic biophysical and psychosocial assessment skills needed to provide safe and effective nursing care across diverse settings and populations; emphasis on development of nurse-patient and intra- and inter-professional communication skills. Requirements: admission to the College of Nursing.

NURS:3160 Professional Role I: Professionalism and Patient Safety 3 s.h.

Introduction to inherent nursing values, history, theories, and scope of professional nursing; concepts of safety, risk identification, and clinical decision making; information technologies that promote quality and safety. Requirements: admission to the College of Nursing.

NURS:3198 Distance Education: Independent Study 1-3 s.h.

Supervised study designed for individual undergraduate students.

NURS:3199 Independent Study 1-3 s.h.

Supervised study designed for individual undergraduate students.

NURS:3438 Nursing and Pharmacological Interventions II 5 s.h.

Second of a two-part series focusing on complex biophysical concepts that inform nursing and pharmacological interventions, including fluids and electrolytes, shock, and perioperative care; focus on selected disorders and/or diseases, including neurological, immune, musculoskeletal, cardiovascular, respiratory, renal, and endocrine disorders. Prerequisites: NURS:3518 and NURS:3138 and NURS:3128 and NURS:3150 and NURS:3160. Corequisites: NURS:3450 and NURS:3460 and NURS:3620 and NURS:3625.

NURS:3450 Clinical Simulation Laboratory II 2 s.h.

Second of a two-part series focusing on laboratory-based learning and simulation experience involving complex biophysical and psychosocial assessment skills, critical thinking, and decision making needed to provide safe and effective nursing care across diverse settings and populations; emphasis on development of clinical reasoning skills across the lifespan, including end-of-life care. Prerequisites: NURS:3150 and NURS:3128 and NURS:3518 and NURS:3160 and NURS:3138. Corequisites: NURS:3438.

NURS:3460 Professional Role II: Research 3 s.h.

Introduction to concepts and process of research in nursing; primary focus on understanding research and its foundation for nursing practice. Requirements: basic statistics. Recommendations: upper-level statistics.

NURS:3518 Pathology 3 s.h.

Introduction to abnormal functioning of cells, tissues, organs, and systems over the human lifespan; focus on hematological, immune, neurological, musculoskeletal, cardiovascular, respiratory, renal, gastrointestinal, endocrine, and reproductive system; alterations in metabolic processes and alterations in homeostatic mechanisms impacting the internal milieu; emphasis on critical thinking. Prerequisites: (CHEM:1080 and ACB:3110 and BIOL:1141 and MICR:3164 and CHEM:1070 and (HHP:1300 or HHP:3500)) or NURS:3734. Requirements: admission to the College of Nursing.

NURS:3595 Nonprofit Organizational Effectiveness I 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, RELS:3700, SSW:3500.

NURS:3600 Nonprofit Organizational Effectiveness II 3 s.h.

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, RELS:3701, SSW:3600.

NURS:3615 Adult Medical/Surgical Nursing Practicum**3 s.h.**

In-depth clinical experience; application of basic and complex concepts of nursing care for adults of all ages in a variety of settings, focus on older adults; development and application of critical thinking skills necessary to understand disease process, associated signs and symptoms; emphasis on interventions and outcomes. Prerequisites: NURS:3150 and NURS:3128 and NURS:3138 and NURS:3160 and NURS:3518. Corequisites: NURS:3438 and NURS:3450 and NURS:3460 and NURS:3620 and NURS:3625.

NURS:3620 Gerontological Nursing**3 s.h.**

Nurse's role in promoting, maintaining, and restoring the health of aging adults; internal and external influences on older adults, application of nursing science to the care of older adults in diverse settings. Prerequisites: NURS:3128 and NURS:3138 and NURS:3518 and NURS:3160 and NURS:3150. Corequisites: NURS:3438 and NURS:3450 and NURS:3460 and NURS:3625.

NURS:3625 Gerontological Nursing Practicum**2 s.h.**

In-depth clinical experience designed to apply basic and complex concepts of nursing care for adults of all ages in a variety of settings; focus on older adults; development and application of critical thinking skills necessary to understand disease process and the associated signs and symptoms, interventions, and outcomes. Prerequisites: NURS:3160 and NURS:3150 and NURS:3138 and NURS:3128 and NURS:3518. Corequisites: NURS:3438 and NURS:3450 and NURS:3460 and NURS:3615 and NURS:3620.

NURS:3630 Parent-Child Nursing**3 s.h.**

Promoting, maintaining, and restoring the health of parents, infants, children, and adolescents in childbearing and childrearing families; nursing care prior to and during pregnancy, labor, and delivery; care of newborns, well children, and children with acute and chronic illness examined within the context of family and community. Prerequisites: NURS:3620 and NURS:3438 and NURS:3450 and NURS:3615 and NURS:3460 and NURS:3625. Corequisites: NURS:3640 and NURS:3645 and NURS:3660.

NURS:3635 Parent Child Nursing Practicum**2 s.h.**

Application of nursing knowledge to promote, maintain, and restore health; vulnerable populations of interest including persons with mental health disorders, infants, children, adolescents, their families; processes of childbearing and childrearing within context of families. Prerequisites: NURS:3450 and NURS:3625 and NURS:3620 and NURS:3438 and NURS:3615 and NURS:3460. Corequisites: NURS:3630 and NURS:3640 and NURS:3645 and NURS:3660. Requirements: successful completion of two semesters in B.S.N. curriculum.

NURS:3640 Psychiatric/Mental Health Nursing**3 s.h.**

General principles and practices of psychiatric/mental health nursing; psychiatric disorders, populations at risk, continuity of care, and problems in daily living; unique needs of diverse populations. Prerequisites: NURS:3438 and NURS:3620 and NURS:3615 and NURS:3625 and NURS:3460 and NURS:3450. Corequisites: NURS:3630 and NURS:3645 and NURS:3660.

NURS:3645 Mental Health Nursing Practicum**2 s.h.**

Application of nursing knowledge to promote, maintain, and restore health; vulnerable populations of interest including persons with mental health disorders, infants, children, adolescents, their families; processes of childbearing and childrearing within context of families. Prerequisites: NURS:3625 and NURS:3438 and NURS:3620 and NURS:3450 and NURS:3615 and NURS:3460. Corequisites: NURS:3630 and NURS:3635 and NURS:3640 and NURS:3660. Requirements: successful completion of two semesters in B.S.N. curriculum.

NURS:3650 Community and Public Health Nursing**3 s.h.**

Role of nursing in the relationship between community conditions and public health; emphasis on principles of public health combined with nursing knowledge and skills to address health needs of individuals, families, communities, and populations. Prerequisites: (NURS:3660 and NURS:3640 and NURS:3635 and NURS:3645 and NURS:3630) or NURS:3460. Corequisites: NURS:3655. Requirements: for pre-licensure B.S.N. student—successful completion of NURS:3620, NURS:3625, NURS:3630, NURS:3640, and NURS:3645, and concurrent enrollment in NURS:4155 and NURS:4160; for post-licensure RN-B.S.N. student—successful completion of NURS:4160, 6 s.h. of required nursing elective courses, and completion of general education electives.

NURS:3655 Community and Public Health Nursing Practicum**2 s.h.**

Learning opportunities to apply principles of public health with nursing knowledge and skills to address health promotion, disease and injury prevention, and nursing management of infectious disease and chronic health conditions; nursing activities focus on improvement of health outcomes at individual, family, community, and global levels within the context of population-focused practice. Prerequisites: (NURS:3645 and NURS:3635 and NURS:3640 and NURS:3630 and NURS:3660) or NURS:3460. Corequisites: NURS:3650. Requirements: for pre-licensure B.S.N. student—successful completion of NURS:3625 and NURS:3645, and concurrent enrollment in NURS:4155 and NURS:4160; for post-licensure RN-B.S.N. student—successful completion of NURS:3110 and NURS:3160 and NURS:3460 and NURS:3518 and NURS:3660 and NURS:3734 and NURS:4160, 6 s.h. of required nursing electives, completion of general education electives, RN licensure in state of practicum, and concurrent enrollment in NURS:3734, if not taken as a prerequisite.

NURS:3660 Professional Role III: Improving Health Systems**2-3 s.h.**

Legal and regulatory processes that impact health care, how disparities influence health care, and evidence-based approaches for improving quality of care; strategies for working effectively in intra and interdisciplinary teams; integration of a culture of safety. Prerequisites: (NURS:3450 and NURS:3615 and NURS:3625 and NURS:3620 and NURS:3460 and NURS:3438) or (NURS:3160 and NURS:3460).

NURS:3712 Human Sexuality, Diversity, and Society**1-3 s.h.**

Introduction to human sexuality from a biopsychosocial, sex-positive perspective; sexuality as a normal and essential component of human existence and expression throughout the life span; influence of gender, class, religion, race, ethnicity, sexual orientation, ability status, age, and culture on sexuality interwoven and highlighted; diversity of perspectives and experiences shared through active participation and respectful dialogue. Same as SSW:3712.

NURS:3715 Health Disparities and Cultural Competence 2-4 s.h.

Characteristics, causes, and effects of health disparities in the U.S. health care system; foundation for development of knowledge, attitudes, and skills required of culturally competent health care providers; definitions and models of cultural competence, characteristics of culturally effective practitioners and workplaces; health disparities among specific populations, evidence for cultural competence as a remedy; taking a culturally appropriate history; working with interpreters; legal and professional imperatives for cultural competence. Same as PHAR:8715.

NURS:3728 Quality Improvement and Patient Safety 2 s.h.

Students work with faculty and staff involved in quality improvement and patient safety (QI/PS) at University of Iowa Hospitals and Clinics (UIHC); readings, didactic sessions, and hands-on activities to advance knowledge and practice of QI/PS in health care; activities include review of ongoing QI/PS projects at UIHC, application of QI/PS methodologies to project development and analysis, individual and team-based simulations, interdisciplinary collaboration and communication, participating in conferences related to QI/PS, and reflecting on these experiences with peers. Same as MED:8410.

NURS:3734 Introduction to Human Genetics 3 s.h.

Introduction to organization of the human genome and basic principles of inheritance in humans; cells and development, chromosome structure and function, gene structure and function, genes in pedigrees and populations, implications of genetic variation on health.

NURS:3736 Legal Issues for Health Care Providers 3 s.h.

Legal issues faced by health care providers, counselors, and social services providers; administrative and regulatory requirements, civil lawsuits, issues that affect students as providers, advocates, and individuals.

NURS:3737 Care of the Patient in Pain 3 s.h.

Foundational and advanced content in the area of pain management across populations, the lifespan, and settings of care; content and learning focus on core competencies for pain management recommended of all health care professionals; emphasis on development of interdisciplinary team, including nurses, as an advocate for quality and safe pain management; content areas include type of pain, pain therapies, assessment and measurement, treatment, self-management, evaluation/monitoring, disparities, and bioethics; no clinical component. Requirements: upper-division standing. Recommendations: pharmacology and pathophysiology.

NURS:3739 Women and Their Bodies in Health and Illness 3 s.h.

Basic facts about structure and functioning of female body; particular attention to adjustments the body makes during normal physiological events (menstruation, sexuality, reproduction, menopause) and during illness processes; women's mental and physical health issues in relation to women's lives and roles in society; relationship of women as consumers, practitioners, and activists to health system; achievements and limitations of women's health movements; anti-oppression, intersectionalities, and cross-cultural perspectives. Same as GWSS:3177.

NURS:3740 End-of-Life Care for Adults and Families 3 s.h.

End-of-life issues in care of adults, older adults, and their families. Same as ASP:3740, MED:3740, PHAR:3740.

NURS:3741 Nurse Residency Role Transition Seminar 3 s.h.

New graduate nurses entering practice are enrolled in transition-to-practice programs focused on integration of knowledge, skills, and professional behaviors necessary to provide safe, quality care; associate degree nurses evaluate how they achieved mastery of core knowledge and competencies and discuss Commission on Collegiate Nursing Education (CCNE) Entry-to-Practice Competencies; students examine transition-to-practice experience and document ways in which knowledge, skills, and attitudes are impacted and improved; engage in group discussion and reflective writing assignments to evaluate professional growth during transition-to-practice. Requirements: associate degree nurse graduate currently enrolled in or recent completion of a nurse residency program accredited by Commission on Collegiate Nursing Education (CCNE) or UI online nurse residency program (nurse residency program completed within two years or current enrollment with completion in a minimum of five months).

NURS:3742 Selected Topics in Nursing 1-2 s.h.

In-depth study of topics in professional nursing practice and health care; workshop format.

NURS:3743 Perioperative Nursing 3 s.h.

Patient assessments, nursing interventions, and patient responses for individuals undergoing surgical procedures; phases of perioperative care including preoperative assessment, patient education, intraoperative care, and post-anesthesia care will be emphasized in this course. Prerequisites: NURS:3615. Requirements: prerequisite course or RN licensure.

NURS:3744 Critical Care Nursing 3 s.h.

Provides nursing students with the knowledge required to safely and competently care for critically ill or injured patients; builds upon foundational courses in medical/surgical acute care. Prerequisites: NURS:3615. Requirements: prerequisite course or RN licensure.

NURS:4096 Distance Education: Honors Independent Study 3 s.h.

Building on honors seminar, students implement the project they designed in the seminar with guidance from the student's contracted honors faculty mentor; honors project is expected to apply current professional evidence and result in a rigorous scholarly product; the specific type of product is negotiated with honors faculty mentor; while a minimum of 90 hours is required for honors project, honors faculty mentor and student work together to determine the specific schedule commitments. Prerequisites: NURS:4098.

NURS:4098 Honors Seminar 1 s.h.

Crafting a meaningful honors project; structured steps for development of a project idea, measurable learning objectives, GANTT chart timeline, beginning literature review related to the independent study subject; identification/completion of organizational requirements such as approval processes, access to electronic systems, and training.

NURS:4099 Honors Independent Study 3 s.h.

Building on honors seminar, students implement the project they designed in the seminar with guidance from the student's contracted honors faculty mentor; honors project is expected to apply current professional evidence and result in a rigorous scholarly product; specific type of product negotiated with honors faculty mentor; while a minimum of 90 hours is required for honors project, honors faculty mentor and student work together to determine specific schedule commitments. Prerequisites: NURS:4098.

NURS:4155 Senior Nursing Internship 5 s.h.

Immersion capstone experience to engage in practice under direct supervision of a professional registered nurse mentor; design, provide, coordinate, and evaluate care; work with teams to deliver evidence-based care; improve quality, patient safety, and outcomes. Prerequisites: NURS:3640 and NURS:3660 and NURS:3635 and NURS:3630 and NURS:3645. Corequisites: NURS:3650 and NURS:3655 and NURS:4160.

NURS:4160 Professional Role IV: Leadership and Professional Engagement 3,5 s.h.

Concepts of leadership, followership, management, informatics, and professional engagement; quality improvement strategies and skills; professional development, career trajectory, and role transitions. Prerequisites: (NURS:3660 and NURS:3645 and NURS:3635 and NURS:3630 and NURS:3640) or (NURS:3460 and NURS:3160 and NURS:3660). Corequisites: NURS:3660, if not taken as a prerequisite.

NURS:4170 Baccalaureate Seminar 1 s.h.

Examination of didactic and clinical learning experiences; documentation of changes in knowledge, skills, and attitudes to demonstrate achievement of relevant competencies; group discussion and reflective writing assignments to evaluate professional growth that has occurred during the B.S.N. program.

NURS:4205 Communication for the Professional Nurse 0 s.h.

Communication with all members of a health care team to deliver safe, high quality care; introduction to transition stages, survival strategies, journaling and reflecting; how to develop a professional growth plan; first in a three-part series. Requirements: enrollment in online nurse residency program.

NURS:4210 Responsibilities of the Professional Nurse 0 s.h.

Understanding and application of concepts of safety, quality improvement, and evidence-based practice to improve patient care; second in a three-part series. Prerequisites: NURS:4205. Requirements: enrollment in online nurse residency program.

NURS:4215 Decision Making at the Point of Care 0 s.h.

Making the right decision when providing care to all patients to deliver safe and high quality care; third in a three-part series. Prerequisites: NURS:4205 and NURS:4210. Requirements: enrollment in online nurse residency program.

NURS:5002 Leadership and Management Essentials 3 s.h.

Roles and strategies for leading and managing others in health care environments to influence health care delivery and provide a healthy, innovative working environment; focus on selected leadership and organizational concepts essential to leaders in health care.

NURS:5007 Applied Epidemiology 3 s.h.

Introduction to basic principles and methods of epidemiology and demonstration of applicability in field of nursing and nursing research; topics include historical perspectives of epidemiology, epidemiological models of health and disease, measures of disease occurrence and association, disease screening, causal inference, study design and application of epidemiological approaches to clinical practice, program planning and evaluation.

NURS:5008 Foundations of Nursing Science I 3 s.h.

Integration of interdisciplinary theories and philosophies of science relevant to nursing; emphasis on application of theory and philosophy in advanced nursing practice and research.

NURS:5009 Evaluating Evidence for Practice 3 s.h.

Opportunity for clinicians to develop proficiency in use of research- and evidence-based practice; essentials of the research process, qualitative and quantitative research, components of evidence-based practice; acquisition of knowledge and skills necessary for research (knowledge) utilization initiatives and application of evidence-based practice principles in clinical settings; identification of appropriate research questions, synthesis of knowledge base for evidence-based practice, revision of clinical practice guidelines, and evaluation of research utilization and evidence-based practice initiatives.

NURS:5010 Clinical Data Management and Evaluation 3 s.h.

Clinical data management essential for evaluating evidence-based practice/performance improvement projects; a high caliber data management plan will provide key stakeholders with information necessary to make decisions and includes components of identified processes and outcomes linked to variables and data sources, adequate statistical power, data cleaning and manipulation techniques, statistical methods, and a meaningful presentation of variables that addresses the concerns and questions of key stakeholders; knowledge and skills necessary to develop and execute data management plan for final project. Prerequisites: NURS:5009. Requirements: master's or doctoral standing.

NURS:5015 Health Systems, Finance, and Economics 3 s.h.

Global, economic, organizational, legal, political, and technological contexts in advanced nursing practice; knowledge and skills necessary for understanding the evolution of health services organizations, financing of health care, and relationships among socioeconomic systems influencing health care and nursing practice; impact of macrosystems on distribution, acquisition, and use of financial and economic principles in delivery of health care services. Prerequisites: NURS:5002.

NURS:5016 Health Care Infrastructure and Informatics 3 s.h.

Health care infrastructure with a focus on the United States; role of information and technology in its development and implementation; role of data sets, information technology, and emerging technologies in supporting providers in managing patient care and population health of vulnerable groups. Prerequisites: NURS:5002 and NURS:5015.

NURS:5017 Quality and Safety 3 s.h.

Foundation for understanding concepts of safety and quality across health care settings; focus on providing a safe environment, elevating staff performance and clinical outcomes related to safety and quality, and methods for continuous improvement.

NURS:5018 Clinical Education in the Care Environment 3 s.h.

Preparation to assume role of educator with individuals, groups, and communities, including staff and students; teaching/learning process for providing client education; knowledge and skills needed to effectively fill role of preceptor/mentor.

NURS:5019 Role Development: Educator in a Practice Discipline 3 s.h.

Becoming an educator in a practice discipline; unique knowledge, skills, approaches to didactic and clinical teaching; overview of curriculum development process that affects revision/development; faculty role in curriculum development and evaluation; knowledge and skills to create a learner-centered environment for professional students; key facilitation and evaluation strategies; application of concepts during field experience working directly with experienced faculty.

NURS:5020 Application of Educator Role Competencies 1-3 s.h.

Individually designed activities to strengthen performance as an educator in a practice discipline; meet with experienced instructor to develop specific objectives and related activities to be completed during a 45-hour field experience. Prerequisites: NURS:5019.

NURS:5021 Physiology, Pathophysiology, and Pharmacology I for the Clinical Nurse Leader 3 s.h.

Basic scientific concepts required for B.S.N. and clinical nursing experience; matches physiology and pathophysiology with pharmacological treatments as combined core elements; focus on regulation of cellular, organ, and system functions; regulation of internal milieu; functional interrelationships among body systems; cellular and body-wide defense mechanisms; synthesis of information related to pathophysiological phenomena; pharmacokinetic and pharmacodynamics principles essential for general practice; specific drug classes used in management of clinical conditions. Two semesters.

NURS:5022 Physiology, Pathophysiology, and Pharmacology II for the Clinical Nurse Leader 3 s.h.

Basic scientific concepts required for B.S.N. and clinical nursing experience; matches physiology and pathophysiology with pharmacological treatments as combined core elements; focus on regulation of cellular, organ, and system functions; regulation of internal milieu; functional interrelationships among body systems; cellular and body-wide defense mechanisms; synthesis of information related to pathophysiological phenomena; pharmacokinetic and pharmacodynamics principles essential for general practice; specific drug classes used in management of clinical conditions. Two semesters. Prerequisites: NURS:5021.

NURS:5023 Pathophysiology for Advanced Clinical Practice 4 s.h.

In-depth study of pathophysiologic processes across the lifespan; emphasis on dysregulation of cellular, organ, and system functions; clinical manifestations of common disease states; resultant physiological responses to internal milieu; interrelationships among body system; cellular and body-wide defense mechanisms; synthesis of evidence-based information from a variety of sources related to selected pathophysiological phenomena. Requirements: graduate-level physiology course.

NURS:5031 Health Promotion and Assessment for Advanced Clinical Practice 3-4 s.h.

Emphasis on health promotion and advanced health assessment; didactic and clinical laboratory instruction allows students to develop and demonstrate mastery of advanced knowledge and skills in health assessment; content related to promotion of health and prevention of disease; focus on application of content with individuals within the student's respective population-based scope of practice. Requirements: admission to post-B.S.N. D.N.P. program.

NURS:5032 Mental Disorders in Advanced Practice 3 s.h.

Foundation for advanced practice nurse to provide care for common mental health disorders; presentation of neurophysiological, genomic, environmental/social, and developmental theories to understand etiology and presentation of common mental health conditions; psychopharmacological and nonpharmacological principles and modalities for treatment of common mental health problems.

NURS:5033 Pharmacotherapeutics for Advanced Practice Nursing 3 s.h.

Examination of pharmacotherapeutic principles essential for advanced clinical practice nursing and prescribing; specific drug classes frequently used in management of clinical conditions experienced by various patient populations; legal considerations related to prescriptive authority and prescribing patterns. Prerequisites: NURS:5023.

NURS:5035 Graduate Pharmacology Specialty 2 s.h.

Principles of pharmacology learned in NURS:5033; principles and practices necessary for safe prescribing and medication management of a specialty population (e.g., pediatrics, geriatrics, acute care, mental health). Prerequisites: NURS:5033.

NURS:5036 Psychopharmacology for Advanced Clinical Practice 3 s.h.

Scientific knowledge of psychopharmacology and its application to treatment of clients with psychiatric disorders across the lifespan; advanced concepts in neuroscience, neurobiology of mental disorders, pharmacokinetics and pharmacodynamics of psychotherapeutic medications in the management of targeted symptoms of psychiatric disorders in clients across the lifespan. Prerequisites: NURS:5023 and NURS:5033.

NURS:5037 Health Promotion and Assessment for Clinical Nurse Leaders 3-4 s.h.

Emphasis on health promotion and advanced health assessment; didactic and clinical laboratory instruction allows students to develop and demonstrate mastery of advanced knowledge and skills in health assessment; content related to promotion of health and prevention of disease; focus on application of course content with individuals across the lifespan. Requirements: admission to M.S.N.-CNL program.

NURS:5038 Advanced Diagnostic and Therapeutic Procedures for Acute Care 1 s.h.

Introduction to use of advanced diagnostic and therapeutic techniques commonly encountered in acute and critical care; students are provided opportunities to interpret and incorporate technologically derived data; discussion of practices to protect patients, such as informed consent, risk benefit analysis, infection control, and pain management; laboratory experiences allow students to practice techniques used to perform invasive procedures. Prerequisites: NURS:5023 and NURS:5031 and NURS:5033. Requirements: graduate-level physiology course.

NURS:5039 Advanced Diagnostic and Therapeutic Procedures for Primary Care 1 s.h.

Introduction to use of advanced diagnostic and therapeutic techniques commonly encountered in primary care; selected laboratory experiences designed to enhance familiarity with use of technologies and interpretation of technologically derived data; discussion of practices used to protect patients (e.g., informed consent, risk benefit analysis, infection control, pain management). Prerequisites: NURS:5023 and NURS:5031 and NURS:5033. Requirements: graduate-level physiology course.

NURS:5040 Genetics/Genomics for Advanced Nursing Practice 2 s.h.

Essential content for understanding the role genetics/genomics plays in health and disease; focus on the core competencies of American Nurses Association (ANA), which provides a framework for advanced nursing practice preparation to incorporate genetics/genomics knowledge for development of prevention, diagnosis, and treatment options in order to optimize health outcomes relevant to clinical role and specialty. Requirements: master's or doctoral standing.

NURS:5401 The Care of the Frail Elderly 3 s.h.

Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: NURS:5035. Corequisites: NURS:6200 and NURS:6701. Same as ASP:5401.

NURS:5636 Clinical Nurse Leader Seminar 2-3 s.h.

Evolution of clinical nurse leader (CNL) role, eight core role functions, and the process of integration of CNL role into health care system. Requirements: admission to M.S.N.-CNL program.

NURS:5666 Leadership in the Microsystem 3 s.h.

Assessment of the microsystem of practice, clinical nurse leader role as leader embedded in a microsystem, and identification of opportunities to enhance care delivery in the microsystem.

NURS:5696 Clinical Nurse Leader Capstone Clinical Immersion 6 s.h.

Intensive immersion in role and practice expectations of the clinical nurse leader (CNL); experienced leaders within the microsystem, who are experts in the provision of clinical services at the point of care/services, serve as mentors. Requirements: enrollment in final semester of M.S.N.-CNL program.

NURS:5800 Independent Study arr.

Supervised study and/or clinical practice adjusted to needs of master's degree students.

NURS:5801 Master's Project 2-3 s.h.

Opportunity for in-depth analysis and synthesis of a chosen topic that contributes to some aspect of nursing practice.

NURS:5802 Master's Portfolio 0 s.h.

Opportunity for clear and cohesive synthesis of clinical or professional experiences and competencies, including those gained in graduate study, that portray students' clinical or professional strengths and career goals.

NURS:5803 Distance Education: Master's Independent Study arr.

Supervised study and/or clinical practice adjusted to needs of master's degree students.

NURS:5804 Distance Education: Master's Portfolio 0 s.h.

Clear and cohesive synthesis of clinical or professional experiences and competencies, including those gained in graduate study; students' clinical or professional strengths and career goals.

NURS:5806 Distance Education: Master's Project 2-3 s.h.

In-depth analysis and synthesis of a chosen topic that contributes to some aspect of nursing practice.

NURS:5807 Distance Education: Master's Thesis arr.

Systematic investigation of a nursing problem of student's choice under guidance of faculty.

NURS:6000 Human Anatomy for Advanced Practice 3 s.h.

Integrated study of interrelationships between anatomic structure and physiological function in health and disease at various points in the lifespan; mechanisms governing and supporting cellular, organ, and system function; internal milieu; relationship of study to clinical assessment of functional integrity of individual organ systems utilizing pertinent objective and subjective data; implications of pathophysiology for anesthesia and implications of anesthesia for pathophysiology; foundation for clinical practicums and courses in nurse anesthesia. Requirements: completion of an undergraduate human anatomy and physiology course and admission to anesthesia nursing program. Same as ACB:6000.

NURS:6004 Scientific Principles for Anesthesia Practice 4 s.h.

Applicable chemical and physical properties of molecules important in anesthesia; technological principles and equipment used to safely deliver those molecules to patients and monitor patients during anesthesia; topics include basic chemical and physical calculations, properties of substances in solution, measurement, behavior of gases and other fluids, effects of heat transfer, and the specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Corequisites: NURS:6006. Same as ANES:6004.

NURS:6005 Chemical and Physical Principles of Anesthesia Practice 3 s.h.

Basic chemical and physical properties of molecules fundamental to practice of anesthesia; relationship of these properties in relation to physiological processes and pharmacological principles essential in monitoring a patient's physical status and administration of anesthesia medications; basic chemical and physical calculations, properties of substances in solution, measurement of such chemical species, behavior of gases and other fluids, effects of heat transfer, specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Requirements: admission to anesthesia nursing program. Same as ANES:6005.

NURS:6006 Pharmacology of Anesthesia Practice 3 s.h.

Builds on content from foundational graduate pharmacology course; focus on safe prescribing, administration, and management of medications used to provide general, regional, or local anesthesia and analgesia for all patient populations across lifespan undergoing varied surgical, obstetrical, or other procedures in any health care setting. Prerequisites: PCOL:6204 with a minimum grade of B-. Requirements: enrollment in anesthesia nursing program. Same as ANES:6006.

NURS:6007 Basic Principles of Anesthesia Practice 5 s.h.

Overview and integration of anesthetic agents and techniques; patient assessment, preoperative airway evaluation, anesthetic planning, principles of fluid management, and arterial blood gas interpretation; principles of general and regional anesthesia and techniques as they pertain to each surgical specialty; Occupational, Safety and Health Administration (OSHA), The Joint Commission (TJC), and institutional regulations and requirements pertinent to anesthesia practice. Prerequisites: NURS:6004 with a minimum grade of B- and NURS:6006 with a minimum grade of B-. Same as ANES:6007.

NURS:6010 Advanced Principles of Anesthesia Practice I 4 s.h.

Special needs and intraoperative anesthetic management of complex patient populations and those with advanced pathologic states; anesthetic techniques for specific surgical subspecialties including pediatrics, obstetrics, neurosurgery, cardiac, vascular, thoracic, transplant, trauma, EENT, dental, and aesthetic or reconstructive procedures; pertinent pathophysiology and anesthetic monitoring and management techniques; clinical case conferences provide opportunities to discuss perianesthetic complications and challenges. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as ANES:6010.

NURS:6012 Advanced Principles of Anesthesia Practice II 1 s.h.

Acute and chronic pain treatment modalities for all patients presenting for a variety of medical or surgical procedures across the lifespan. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as ANES:6012.

NURS:6050 Introductory Clinical Anesthesia 2 s.h.

Initial mentorship in clinical anesthesia; development of basic clinical skills needed for a career as nurse anesthetist; application and integration of theoretical knowledge in clinical setting. Prerequisites: NURS:6004 and NURS:6006. Corequisites: NURS:6007. Same as ANES:6050.

NURS:6051 Clinical Anesthesia I 2 s.h.

Mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6050 or ANES:6050. Corequisites: NURS:6010. Same as ANES:6051.

NURS:6052 Clinical Anesthesia II 2 s.h.

Additional mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6051 or ANES:6051. Same as ANES:6052.

NURS:6053 Advanced Clinical Anesthesia 2 s.h.

Mentored clinical anesthesia at selected sites; development of advanced clinical skills and critical thinking by providing anesthesia for all surgical specialties and invasive diagnostic procedures in all anesthetizing locations; providing anesthesia for all patients in all settings, including on call emergency surgeries. Prerequisites: NURS:6052. Same as ANES:6053.

NURS:6054 Obstetrical Anesthesia 2 s.h.

Experience delivering analgesia and anesthesia for parturients during labor and delivery process. Prerequisites: NURS:6052. Same as ANES:6054.

NURS:6055 Rural Anesthesia 2 s.h.

Opportunity to develop experience providing anesthesia and associated health care services at UI-affiliated clinical sites in rural settings. Prerequisites: NURS:6052. Same as ANES:6055.

NURS:6100 Primary Care: Infants, Children, and Adolescents I 3 s.h.

Enhancement of clinical knowledge and skills for infant, child, adolescent care. Prerequisites: NURS:5035. Corequisites: NURS:6701.

NURS:6101 Primary Care: Infants, Children, and Adolescents II 3 s.h.

Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Prerequisites: NURS:6100. Corequisites: NURS:6702. Same as PEDS:6101.

NURS:6200 Primary Care: Adults and Older Individuals I 3 s.h.

Pathophysiologic alterations and clinical management of associated health care problems in adults, the elderly. Prerequisites: NURS:5035. Corequisites: NURS:6701.

NURS:6201 Primary Care: Adults and Older Individuals II 3 s.h.

Continuation of NURS:6200. Prerequisites: NURS:6200. Corequisites: NURS:6702.

NURS:6400 Pediatric Acute Care I 3 s.h.

First of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of infants, children and adolescents with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:5035. Corequisites: NURS:6701.

NURS:6401 Pediatric Acute Care II 3 s.h.

Second of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of infants, children and adolescents with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:6400. Corequisites: NURS:6702.

NURS:6410 Adult-Gerontology Acute Care I 3 s.h.

First of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of adults and older adults with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:5035. Corequisites: NURS:6701.

NURS:6411 Adult-Gerontology Acute Care II 3 s.h.

Second of two courses building on prior acute care content and focusing on critical, complex, and end of life care; emphasis on evidence-based strategies to stabilize patient's condition, assessment of risk for and prevention of complications, restoration and maintenance of optimal health and functioning, and/or provision of palliative care in context of patient's physical and psychosocial environment. Prerequisites: NURS:6410. Corequisites: NURS:6702.

NURS:6500 Psychiatric/Mental Health Nursing for Advanced Practice Didactic I 3 s.h.

Introduction to psychological principles and theories as they relate to mental health across the lifespan, intersections between physical and mental health, and role of advanced practice nurse in psychiatric/mental health care; examination of psychological theory within a life span developmental framework from infancy to older adult; introduction to role of cultural diversity in mental health; emphasis on assessment, diagnosis, and management of mental disorders that are common in adults. Prerequisites: NURS:5032 and NURS:5036. Corequisites: NURS:6701.

NURS:6501 Psychiatric/Mental Health Nursing for Advanced Practice Didactic II 3 s.h.

Builds on prior lifespan content with specific focus on selected populations, families, and groups; students further define and expand their practice of psychiatric/mental health nursing based on the integration of theory, standardized languages, and research; exploration of a variety of approaches and issues of service delivery; emphasis on methods and skills for completing a comprehensive mental health assessment and managing common psychiatric illness in childhood/adolescence and late life. Prerequisites: NURS:6500. Corequisites: NURS:6702.

NURS:6550 Executive Leadership and Management 3-4 s.h.

Leadership and management concepts and theories; application to roles unique to executive nurse leader in health care organizations in institutional and community settings; emphasis on executive leadership roles for facilitating, integrating, and coordinating complex structures, processes, and outcomes in health care systems.

NURS:6551 Financial Management 3-4 s.h.

Preparation for nurse leaders and practitioners to use techniques for financial analysis and decision making for patient care programs across the health care continuum; focus on efficient and effective management of resources for delivery of quality health care services.

NURS:6552 Managing Care in an Organizational Environment 3-4 s.h.

Manage operations of patient care services across health care continuum within the framework of an established health care organization; focus on efficient and effective management of the structure, governance, patient care delivery system of care, and outcomes of care.

NURS:6553 Seminar on Innovations 4 s.h.

Strategizing about taking meaningful action, disrupting stable processes, diffusing innovation, and sustaining change; emerging innovations in nursing and health care systems that impact the functions and responsibilities of nurse leaders.

NURS:6554 Seminar on Healthy Work Environments 3 s.h.

Application of leadership and management knowledge specific to creating and sustaining healthy work environments in health care; current and emerging issues focused on health care work environments.

NURS:6555 Care Coordination Across Professional and Organizational Boundaries 3-4 s.h.

Structures, processes, concepts, tools and experience that leads to effective coordination of patient care, case and population health management as well as information, management and financial systems supporting care coordination; knowledge and skills for understanding structures, processes, challenges, solutions and innovations in coordinating patient care across professional disciplines and organizational boundaries; impacts of care coordination issues on patient experience, care quality and costs; evaluate interventions for informed and effective care processes in field experience.

NURS:6556 Marketing and Communications for Health Care Leaders 3 s.h.

Preparation to strategically plan, establish, and manage a customer-centric marketing strategy; focus on marketing frameworks and theories, and development of a strategic marketing approach with appropriate leadership strategy and positioning to ensure customer value; health care leaders' role in the marketing mix, mobilization of partners, crisis management, and crisis communication planning and response skills.

NURS:6701 Advanced Practice Clinical Practicum I 3-4 s.h.

Application of advanced physical assessment, pathophysiology, and diagnostic reasoning in a clinical setting appropriate to a specific population. Prerequisites: NURS:5035 or NURS:5036. Corequisites: NURS:6100 or NURS:6400 or NURS:6410 or NURS:6500 or (NURS:5401 and NURS:6200) or (NURS:6100 and NURS:6200).

NURS:6702 Advanced Practice Clinical Practicum II 3-4 s.h.

Continuation of NURS:6701; emphasis on diagnostic reasoning and formulation of treatment plans. Prerequisites: NURS:6701. Corequisites: NURS:6101 or NURS:6201 or NURS:6401 or NURS:6411 or NURS:6501 or (NURS:6101 and NURS:6201).

NURS:6703 Advanced Practice Clinical Practicum III 3-4 s.h.

Synthesis of role expectations for advanced practice with focus on clinical competencies appropriate to the specialization. Prerequisites: NURS:6702.

NURS:6704 Practicum in Executive Leadership and Management 4 s.h.

Immersion experience in application of principles and methods of leadership, management, and evaluation to facilitate health care operations in various settings; student collaboration with a preceptor for mentored in-depth immersion in systems practice.

NURS:6800 Emerging Science 3 s.h.

Emerging science to prepare leaders, advanced practice practitioners, and researchers to meet challenges of today's workforce and health care environment; opportunities to apply emerging health care science that influence health care policy, education, research, and practice.

NURS:6802 Health Policy, Law, and Advocacy 3 s.h.

Issues that shape health care economics and policy development; framework for understanding work of legislators and other policy makers; emphasis on state and national level; health issues in developing countries; health care system, its economics, financing, role of government, not-for-profit entities, and nongovernmental organizations.

NURS:6808 Population Health for Advanced Practice 3 s.h.

Coordination and integration of care delivery for population health and clinical effectiveness across the continuum of care; management of optimized outcomes; emphasis on informatics infrastructure and translation of evidence-based practice to managing care provision and achieving desired outcomes as a result of care provision.

NURS:6809 Advanced Practice Role I: Introduction 2-3 s.h.

Introduction to competencies necessary for advanced nursing practice at the doctoral level; introduction to topics related to knowledge, skills, and abilities that enable doctorate of nursing practice graduates to function as leaders in a health care and nursing practice; topics may include advanced nursing practice role development, communication, collaboration, leadership, ethics, finance, organizational structure, and scope of practice and regulatory issues; first in a two-course sequence. Requirements: doctoral standing.

NURS:6810 Advanced Practice Role II: Integration 2-3 s.h.

Focus on transition to leadership roles that nurses prepared with a Doctor of Nursing Practice degree are expected to fill in practice; students are called upon to demonstrate synthesis of content from previous D.N.P. program courses; discussion of topics pertinent to advanced roles in nursing practice including challenges and opportunities, leadership in health systems and the profession, interprofessional communication and collaboration, conflict management, dissemination of evidence and expertise to improve health care, advocacy and ethical decision making. Prerequisites: NURS:6809.

NURS:6811 Social Determinants of Health and Health System Inequities 3 s.h.

Social determinants of health outcomes and inequities; social and economic forces that shape them using various perspectives and lenses; conceptualization and measurement of variables representing risk and inequities that serve as the organizing framework for course discussions, including individual and social factors; critical analysis of research studies for social bias.

NURS:6825 Doctor of Nursing Practice Project 1-5 s.h.

Opportunity for in-depth analysis and synthesis of a practice, system, or policy problem related to advanced nursing practice; development of an evidence-based proposal to benefit a group, population, or community; demonstration of leadership in assessment, planning, implementation, and evaluation; the 5 s.h. may be spread across multiple semesters; incorporated into this course are 370 hours supporting the D.N.P. project. Prerequisites: NURS:5017.

NURS:6826 Doctor of Nursing Practice Project I 2 s.h.

Identification and analysis of a practice, system, or policy problem related to advanced nursing practice; development of an evidence-based proposal to improve outcomes for a group, population, or community; project will reflect student's independent scholarship and includes 370 minimum cumulative hours in the Doctor of Nursing Practice project series; first in a four-course sequence. Requirements: doctoral standing.

NURS:6827 Doctor of Nursing Practice Project II 1-2 s.h.

Students obtain project site approvals, complete human subjects review, begin implementation once approved, and prepare for project evaluation; project will reflect student's independent scholarship; Doctor of Nursing Practice project series; second in a four-course sequence. Prerequisites: NURS:6826. Requirements: doctoral standing.

NURS:6828 Doctor of Nursing Practice Project III 1-2 s.h.

Students continue implementation, begin to evaluate outcomes of their chosen project, and prepare a rough draft of documents for defense of the project; project will reflect the student's independent scholarship; Doctor of Nursing Practice project series; third in a four-course sequence. Prerequisites: NURS:6827. Requirements: doctoral standing.

NURS:6829 Doctor of Nursing Practice Project IV 1-2 s.h.

Students finish evaluation; prepare and defend their project to faculty, peers, and the community; and give a final report to the project site; project will reflect student's independent scholarship; Doctor of Nursing Practice project series; fourth in a four-course sequence. Prerequisites: NURS:6828. Requirements: doctoral standing.

NURS:6900 Computational Intelligence 3 s.h.

Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Prerequisites: IE:3700. Same as IE:6350.

NURS:7000 Philosophy and Sociology of Nursing Science 3 s.h.

Introduction to philosophical, historical, and sociological underpinnings of contemporary science and traces history of nursing as scientific and applied discipline; exploration of the nature of knowledge, different ways of knowing, history of science, various philosophical approaches, goals of knowledge generation; analysis of sociology of science to identify the norms, cultural and political influences, differences among scientific disciplines; emphasis on interdisciplinary science; identification of concepts and conceptual definitions, especially as these differ across disciplines. Requirements: Ph.D. standing.

NURS:7001 Qualitative Research 4 s.h.

Provides a foundation in the design of qualitative and mixed methods research and analysis of qualitative and mixed methods data; emphasis on interactions among research purpose, question, aims, and interaction of that triad with sampling, setting, data collection, and analysis; using interpretive description as an exemplar, students design and conduct a small qualitative study relevant to their own interests; College of Nursing faculty present overviews of methods in which they have expertise, such as feminist research, ethnography, and narrative. Prerequisites: NURS:7000 and NURS:7002 and NURS:7006. Requirements: Ph.D. standing.

NURS:7002 Designing Research 3 s.h.

Introduction to designing research studies; identifying a problem and determining overall goal of the study; research goal subsequently leading to purpose, specific aims, and choice of a specific design; focus on issues related to maintaining continuity throughout the design of a study. Prerequisites: NURS:7000 and NURS:7006. Requirements: Ph.D. standing.

NURS:7003 Quantitative Research**4 s.h.**

Refinement of student's understanding of the application of scientific logic; discussion of various quantitative methods; sampling theory and approaches to sample selection, recruitment, and methods to avoid bias; issues related to study validity, intervention development and evaluation, instrument selection, management of large data sets, and maintenance of data integrity; lab is designed as a workshop using guided exercises, peer sharing, and collaborative work groups to provide experiences integrated with content covered in didactic section of the course. Prerequisites: NURS:7002 and NURS:7006.

NURS:7006 Theory and Model Development**3 s.h.**

Critical role of theories in science and the importance of continuous refinement of theory throughout a program of research; focus on theory construction and model building; examination of relationships linking concepts; analysis of structure, scope, and forms of theories/models; construction of micro- or mid-range theories/models using positivistic and inductive approaches; emphasis on critical analysis of literature. Prerequisites: NURS:7000. Requirements: Ph.D. standing.

NURS:7310 Measurement in Health Research**3 s.h.**

How to develop and employ measures that are operationalized within the context of theories and conceptual models; sound measurement principles and practices, as well as adequate testing for reliability and validity using appropriate methods and procedures. Prerequisites: NURS:7006.

NURS:7403 Advanced Seminar in Health Research 3 s.h.

Health research across the lifespan and health care continuum; specific topics based on the state of the science and emerging science initiatives put forth by NIH and other funding agencies. Requirements: doctoral standing.

NURS:7404 Biological Markers in Health Research 3 s.h.

Use of biomarkers as surrogate clinical endpoints, measure of behavior, and measures of exposures; judicious integration of biomarkers into an overall program of health research in light of pertinent considerations, including validity and reliability, feasibility and cost. Prerequisites: NURS:6811 and NURS:7002 and NURS:7003.

NURS:7509 Research Residency**1-3 s.h.**

Participation in a research project based on an individualized plan of study, under guidance of an experienced researcher; students register with the respective faculty member for a residency that takes place at the University of Iowa, or register with their advisor for a residency that takes place outside the University of Iowa. Requirements: admission to the Ph.D. in nursing.

NURS:7800 Independent Study**arr.**

Supervised study adjusted to needs of doctoral degree students. Requirements: doctoral enrollment.

NURS:7801 Seminar: Research Scholarship Role Development**3 s.h.**

Preparation for successful completion of doctoral course work, comprehensive examination, and dissertation; faculty-guided structure provides opportunities for students to assimilate knowledge and behavior of a scholar and activities that facilitate and optimize socialization and success as nurse scientists and academic faculty. Requirements: Ph.D. standing.

NURS:7803 Research Practicum I**2 s.h.**

First of two practicums that serve as a system of apprenticeship by which students are mentored through selected aspects of scientific processes, methodologies, analysis, and dissemination of results; projects relevant to student's area of study. Requirements: Ph.D. standing.

NURS:7804 Research Practicum II**2 s.h.**

Second of two practicums that serve as a system of apprenticeship by which students are mentored through selected aspects of scientific processes, methodologies, analysis, and dissemination of results; project relevant to student's area of study. Requirements: Ph.D. standing.

NURS:7805 Dissertation Research**arr.**

Bachelor of Science in Nursing, B.S.N.

The College of Nursing offers two paths to the Bachelor of Science in Nursing (B.S.N.): a prelicensure program for students who do not hold a nursing license (see the Bachelor of Science in Nursing [p. 1666] in this section of the Catalog) and a program for registered nurses (see RN-B.S.N. for Registered Nurses [p. 1668] in this section of the Catalog).

The B.S.N. programs prepare students for careers caring for patients in hospitals and in community agencies such as public health services, schools, homes, and industries. They also provide a base for graduate study in nursing.

In addition to combining general education with specialized career preparation, the University of Iowa programs in nursing offer the advantages of full participation in the social, cultural, and recreational activities of a highly diverse campus community. A university education enables students to prepare for a career as well as a life of thought and action informed by knowledge, introspection, and contemplation.

The B.S.N. programs provide a basis for nurses' roles in wellness and health promotion, in acute care, and in long-term care for chronic illness. The professional nurse may provide care to individuals, families, groups, and communities along a continuum of health, illness, and disability in any sector of the health care system.

In addition to providing care, the nurse serves as a coordinator of health care by organizing and facilitating the delivery of comprehensive, efficient, and appropriate service to individuals, families, groups, and communities. The nurse demonstrates the ability to conceptualize the total continuing health needs of the patient, including legal and ethical aspects of care. The University of Iowa programs' goal is to produce graduates who are competent, committed, creative, and compassionate.

Expenses and Insurance

Students pay University of Iowa student fees throughout the B.S.N. program. They must purchase uniforms, shoes, a stethoscope, and a watch with a full-sweep second hand, and they must pay the cost of computer testing, supplies, and materials for required nursing courses. All nursing students arrange and pay for their own health screening requirements, health insurance, and transportation once they are enrolled in clinical nursing courses. They also pay fees that cover the cost of criminal background checks, laboratory equipment, professional liability insurance, and simulation.

Mandatory Health Insurance

Upon admission to the College of Nursing and each August afterward, all students must provide verification that they have obtained and currently hold health insurance that satisfies the following minimal standards of coverage (or an equivalent alternative health care plan):

- \$250,000 lifetime benefit;

- coverage for hospitalization, including coverage for room and board, physician visits, surgeon services, X-ray, and lab services;

- inpatient deductible under an individual policy not exceeding \$500 per admission and a 20 percent copayment/coinsurance requirement; and

coverage for medically necessary care, including physician services, X-ray, and lab services for treatment of emergencies, illness, accident, and injury.

Professional Liability Insurance

All students in the College of Nursing are required to carry professional liability insurance throughout the duration of their program. Agencies that provide clinical practicums for College of Nursing programs require that students have insurance coverage. The College of Nursing provides students with information about the liability insurance requirement during orientation.

B.S.N. prelicensure students and RN-B.S.N. students are covered by a group policy supported by student fees.

Bachelor of Science in Nursing

The Bachelor of Science in Nursing prelicensure program of study requires 128 s.h., including 64 s.h. in the nursing major and 64 s.h. in supporting course work that is prerequisite to the nursing major. The program is intended for students beginning their education in nursing. A B.S.N. program for registered nurses is described under RN-B.S.N. for Registered Nurses [p. 1668] in this section of the Catalog.

B.S.N. students may complete their entire program at Iowa, enrolling in the College of Liberal Arts and Sciences to complete courses that are prerequisite to the nursing major, or they may transfer from an institution that offers comparable prerequisite courses that are approved by the University of Iowa and the College of Nursing. They must earn competitive admission to the College of Nursing once they have completed the prerequisite course work. Highly qualified applicants may be admitted to the College of Nursing directly from high school under the B.S.N. early admission program; see Admission [p. 1668] in this section of the Catalog.

Students who are part of the B.S.N. early admission program spend their first four semesters (two years) on prerequisite course work and complete the requirements for the nursing major during the next four semesters (their third and fourth years), earning the B.S.N. in a total of four academic years. Students who earn competitive admission to the College of Nursing have five semesters to complete prerequisite course work. They begin work for the nursing major in spring of their third year and complete the major in four semesters, earning the B.S.N.

University of Iowa students who have declared an interest in the prelicensure nursing program are advised at the University's Academic Advising Center until they are admitted to the College of Nursing. After admission to the college, each student is assigned a College of Nursing faculty advisor and a professional advisor in the college's Office of Student Services.

Nursing courses are based on concepts of health, deviations from health, and nursing intervention. Course work progresses in complexity across the curriculum. The curriculum reflects the current trend in health care delivery toward emphasis on nursing as a service provided both inside and outside hospitals. Students have access to clinical experiences selected from a multitude of agencies in Iowa and around the country.

The following course work is required for B.S.N. students.

Code	Title	Hours
Prerequisite Courses		
	General Education Prerequisites	13
	Natural Science Prerequisites	23
	Social Science Prerequisites	9-10
	Other Prerequisites	19
Courses Required for the Major		64
Total Hours		128-129

The B.S.N. prelicensure program requires the following course work. Students must complete the prerequisite course work before beginning work required for the major in nursing.

Prerequisite Courses

Early admission students complete all of the following prerequisites during their first and second years of enrollment at the University of Iowa. Competitive admission students must complete all of the following prerequisites, with the exception of two natural science courses and two social science courses, before they may apply for admission to the College of Nursing.

Code	Title	Hours
General Education Prerequisites		
All of these:		
RHET:1030	Rhetoric	4
	International and Global Issues course	3
	Literary, Visual, and Performing Arts course	3
	Values and Culture or Diversity and Inclusion course	3
Natural Science Prerequisites		
All of these:		
ACB:3110	Principles of Human Anatomy	3
BIOL:1141	Introductory Animal Biology	4
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2310	Nutrition and Health	3
MICR:3164	Microbiology and Human Health	4
Social Science Prerequisites		
Both of these:		
NURS:1030	Human Development and Behavior	3
PSY:1001	Elementary Psychology	3
And one of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1020	Social Problems	3-4
Other Prerequisites		
All of these:		
NURS:3110	Healthcare Finance	3
MATH:1440	Mathematics for the Biological Sciences	4
Electives		12

Courses Required for the Major

Early admission and competitive admission students complete the following courses for the major in nursing.

Code	Title	Hours
All of these:		
NURS:3128	Health Assessment and Communication Across the Lifespan	3
NURS:3138	Nursing and Pharmacological Interventions I	5
NURS:3150	Clinical Simulation Laboratory I	3
NURS:3160	Professional Role I: Professionalism and Patient Safety	3
NURS:3438	Nursing and Pharmacological Interventions II	5
NURS:3450	Clinical Simulation Laboratory II	2
NURS:3460	Professional Role II: Research	3
NURS:3518	Pathology	3
NURS:3615	Adult Medical/Surgical Nursing Practicum	3
NURS:3620	Gerontological Nursing	3
NURS:3625	Gerontological Nursing Practicum	2
NURS:3630	Parent-Child Nursing	3
NURS:3635	Parent Child Nursing Practicum	2
NURS:3640	Psychiatric/Mental Health Nursing	3
NURS:3645	Mental Health Nursing Practicum	2
NURS:3650	Community and Public Health Nursing	3
NURS:3655	Community and Public Health Nursing Practicum	2
NURS:3660	Professional Role III: Improving Health Systems	3
NURS:4155	Senior Nursing Internship	5
NURS:4160	Professional Role IV: Leadership and Professional Engagement	3
Electives		3
Total Hours		64

See B.S.N. Plans of Study on the College of Nursing website for semester-by-semester study plans for early admission and competitive admission students.

Honors in Nursing

The College of Nursing Honors Program provides seminars and independent study experience for qualified students. In order to pursue honors studies in nursing, students must maintain a University of Iowa g.p.a. and a nursing major g.p.a. of at least 3.50.

The honors program in nursing enables students to explore subject matter based on individual interests, needs, and goals. It provides opportunities for self-initiative, research experience, scholarly writing, intellectual and personal development, and challenges students to grow and excel.

Students who fulfill the requirements of the program graduate with honors in nursing.

In addition to honors in their majors, prelicensure B.S.N. students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

RN-B.S.N. for Registered Nurses

The RN-B.S.N. program of study requires 32 s.h. of credit. RN-B.S.N. students must hold a valid Iowa nursing license (RN) and an Associate Degree in Nursing or Diploma in Nursing.

The program is designed to offer registered nurses the opportunity to build on their nursing knowledge and experience by earning a Bachelor of Science in Nursing. RN-B.S.N. students take courses that focus on professionalism and patient safety, research, improvement of health systems, leadership, professional engagement, and community and public health.

Students may transfer course work completed at other colleges and universities to satisfy the prerequisites, general education requirements, electives, and the world language requirement for admission to the College of Nursing (see "Admission to the RN-B.S.N. Program" under Admission [p. 1668] in this section of the Catalog). Once a student is admitted to the RN-B.S.N. program, the student has the option of completing the required 32 s.h. in three semesters or in five semesters.

The RN-B.S.N. program is delivered online, with limited face-to-face meetings for the community health practicum experience and leadership project. Students must complete a practicum experience in Iowa and may be required to drive up to 100 miles to a regional practicum setting.

The College of Nursing participates as a receiving institution in the Iowa Statewide Articulation Plan for Nursing Education: RN to Baccalaureate.

The RN-B.S.N. program requires the following College of Nursing course work.

Courses Required for the Major

Code	Title	Hours
NURS:3110	Healthcare Finance	3
NURS:3160	Professional Role I: Professionalism and Patient Safety	3
NURS:3460	Professional Role II: Research	3
NURS:3518	Pathology	3
NURS:3650	Community and Public Health Nursing	3
NURS:3655	Community and Public Health Nursing Practicum	2
NURS:3660	Professional Role III: Improving Health Systems	3
NURS:3734	Introduction to Human Genetics	3
NURS:4160	Professional Role IV: Leadership and Professional Engagement	5
NURS:4170	Baccalaureate Seminar	1

Nursing electives	3
Total Hours	32

See RN-B.S.N. Plans of Study on the College of Nursing website for semester-by-semester views of required course work for full-time (three semesters) and part-time (five semesters) study.

Honors in Nursing

The College of Nursing Honors Program provides seminars and independent study experience for qualified students. In order to pursue honors studies in nursing, students must maintain a University of Iowa g.p.a. and a nursing major g.p.a. of at least 3.50.

The honors program in nursing enables students to explore subject matter based on individual interests, needs, and goals. It provides opportunities for self-initiative, research experience, scholarly writing, intellectual and personal development, and challenges students to grow and excel. Students who fulfill the requirements of the program graduate with honors in nursing.

Admission

Students entering the University who are not licensed registered nurses (RN) apply to the B.S.N. prelicensure program. Registered nurses apply to the RN-B.S.N. program.

All entering first-year and undergraduate transfer students who have earned fewer than 24 s.h. when they apply for admission to the University of Iowa must complete the American College Test (ACT) or the Scholastic Aptitude Test (SAT). For information about the American College Test, visit the ACT website; for information about the Scholastic Aptitude Test, visit the College Board website.

Applicants to the B.S.N. and RN-B.S.N. programs whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Registered nurses educated outside the United States are required to present verification of having passed the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination and specified Excelsior baccalaureate nursing examinations.

Applicants admitted to the College of Nursing are expected to be able to meet the curriculum's performance standards; see "Core Performance Standards" below.

A criminal background check is conducted for all prelicensure and undergraduate students before they begin the nursing major. Admission to all programs is conditional pending successful review of criminal background and abuse registry.

Admission to the B.S.N. Prelicensure Program

All applicants to the B.S.N. prelicensure program (early admission applicants and competitive admission applicants) must have satisfied the following minimum high school course requirements.

English: four years

Mathematics: three years, including algebra I, algebra II, and geometry

Science: one year of biology, one year of chemistry, and one year of physics

Social science: three years

World languages: four years (fourth-level proficiency) of the same world language or two years (second-level proficiency) in each of two world languages

B.S.N. Early Admission Program: Early Decision Admission/Direct Admission

A select group of highly qualified students are admitted to the College of Nursing directly from high school through the B.S.N. Early Admission Program (EAP). To be considered for the EAP, students must meet the following requirements:

- an ACT composite score of at least 28 or SAT combined score of at least 1310,
- a g.p.a. of at least 3.80, and
- completion of all the minimum high school course requirements listed under "Admission to the B.S.N. Prelicensure Program" above.

Students who lack one of the requirements can submit an application for the early admission program. High school requirements must be satisfied prior to enrollment at the University of Iowa.

Students admitted through the Early Admission Program must maintain a cumulative g.p.a. of at least 3.00 and have clean criminal and student life records during their first four semesters in the program. Students who fail to meet these requirements may be subject to probation or dismissal from the EAP.

B.S.N. Competitive Admission

In order to apply for competitive admission to the College of Nursing, students must:

- have a cumulative g.p.a. of at least 3.00;
- have a minimum of 48 s.h. of college credit;
- have completed the minimum high school course requirements listed under "Admission to the B.S.N. Prelicensure Program" above, with any deficiencies satisfied through college course work;
- have completed all B.S.N. prerequisite course work listed under the Bachelor of Science in Nursing [p. 1666] (a maximum of two natural science prerequisites and two social science prerequisites may be in progress or planned at the time of application); and
- must have a grade of C (2.00) or higher on all prerequisite course work.

In order to enter the College of Nursing, successful competitive admission applicants must:

- maintain a cumulative g.p.a. of at least 3.00;
- have a minimum of 64 s.h. of college credit; and
- have completed any remaining prerequisite course work listed under the Bachelor of Science in Nursing [p. 1666], including any remaining natural science and/or social science prerequisites.

Successful competitive admission students must complete any remaining natural science prerequisite no more than 10 years before they enter the College of Nursing and enroll in course work for the nursing major.

Admission to the RN-B.S.N. Program

Applicants to the RN-B.S.N. program must hold an RN license and an Associate Degree in Nursing or Diploma in Nursing. They must have a cumulative g.p.a. of at least 3.00. Admission is highly competitive, with emphasis on the natural sciences (anatomy, biology, chemistry, microbiology, physiology), writing (composition I and II), and mathematics (statistics).

Applicants must be enrolled in or have completed prerequisite course work at the time of application to the RN-B.S.N. program and additional elective course work before entering the program. They may complete these requirements at a community college.

World language is not an admission requirement.

Technical Standards

Applicants to the College of Nursing are expected to be capable of completing the entire nursing curriculum and of earning a B.S.N. degree. Nursing is a practice discipline with cognitive, sensory, affective, and psychomotor performance requirements. The college's technical standards provide an objective measure on which to base informed decisions about whether individual students will be able to participate in the nursing program. Technical standards also help students determine whether they will need accommodations or modifications in order to participate.

The technical standards are provided to all students before matriculation and are available online in the B.S.N. Student Handbook; see Section VIII: Clinical Course and Health Science Student Requirements. Students with disabilities who believe that they may need assistance in meeting the core performance standards should contact Student Disability Services.

Selection

The college's admission committee recommends to the dean the applicants who appear to be best qualified. Fulfillment of minimum admission requirements does not guarantee admission to the College of Nursing. The committee may require personal interviews. A physical examination report and specific health screening requirements must be on file at University of Iowa Student Health & Wellness 10 days before the class opens for the first clinical nursing course.

Application Deadlines

B.S.N. prelicensure early admission: January 1 for fall entry

B.S.N. prelicensure competitive admission: April 1 for spring entry

RN-B.S.N. program: March 1 for fall entry; September 1 for spring entry

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Nursing, B.S.N.

Early Admission

Course	Title	Hours
Academic Career		
Any Semester		
Meeting the minimum requirements for admission does not guarantee admission. Early Admission is available only for high school students who meet the published criteria. All other students pursue Competitive Admission. ^a		
All courses (except electives) must be completed with a grade of C or higher. ^b		
Hours		0

First Year

Fall		
RHET:1030	Rhetoric	4
CHEM:1070	General Chemistry I	3
PSY:1001	Elementary Psychology	3
MATH:1440	Mathematics for the Biological Sciences ^c	4
NURS:1020	First-Year Seminar	1
CSI:1600	Success at Iowa	2
Hours		17

Spring

CHEM:1080	General Chemistry II	3
BIOL:1141	Introductory Animal Biology	4
NURS:1030	Human Development and Behavior ^d	3
SOC:1020	Social Problems	3
or SOC:1010	or Introduction to Sociology	
GE: Values and Culture or Diversity and Inclusion ^{e, f}		3
Elective course		1
3.0 minimum cumulative GPA required		
Hours		17

Second Year

Fall		
ACB:3110	Principles of Human Anatomy	3
HHP:2310	Nutrition and Health	3
GE: International and Global Issues ^f		3
GE: Literary, Visual, and Performing Arts ^f		3
Elective course		3
Elective course		1
3.0 minimum cumulative GPA required		
Hours		16

Spring

NURS:3110	Healthcare Finance ^{d, g}	3
MICR:3164	Microbiology and Human Health ^{d, h}	4
HHP:1300	Fundamentals of Human Physiology	3
Elective: (preferred upper level statistics) ⁱ		3
Elective course		3
Elective course		1
3.0 minimum cumulative GPA required		

Minimum 64 s.h. credit earned toward degree at end of second year (preferred 67 s.h. earned) within minimum 3.0 cumulative GPA.

Hours	17
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Third Year

Fall

NURS:3138	Nursing and Pharmacological Interventions I	5
NURS:3128	Health Assessment and Communication Across the Lifespan	3
NURS:3518	Pathology ^g	3
NURS:3160	Professional Role I: Professionalism and Patient Safety ^g	3
NURS:3150	Clinical Simulation Laboratory I	3

Hours	17
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Spring

NURS:3438	Nursing and Pharmacological Interventions II	5
NURS:3615	Adult Medical/Surgical Nursing Practicum	3
NURS:3620	Gerontological Nursing	3
NURS:3625	Gerontological Nursing Practicum	2
NURS:3460	Professional Role II: Research ^g	3
NURS:3450	Clinical Simulation Laboratory II	2

Hours	18
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Fourth Year

Fall

NURS:3630	Parent-Child Nursing	3
NURS:3635	Parent Child Nursing Practicum	2
NURS:3640	Psychiatric/Mental Health Nursing	3
NURS:3645	Mental Health Nursing Practicum	2
NURS:3660	Professional Role III: Improving Health Systems ^g	3

Hours	13
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Spring

NURS:3650	Community and Public Health Nursing ^g	3
NURS:3655	Community and Public Health Nursing Practicum	2
NURS:4155	Senior Nursing Internship	5
NURS:4160	Professional Role IV: Leadership and Professional Engagement ^g	3

Exam: NCLEX (upon completion of the program students are eligible to sit for this board exam)

Hours	13
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Total Hours	128
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a For further details and application instructions, see the College of Nursing website.

b A grade of C or higher is required. A grade of C-minus is not considered a passing grade for the College of Nursing.

c Enrollment in math courses requires completion of a placement exam.

d Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

e Choose either a course that fulfills the Diversity and Inclusion GE or a course that fulfills the Values and Culture GE.

f GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Register for on-campus section.

- h Alternative is MICR:3190 offered in summer.
- i Recommended. If considering graduate studies please contact your desired school to learn about the statistics requirements.

Financial Support

In addition to general assistance available to University students, there are assistance programs specifically for nursing students. Information about financial aid is available from the University's Office of Student Financial Aid.

Career Advancement

The University of Iowa's B.S.N. program provides broad preparation in clinical, scientific, community health, and patient education skills, and promises outstanding career options. With a B.S.N. degree, students are eligible to work as a staff nurse; flight nurse; a nurse on medical, oncology, surgical, pediatric, emergency, or intensive care units; a nurse in outpatient or neighborhood clinics; or a home health care nurse.

The U.S. Bureau of Labor Statistics projects that employment for registered nurses will grow faster than most other occupations through 2020.

Master of Science in Nursing, M.S.N.

Requirements

The Master of Science in Nursing requires a minimum of 39 s.h. of graduate credit. The program has a clinical nurse leader focus. It is designed to build on general and professional baccalaureate study.

The M.S.N. curriculum consists of a core component of 21 s.h., which students take with College of Nursing doctoral students, and a specialization component of 18 s.h. that centers on the clinical nurse leader role.

Students must maintain a g.p.a. of at least 2.75 and must successfully complete a capstone project.

Graduate students in the College of Nursing must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Transfer credit applicable to the M.S.N. is limited and must be approved by the College of Nursing associate dean for academic affairs. Course work taken 10 years or more before the M.S.N. final examination must be updated according to University policy.

The M.S.N. requires the following course work every year for the clinical nurse leader focus.

Code	Title	Hours
First Year		
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5021	Physiology, Pathophysiology, and Pharmacology I for the Clinical Nurse Leader	3
NURS:5022	Physiology, Pathophysiology, and Pharmacology II for the Clinical Nurse Leader	3
NURS:5636	Clinical Nurse Leader Seminar	3
Second Year		
NURS:5007	Applied Epidemiology	3
NURS:5017	Quality and Safety	3
NURS:5037	Health Promotion and Assessment for Clinical Nurse Leaders	3
NURS:5666	Leadership in the Microsystem	3
Third Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5696	Clinical Nurse Leader Capstone Clinical Immersion	6
Total Hours		39

See the M.S.N. course plan on the College of Nursing website for a semester-by-semester course schedule.

Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must have a g.p.a. of at least 3.00. A criminal background check is required for all graduate students upon admission. The College of Nursing has additional application requirements, as follows.

Admission to the M.S.N. Program

Application requirements specific to the M.S.N. program are:

- a bachelor's degree with a major in nursing from an accredited program;
- satisfaction of the legal requirements for the practice of nursing in Iowa;
- current written recommendations from three persons knowledgeable about the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required);
- a current résumé, goal statement, and supplemental/information form;
- transcripts from all undergraduate and graduate course work; and

completion of an upper-level statistics course within five years of the application deadline (acceptable University of Iowa courses include BIOS:4120 Introduction to Biostatistics, PSQF:4143 Introduction to Statistical Methods, STAT:3510 Biostatistics, and STAT:4143 Introduction to Statistical Methods).

Application deadline for the M.S.N. program is February 1.

Applications are reviewed once a year. In order to be reviewed, the application must be complete with all materials submitted.

Applicant interviews are required for the M.S.N. program; in some cases, virtual interviews such as through Zoom may be arranged.

Due to the level of web-based course work required, international students in the M.S.N. Clinical Nurse Leader program are not eligible for F-1 or J-1 student immigration status. Questions regarding visas and immigration documentation should be directed to International Student and Scholar Services (ISSS).

Career Advancement

Students who constantly envision new ways to create change or innovate to improve health care delivery or nursing practice can thrive in a M.S.N. Clinical Nurse Leader (CNL) role. The program prepares the CNL with the necessary knowledge and skills to make a difference both in a microsystem or a changing work environment. Upon graduation, CNL students are eligible for the certification exam.

The M.S.N. Clinical Nurse Leader provides students with eight essential roles to ensure job flexibility, including clinician, educator, advocate, outcomes manager, information manager, systems analyst, a role as a member of the profession, and with outcomes-based skills.

Doctor of Nursing Practice, D.N.P.

Requirements

The Doctor of Nursing Practice requires a minimum of 72 s.h. of graduate credit. Students may complete the program in three to five years, depending on their focus area. Individuals who have been granted an M.S.N./APRN may complete the D.N.P. with a minimum of 29 s.h. of graduate credit.

Students choose from a number of specialties, including adult gerontology acute care nurse practitioner, adult gerontology primary care nurse practitioner, anesthesia nursing, family nurse practitioner, pediatric nurse practitioner—acute care, pediatric nurse practitioner—primary care, psychiatric/mental health nurse practitioner; and in health systems. For yearly plans that detail course work in these specialty areas, see "Plans of Study" below. Visit D.N.P. Plans of Study on the College of Nursing website for a semester-by-semester view of required course work for each D.N.P. specialty. A dual certification program also is available that allows students to combine two of the specialties, except for anesthesia nursing or health systems.

D.N.P. students complete basic graduate core courses, specialty courses, advanced core courses, and practicums. In didactic course work, they explore clinical leadership, public policy and advocacy, specialty systems, change theory, finance and business, and entrepreneurial tools.

Students must complete a minimum of 1,000 practice experience hours. Individuals who enter the program having completed an M.S.N. may transfer approved clinical hours from their M.S.N. program to the D.N.P. program. The clinical hours requirement is evaluated for each student who has completed an M.S.N. with a specialty program. Students who completed more than 1,000 practice experience hours in an M.S.N. advanced practice program still must complete the number of D.N.P. practicum and project hours determined in consultation with their advisor and the D.N.P. program director.

Transfer credit applicable to the D.N.P. is limited and must be approved by the College of Nursing assistant dean for graduate practice programs. Transcripts for individuals who have completed an M.S.N. are evaluated individually.

Students must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Course work taken 10 or more years before a student plans to graduate from the D.N.P. program must be updated according to University policy.

Plans of Study

D.N.P. Adult Gerontology Acute Care Nurse Practitioner Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3

NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		72

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3

NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5017	Quality and Safety	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		72

D.N.P. Adult Gerontology Primary Care Nurse Practitioner Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3

NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		78

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1

NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		78

D.N.P. Anesthesia Nursing Specialty

The following course work is required.

Code	Title	Hours
First Year		
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	3
NURS:6000	Human Anatomy for Advanced Practice	3
NURS:6004	Scientific Principles for Anesthesia Practice	4
NURS:6006	Pharmacology of Anesthesia Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
MPB:5200	Medical Physiology Online	5
PCOL:6204	Pharmacology for Health Sciences: Nurse Anesthetist	5
Second Year		
NURS:5002	Leadership and Management Essentials	3
NURS:6007	Basic Principles of Anesthesia Practice	5
NURS:6010	Advanced Principles of Anesthesia Practice I	4
NURS:6012	Advanced Principles of Anesthesia Practice II	1
NURS:6050	Introductory Clinical Anesthesia	2
NURS:6051	Clinical Anesthesia I	2
NURS:6052	Clinical Anesthesia II	2
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:5015	Health Systems, Finance, and Economics	3
NURS:6053	Advanced Clinical Anesthesia	2
NURS:6054	Obstetrical Anesthesia	2
NURS:6055	Rural Anesthesia	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1

NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		78

D.N.P. Family Nurse Practitioner Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Graduate physiology course		3
Second Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3

NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		82

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		

NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		82

D.N.P. Pediatric Nurse Practitioner—Acute Care Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6811	Social Determinants of Health and Health System Inequities	3

NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		74

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1

NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		74

D.N.P. Pediatric Nurse Practitioner—Primary Care Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2

NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
One of these elective courses:		3

NURS:5016	Health Care Infrastructure and Informatics
NURS:5018	Clinical Education in the Care Environment
NURS:5019	Role Development: Educator in a Practice Discipline
NURS:5020	Application of Educator Role Competencies
NURS:6554	Seminar on Healthy Work Environments
NURS:6555	Care Coordination Across Professional and Organizational Boundaries
NURS:6556	Marketing and Communications for Health Care Leaders
NURS:6808	Population Health for Advanced Practice

Total Hours 76

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		

NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
One of these elective courses:		3
NURS:5016	Health Care Infrastructure and Informatics	
NURS:5018	Clinical Education in the Care Environment	
NURS:5019	Role Development: Educator in a Practice Discipline	
NURS:5020	Application of Educator Role Competencies	
NURS:6554	Seminar on Healthy Work Environments	
NURS:6555	Care Coordination Across Professional and Organizational Boundaries	
NURS:6556	Marketing and Communications for Health Care Leaders	
NURS:6808	Population Health for Advanced Practice	
Fourth Year		
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1

NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		76

D.N.P. Psychiatric/Mental Health Nurse Practitioner Specialty

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5017	Quality and Safety	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Graduate physiology course		3
Second Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3
NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3

NURS:6808	Population Health for Advanced Practice	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		77

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
Graduate physiology course		3
Second Year		
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
Third Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3

NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		77

D.N.P. Health Systems Specialty

The following course work is required for a four-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5017	Quality and Safety	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:6556	Marketing and Communications for Health Care Leaders	3
Second Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:6550	Executive Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6552	Managing Care in an Organizational Environment	4
NURS:6554	Seminar on Healthy Work Environments	3
NURS:6802	Health Policy, Law, and Advocacy	3
Third Year		
NURS:5019	Role Development: Educator in a Practice Discipline	3
NURS:6553	Seminar on Innovations	4
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6826	Doctor of Nursing Practice Project I	2

NURS:6827	Doctor of Nursing Practice Project II	1
Fourth Year		
NURS:6808	Population Health for Advanced Practice	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
One of these elective courses:		3
NURS:3595	Nonprofit Organizational Effectiveness I	
NURS:3600	Nonprofit Organizational Effectiveness II	
NURS:5019	Role Development: Educator in a Practice Discipline	
NURS:5020	Application of Educator Role Competencies	
NURS:5032	Mental Disorders in Advanced Practice	
NURS:5040	Genetics/Genomics for Advanced Nursing Practice (plus additional 1 s.h. elective course; consult advisor)	
NURS:6555	Care Coordination Across Professional and Organizational Boundaries	
Total Hours		73

The following course work is required for a five-year plan.

Code	Title	Hours
First Year		
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:6550	Executive Leadership and Management	4
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
Second Year		
NURS:5007	Applied Epidemiology	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:6551	Financial Management	4
NURS:6552	Managing Care in an Organizational Environment	4
Third Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5019	Role Development: Educator in a Practice Discipline	3

NURS:6554	Seminar on Healthy Work Environments	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
One of these elective courses:		3
NURS:3595	Nonprofit Organizational Effectiveness I	
NURS:3600	Nonprofit Organizational Effectiveness II	
NURS:5019	Role Development: Educator in a Practice Discipline	
NURS:5020	Application of Educator Role Competencies	
NURS:5032	Mental Disorders in Advanced Practice	
NURS:5040	Genetics/Genomics for Advanced Nursing Practice (plus additional 1 s.h. elective course; consult advisor)	
NURS:6555	Care Coordination Across Professional and Organizational Boundaries	

Fourth Year		
NURS:6553	Seminar on Innovations	4
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6808	Population Health for Advanced Practice	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Fifth Year		
NURS:6556	Marketing and Communications for Health Care Leaders	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Total Hours		73

D.N.P. for M.S.N. and Advanced Practice Registered Nurses

Master of Science in Nursing (M.S.N.) students or Advanced Practice Registered Nurses (APRN) can complete the following course work to fulfill the D.N.P. degree requirements.

The following course work is required for a two-year plan.

Code	Title	Hours
First Year		
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3

NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Second Year		
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Nursing elective (Prefix NURS)		3
Total Hours		29

The following course work is required for a three-year plan.

Code	Title	Hours
First Year		
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:6809	Advanced Practice Role I: Introduction	3
Second Year		
NURS:5010	Clinical Data Management and Evaluation	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
Third Year		
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
Nursing elective (prefix NURS)		3
Total Hours		29

Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Applicants must have a g.p.a. of at least 3.00. A criminal background check is required for all graduate students upon admission. The College of Nursing has additional application requirements, as follows.

Admission to the D.N.P. Program

Application requirements specific to the D.N.P. program are:

a bachelor's degree with a major in nursing from an accredited program;

satisfaction of the legal requirements for the practice of nursing in Iowa;

current written recommendations from three persons knowledgeable about the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required);

a current résumé, goal statement, and supplemental/information form;

transcripts from all undergraduate and graduate course work;

D.N.P. applicants to the direct care programs with master's degrees in nursing from other schools must provide verification of completed clinical hours from their institution's graduate director or must submit appropriate course syllabi; and

an upper-level statistics course (undergraduate course at junior/senior level) completed within five years of application deadline; acceptable University of Iowa courses are as follows—STAT:3510 Biostatistics, PSQF:4143 Introduction to Statistical Methods, STAT:4143 Introduction to Statistical Methods, or BIOS:4120 Introduction to Biostatistics (equivalent courses from other colleges also will be accepted).*

* For statistics courses taken at another institution, please refer to that institution's catalog or registrar's office to verify course numbering scheme. Community college courses are considered to be at a lower level (first-year/sophomore) and are not acceptable as an admission prerequisite statistics course. For further questions, regarding the admission upper-level statistics course requirement contact the graduate nursing programs office.

Application deadline for the D.N.P. program is February 1 for all specialties except anesthesia nursing, which has a June 1 application deadline.

Applications are reviewed once a year. In order to be reviewed, the application must be complete, with all materials submitted.

Applicant interviews are required for the D.N.P. program; in some cases, virtual interviews such as through Zoom may be arranged.

Due to the level of web-based course work required, international students in the D.N.P. program of study are not eligible for F-1 or J-1 student immigration status. Questions regarding visas and immigration documentation should be directed to International Student and Scholar Services (ISSS).

Career Advancement

The D.N.P. program prepares nurses for leadership and advanced practice roles within today's complex health care system. Graduates acquire the knowledge and skills to provide the highest standard of care for individuals, families, and communities.

Nursing, Ph.D.

Requirements

The Doctor of Philosophy program in nursing requires a minimum of 72 s.h. of graduate credit. The program prepares students to advance nursing science and contribute to the body of nursing knowledge. It emphasizes student participation with faculty members on research teams; focused course work; presentation and publication of research-based knowledge; and interdisciplinary learning experiences.

Graduate students in the College of Nursing must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Course work taken 10 or more years before a student plans to graduate from the Ph.D. program must be updated according to University policy.

The Ph.D. with a major in nursing requires the following work.

Required Courses

Code	Title	Hours
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:7000	Philosophy and Sociology of Nursing Science	3
NURS:7001	Qualitative Research	4
NURS:7002	Designing Research	3
NURS:7003	Quantitative Research	4
NURS:7006	Theory and Model Development	3
NURS:7310	Measurement in Health Research	3
NURS:7404	Biological Markers in Health Research	3
NURS:7509	Research Residency	3
NURS:7801	Seminar: Research Scholarship Role Development	3
NURS:7803	Research Practicum I	2
NURS:7804	Research Practicum II	2
CPH:7270	Principles of Scholarly Integrity: Public Health	0-1
Specialization courses		3-6
Intermediate statistics		3-4
Advanced statistics		3-4

Cognate Area

Code	Title	Hours
Cognate courses		6

Comprehensive Exam and Dissertation

Students must complete a written and oral comprehensive examination before they begin work on the dissertation. They must write the dissertation and defend it orally.

Dissertation

Code	Title	Hours
A minimum of 11 s.h. in this course:		
NURS:7805	Dissertation Research	arr.

Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

The program is open to individuals who have earned a bachelor's degree in nursing or a master's degree. Applicants who hold a bachelor's degree in nursing and an advanced degree outside nursing may be admitted; their curriculum is based on a review of their transcript.

A criminal background check is required for all graduate students upon admission. The College of Nursing has additional application requirements, as follows.

Admission to the Ph.D. Program

Ph.D. applicants must have completed an accredited basic nursing program and hold a current license to practice nursing (special license for international students).

Applicants must have a g.p.a. of at least 3.00. They also must have successfully completed an upper-level statistics course.

Applicants must submit:

- a two-to-three-page statement describing their educational objectives, career goals, and an area of research for their doctoral study;

- three recommendations from nursing professionals that speak to the applicant's potential as a scholar;

- a current résumé or curriculum vitae; and

- a complete transcript of all college programs and courses.

Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL); or they must score at least 7.0 on the International English Language Testing System (IELTS).

Applicants with a bachelor's degree in nursing who apply directly to the Ph.D. program also must submit a strong statement that details their educational goals, career goals, and potential area of research.

Application deadline for the Ph.D. program is February 1. In order to be reviewed, the applicant's file must be complete, with all materials submitted.

Career Advancement

The Ph.D. program prepares scholars to move nursing and health science forward. Graduates are prepared for careers as faculty members in college and university settings as well as researchers, consultants, and leaders in military, academic or industry venues, and in other non-academic settings.

Adult Gerontology Acute Care Nurse Practitioner, Graduate Certificate

The graduate Certificate in Adult Gerontology Acute Care Nurse Practitioner requires 19 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Adult Gerontology Acute Care Nurse Practitioner requires the following work.

Code	Title	Hours
First Year		
NURS:5035	Graduate Pharmacology Specialty	2
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	3
Total Hours		19

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

Adult Gerontology Primary Care Nurse Practitioner, Graduate Certificate

The graduate Certificate in Adult Gerontology Primary Care Nurse Practitioner requires 20 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Adult Gerontology Primary Care Nurse Practitioner requires the following work.

Code	Title	Hours
First Year		
NURS:5035	Graduate Pharmacology Specialty	2
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	3
Total Hours		20

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

Family Nurse Practitioner, Graduate Certificate

The graduate Certificate in Family Nurse Practitioner requires 24 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Family Nurse Practitioner requires the following work.

Code	Title	Hours
First Year		
NURS:5035	Graduate Pharmacology Specialty	2
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	4
Total Hours		24

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

Health Systems, Graduate Certificate

The graduate Certificate in Health Systems is built on the foundational courses from the Doctor of Nursing Practice (D.N.P.) with a health systems subprogram. The certificate requires 19 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available to post-master's degree students seeking additional preparation in the area of health systems/administration.

The Certificate in Health Systems requires the following course work.

Code	Title	Hours
First Year		
NURS:6550	Executive Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6553	Seminar on Innovations	4
Second Year		
NURS:6552	Managing Care in an Organizational Environment	4
NURS:6554	Seminar on Healthy Work Environments	3
Total Hours		19

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for a semester-by-semester view of required course work.

Pediatric Nurse Practitioner—Acute Care, Graduate Certificate

The graduate Certificate in Pediatric Nurse Practitioner—Acute Care requires 19 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Pediatric Nurse Practitioner—Acute Care requires the following work.

Code	Title	Hours
First Year		
NURS:5035	Graduate Pharmacology Specialty	2
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	3
Total Hours		19

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

Pediatric Nurse Practitioner—Primary Care, Graduate Certificate

The graduate Pediatric Nurse Practitioner—Primary Care requires 18 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Pediatric Nurse Practitioner—Primary Care requires the following work.

Code	Title	Hours
First Year		
NURS:5035	Graduate Pharmacology Specialty	2
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	3
Total Hours		18

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

Psychiatric/Mental Health Nurse Practitioner, Graduate Certificate

The graduate Certificate in Psychiatric/Mental Health Nurse Practitioner requires 22 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in course work for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Course work and clinical hours are determined by a gap analysis.

The Certificate in Psychiatric/Mental Health Nurse Practitioner requires the following work.

Code	Title	Hours
First Year		
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3
NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
Second Year		
NURS:6703	Advanced Practice Clinical Practicum III	3
Total Hours		22

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

College of Pharmacy

Dean

- Donald E. Letendre

Executive Associate Dean

- Gary Milavetz

Associate Dean, Professional Education

- Michael Kelly

Associate Dean, Research and Graduate Programs

- Michael W. Duffel

Associate Dean, Undergraduate Education

- Maureen D. Donovan

Associate Dean, University of Iowa Hospitals and Clinics Health Science Affairs

- Michael J. Brownlee

Assistant Dean, Assessment and Curriculum

- Mary E. Ray

Assistant Dean, Iowa City Veterans Affairs Medical Center

- Traviss A. Tubbs

Chair, Pharmaceutical Sciences and Experimental Therapeutics

- Robert J. Kerns

Chair, Pharmacy Practice and Science

- Jay D. Currie

Head, Applied Clinical Sciences

- James D. Hoehns

Head, Health Services Research

- William R. Doucette

Head, Medicinal and Natural Products Chemistry

- Jonathan A. Doorn

Head, Pharmaceutics and Translational Therapeutics

- Aliasger K. Salem

Director, University of Iowa Pharmaceuticals

- Mickey L. Wells

Undergraduate certificates: drug delivery; drug discovery; drug disposition and metabolism

Professional degree: Pharm.D.

Professional certificate: palliative care

Graduate degrees: M.S. in pharmacy; Ph.D. in pharmacy

Faculty: <https://pharmacy.uiowa.edu/directory/faculty>

Website: <https://pharmacy.uiowa.edu/>

The hallmarks of a University of Iowa pharmacy degree are patient-centered practice, strong grounding in science and evidence-based practice, exploration of career choices through required and elective courses, and exposure to leadership opportunities within the college, the University, and the profession. Career options may include community and/or hospital pharmacy, public service, consulting and long-term care, teaching and research in academia, managed care, pharmaceutical industry, or research careers.

The University of Iowa's Pharm.D. program synthesizes basic scientific principles and practice through caring and communication in an integrated professional program. The role of a pharmacist ranges from managing medication for individuals to shaping national health care policy. Students learn to manage aspects of practice, to solve problems, make clinical decisions, clearly communicate ideas, practice ethically, and become leaders in their communities and profession. Students study with professors who, in many cases, are pioneering the development of new drugs and defining the appropriate use of others to solve chronic health problems.

In addition to offering the Doctor of Pharmacy (Pharm.D.) degree, the professional Certificate in Palliative Care, the Master of Science in pharmacy, the Doctor of Philosophy in pharmacy, and three undergraduate certificates in drug delivery, drug discovery, and drug disposition and metabolism, the College of Pharmacy collaborates with the College of Public Health to offer the combined Doctor of Pharmacy/M.P.H. degree, and with the Graduate College to offer the Doctor of Pharmacy/M.S. in informatics degree.

College Organization

The College of Pharmacy's faculty and programs are organized in two academic units, each with two divisions. These units provide course work for the Doctor of Pharmacy curriculum and for the college's graduate programs.

Pharmacy Practice and Science

Faculty in Pharmacy Practice and Science (PPS) provide expertise and education in the professional practice of pharmacy. They specialize in a wide variety of clinical pharmacy practices; conduct research on patient and population outcomes related to medication therapy; contribute to the scholarship of teaching and learning in pharmacy education; and provide instruction in the pharmacist's professional role and the safe, effective use of medications.

This unit offers Master of Science and Doctor of Philosophy curricula in health services research, which encompasses the behavioral, economic, social, and administrative sciences; and elements of pharmacy practice. It offers course work through its Applied Clinical Sciences Division and its Health Services Research Division.

Applied Clinical Sciences (ACS) Division: Teaching and research in this division focus on the delivery of care and related services to patients and the education of student and resident pharmacists in practice settings. Courses are offered in pharmacotherapy, communication and practice skill development, clinical problem solving, and patient care. Professional practice mentoring and education are provided in introductory and advanced pharmacy practice experiences.

Health Services Research (HSR) Division: Teaching and research in this division involve economic, social, behavioral,

and administrative components of pharmacy practice and medication use. Courses are offered on the health care system, practice management, the professional and business aspects of pharmacy practice, and on learning and applying economic and social psychological theories to the study of health services and medication use.

To learn more about the department and its two divisions, visit Pharmacy Practice and Science on the College of Pharmacy website.

Pharmaceutical Sciences and Experimental Therapeutics

Faculty in Pharmaceutical Sciences and Experimental Therapeutics (PSET) provide expertise and education in clinical pharmaceutical sciences, medicinal and natural products chemistry, and pharmaceuticals. Their interests include dosage form development and performance, industrial and manufacturing pharmacy, pharmacokinetics and pharmacodynamics, and the chemistry of drugs and their action on human systems. This unit offers courses through its Medicinal and Natural Products Chemistry Division and its Pharmaceuticals and Translational Therapeutics Division.

Medicinal and Natural Products Chemistry (MNPC)

Division: Course work in this division relates to understanding the chemistry of drugs and their action on human systems, principles of drug discovery and drug design, natural product chemistry, and biotechnology and genomic strategies for producing new drug molecules. The division's curricula for the M.S. and Ph.D. programs provide abundant opportunities for interface with researchers in other areas, including medicine, pharmacology, biochemistry, chemistry, and pharmaceuticals.

Pharmaceutics and Translational Therapeutics (PTT)

Division: This division prepares students to become leaders in developing and evaluating drugs, drug products, and drug delivery systems. It offers two M.S. and Ph.D. subprograms: the pharmaceutics subprogram, which focuses on characterization of pharmaceuticals and their component materials, development of delivery systems for optimal human or veterinary use, and the pharmacokinetic and pharmacodynamic evaluation of drug actions and interactions; and the clinical pharmaceutical sciences subprogram, which focuses on investigating drug therapy outcomes in patients and identifying factors responsible for specific drug actions in individual patients, related patient groups, and large patient populations. The division also offers multidisciplinary opportunities with programs in chemistry, engineering, biomedical science, dentistry, and veterinary medicine. Its national and international collaborations enhance the breadth of research activities available to students.

To learn more about the divisions, visit Medicinal and Natural Products Chemistry and Pharmaceutics and Translational Therapeutics on the College of Pharmacy website.

Programs

Undergraduate Programs of Study

Certificates

- Certificate in Drug Delivery [p. 1702]
- Certificate in Drug Discovery [p. 1703]
- Certificate in Drug Disposition and Metabolism [p. 1704]

Professional Programs of Study

Major

- Doctor of Pharmacy [p. 1705]

Certificate

- Certificate in Palliative Care [p. 1710]

Graduate Programs of Study

Majors

- Master of Science in Pharmacy [p. 1711]
- Doctor of Philosophy in Pharmacy [p. 1712]

Facilities

Pharmacy Building

The Pharmacy Building is located on the University's health sciences campus, in close proximity to the Carver College of Medicine, College of Dentistry, College of Nursing, and College of Public Health. Also nearby are University of Iowa Hospitals and Clinics, the Bowen Science Building, and the Hardin Library for the Health Sciences.

A new, state-of-the art pharmacy building will set the stage for advancements in science and discovery, and allow world-class pharmacy education to continue to grow and thrive. For more than 125 years, the University of Iowa College of Pharmacy has led the way in educating pharmacists and pharmaceutical scientists. The college is well known for its high quality pharmacy education, advanced practice models, patient care, drug discovery, product development, and contract manufacturing.

With a new facility already under way, Iowa pharmacy will continue to deliver a contemporary pharmacy education and to prepare its graduates to be the health care leaders and scientists of the future.

University of Iowa Pharmaceuticals

University of Iowa Pharmaceuticals is a pharmaceutical manufacturing facility registered with the U.S. Food and Drug Administration that develops pharmaceutical dosage forms and has manufactured clinical supplies in compliance with Good Manufacturing Practices since 1974. University of Iowa Pharmaceuticals has clients worldwide, including pharmaceutical companies, biotechnology firms, medical departments, and government agencies. Its staff works closely with clients and pharmaceuticals faculty members to produce virtually every type of pharmaceutical dosage form, supplying new pharmaceutical agents for use in clinical trials and other research. For more information, visit the University of Iowa Pharmaceuticals website.

Courses

Students must be enrolled in the College of Pharmacy to enroll in professional-level (Pharm.D.) course work (numbered 8000-9999). Students who meet prerequisite requirements may register for the college's undergraduate- and graduate-level courses (numbered 1100-7999).

College of Pharmacy Courses

PHAR:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

PHAR:1100 Introduction to Pharmaceutical Sciences: Drug Development 1-2 s.h.

Introduction to drug discovery, development, and approval pathways used in the United States; specific focus on career pathways related to pharmaceutical development including the natural and biomedical sciences, clinical, regulatory and legal affairs, sales and marketing, and business development.

PHAR:1111 Need a New Drug? 1 s.h.

Introduction to drug discovery, development, and approval process in the United States; focus on preclinical and clinical development activities and role of the FDA and other regulatory bodies in approval and oversight of available drug products.

PHAR:1200 Medicines That Changed or Will Change the World 1 s.h.

Herbal remedies and ancient traditional medicines have led to the discovery of life-saving drug therapies; as science has evolved, how the discovery of other important medicines have come about through advances in chemistry and biology and now through advances in computer science and informatics; students learn about the discovery history of some of the most important drug therapies of the 20th and 21st centuries and how those discoveries are leading to even more important, life-saving treatments.

PHAR:1800 Introduction to Nutraceuticals: Activity and Action 2 s.h.

Introduction to the role and actions of nutritional supplements in health and disease; evidence-based information regarding roles of common nutritional supplements available to consumers. Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411 or BIOL:1412.

PHAR:3740 End-of-Life Care for Adults and Families 3 s.h.

End-of-life issues in care of adults, older adults, and their families. Same as ASP:3740, MED:3740, NURS:3740.

PHAR:3994 Undergraduate Research in Pharmaceutical Sciences 1-4 s.h.

Individual scientific research conducted under the guidance of a faculty member.

PHAR:4146 Drug Disposition and Pharmacokinetics 2 s.h.

Introduction to drug absorption, distribution, and elimination processes controlling overall drug exposure in humans; basic quantitative measurements presented and used to demonstrate the influence of drug properties and physiologic action on drug disposition. Prerequisites: (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850) and (BIOL:1140 or BIOL:1141 or BIOL:1411 or BIOL:1412) and (STAT:1020 or PSQF:1020 or STAT:1030 or STAT:2010).

PHAR:4480 Introduction to Human Pharmacology 3 s.h.

General pharmacology (e.g., administration, distribution, and elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of the disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce disease's impact; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: HHP:3500 or HHP:3550. Same as HHP:4480.

PHAR:4501 Basic Principles of Toxicology 1 s.h.

Basic principles and mechanisms of toxicology as it relates to drugs and environmental agents. Prerequisites: BIOC:3110.

PHAR:4502 Toxic Agents 1 s.h.

Specific toxicants and toxicity not related to organ systems including carcinogenesis and oxidative stress; clinical toxicology and antidotes. Prerequisites: BIOC:3110.

PHAR:4503 Organ and Organism Toxicity 1 s.h.

How toxicants, such as drugs, interact with organ systems and organisms. Prerequisites: BIOC:3110.

PHAR:4512 Principles of Drug Discovery 3 s.h.

Focus on understanding drug targets as receptors, receptor theory, drug discovery, and new drug approval processes; areas of novel drug target identification, pharmacological characterization of new drugs, G protein coupled receptors as targets, and analysis of drug-receptor interactions. Prerequisites: BIOC:3110.

PHAR:4521 High Throughput Screening in Drug Discovery 1 s.h.

Introduction to high throughput screening (HTS) and its application in pharmaceutical and biomedical sciences; description and use of HTS in identification of biologically active small molecules for use as probes, tool compounds, and drug leads; detection systems, robotic liquid handling instruments, and compound libraries; case studies of HTS approaches used in drug discovery. Prerequisites: (CHEM:2220 or CHEM:2240) and BIOC:3110 or (BIOC:3120 and BIOC:3130). Requirements: one semester of analytical chemistry or analytical biochemistry.

PHAR:4537 Principles of Drug Metabolism 3 s.h.

Principles of drug metabolism based on current knowledge of involved enzymes. Prerequisites: (CHEM:2220 or CHEM:2240) and (BIOC:3120 or BIOC:3110).

PHAR:4700 Pharmaceutical Chemical Analysis 4 s.h.

Introduction to the use and selection of analytical methods used to evaluate pharmaceutical products; basic laboratory skills, data analysis, and record keeping. Prerequisites: (CHEM:2220 or CHEM:2240) and (CHEM:2410 or CHEM:2420). Requirements: no prior enrollment in PHAR:5700.

PHAR:4736 Properties of Dosage Forms I 3 s.h.

Introduction to principles of physical and chemical sciences important in drug product development; solubility, colligative properties, and partitioning behavior, as well as ionic equilibria, pH control, and chemical stability are evaluated in context of their importance in liquid dosage forms; emphasis on issues impacting drug product quality. Prerequisites: (CHEM:2220 or CHEM:2240) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850).

PHAR:4737 Properties of Dosage Forms II 3 s.h.

Physical and chemical properties and measurements of materials used in pharmaceuticals; introduction to material properties of drugs and excipients used in development of semi-solid and solid pharmaceuticals; emphasis on material selection, dosage form performance characteristics, and evaluation of drug product quality. Prerequisites: PHAR:4736.

PHAR:4740 Materials in Drug and Gene Delivery 3 s.h.

Different types of materials used in drug and gene delivery including synthetic and natural polymers (poly lactic-co-glycolic acid and chitosan respectively); different forms of delivery systems including (but not limited to) liposomes, micelles, biodegradable nanoparticles, nondegradable nanoparticles, and solid porous scaffolds; applications of these material-based delivery systems from targeted chemotherapy to bone regeneration to vaccination applications.

PHAR:4745 Drug Delivery I arr.

Advanced design and development of drug delivery systems; emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies. Prerequisites: (BIOC:3110 or BIOC:3120) and (MATH:1460 or MATH:1550 or MATH:1850 or MATH:1380) and (CHEM:2220 or CHEM:2240) and PHAR:4737. Corequisites: PHAR:4146 (if not taken as a prerequisite). Requirements: one semester of human anatomy and physiology.

PHAR:4799 Special Topics in Pharmaceutics arr.

Current topics in pharmaceutics. Prerequisites: MATH:2560 and CHEM:4431.

PHAR:4800 Chemical and Biophysical Properties of Drugs 1 s.h.

Introduction to design of drug molecules based on an understanding of drug-like properties including chemical reactivity and structural optimization; minimization of potentially toxic biotransformations; optimization of absorption; screening methods for selection and classification of optimized molecules. Prerequisites: (CHEM:2220 or CHEM:2240) and BIOC:3110 or (BIOC:3120 and BIOC:3130).

PHAR:4850 Upstream Biotechnology Processes 2 s.h.

Introduction to fermentation, fermenter preparation, cell growth and medium requirements, inoculation, sampling, process termination, separation of cells, fermentation case study, enzyme activity, and biocatalysis. Same as CHEM:4850.

PHAR:5110 Clinical Pharmaceutical Sciences Seminar 1-2 s.h.

Research by faculty, graduate students.

PHAR:5310 Pharmaceutical Socioeconomics Seminar 1-2 s.h.

Recent research in pharmacy administration.

PHAR:5350 Introduction to Research Methods 3 s.h.

Scientific inquiry, experimental design, data collection, statistical methods used in the study of health services and clinical investigations; focus on understanding the research process and evaluating published studies. Recommendations: introductory statistics.

PHAR:5510 Medicinal and Natural Products Chemistry Seminar 1-2 s.h.**PHAR:5512 Drug Discovery and Mechanisms 3 s.h.**

Process of modern drug discovery, focus on high throughput screening strategies, target validation, pharmacological characterization of new compounds; mechanism of drugs targeting G protein coupled receptors, ion channels and transporters, targets in biological systems.

PHAR:5515 Perspectives in MNPC Research 2 s.h.

Contemporary research in medicinal chemistry and natural products.

PHAR:5520 Medicinal and Natural Products Chemistry Research arr.**PHAR:5521 High Throughput Screening for Pharmaceutical and Biomedical Sciences 1 s.h.**

Broad introduction to high throughput screening (HTS) and its application in pharmaceutical and biomedical sciences; HTS as a modern technology platform integrated with robust detection systems and robotic liquid handling instruments; use of HTS platforms to identify biologically active small organic molecules to validate drug targets, screen compound libraries; identification of biologically active small molecules for use as probes, tool compounds, drug leads; systematic, unbiased, and/or focused hypothesis-based approaches for mechanistic studies in biological and medical sciences. Recommendations: bachelor degree in biochemistry, chemistry, molecular biology, pharmacology, or equivalent.

PHAR:5537 Enzymatic Basis of Drug Metabolism 3 s.h.

Current literature on catalytic and physical properties, distribution, and substrate specificity of enzymes involved in mammalian drug metabolism. Prerequisites: CHEM:2220.

PHAR:5541 Total Synthesis of Biologically Active Natural Products 3 s.h.

Total synthesis of natural products; use of strategies and tactics for synthetic maneuvering; selectivity of important and complex medicinal compounds; modern chemical methods for construction of carbon-carbon bonds.

PHAR:5542 Biophysical Chemistry II, Module I 1 s.h.

Enzymes as unparalleled catalysts that represent a unique class of drug targets; focus on organic chemistry of enzyme catalyzed reactions and enzyme inhibition by small molecules from a medicinal chemistry perspective; chemical and enzyme kinetics, sources of catalytic power, chemical mechanisms used in enzyme catalysis, role of coenzymes; strategies in enzyme inhibition, drug resistance, drug synergism, reversible enzyme inhibitors, transition state analogs, slow tight binding inhibitors, irreversible inhibition; taken alone or as part of BIOC:5242. Requirements: introductory course in biochemistry. Same as BIOC:5244.

PHAR:5545 Current Medicinal Chemistry 3 s.h.

Modern techniques used in drug discovery; important drug classes, their chemical mechanism of action.

PHAR:5549 Analytical Biochemistry 3 s.h.

Application of modern chromatographic and detection methods used to isolate, characterize, and quantify drugs and macromolecules.

PHAR:5550 Synthetic Strategies in Medicinal Chemistry 3 s.h.

Modern chemical methods for construction of carbon-carbon bonds commonly used in synthesis of natural products; strategic disconnections for the syntheses of these molecules.

PHAR:5700 Quantitative Research Methods in Pharmacy I 3-4 s.h.

Collection and interpretation of analytical data; instrumental analysis and separation techniques.

PHAR:5702 Clinical Pharmacokinetics 2 s.h.

Fundamental concepts in pharmacokinetics and pharmacodynamics; application in dose regimen optimization and rational drug use.

PHAR:5745 Drug Delivery: Principles and Applications I **arr.**

Advanced design and development of drug delivery systems with emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies. Prerequisites: (BIOC:3110 or BIOC:3120) and (MATH:3600 or MATH:2560) and (CHEM:2220 or CHEM:2240) and PHAR:4737. Corequisites: PHAR:4146 (if not taken as a prerequisite). Requirements: one semester of human anatomy and physiology.

PHAR:5875 Perspectives in Biocatalysis **1-3 s.h.**

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BIOC:5875, CBE:5875, CEE:5875, CHEM:5875, MICR:5875.

PHAR:6120 Clinical Pharmaceutical Sciences Research **arr.****PHAR:6305 Foundation Literature in Pharmaceutical Socioeconomics** **arr.**

Issues related to pharmacy administration, social and behavioral pharmacy, pharmacy education.

PHAR:6320 Pharmaceutical Socioeconomics Research **arr.****PHAR:6330 Models of Patient Behavior and Choice** **3 s.h.**

Theoretical models used to describe behavior and choice in pharmaceutical socioeconomic research; models from economics, health services research, health behavior, clinical decision making.

PHAR:6331 Models of Provider Behavior and Choice **3 s.h.**

Theoretical background for study of provider decision making and behavior; models based on a classic economic approach, models used to study provider behavior.

PHAR:6501 Principles and Mechanisms of Chemical Toxicology **1 s.h.**

General principles and basic mechanisms of chemical and pharmaceutical toxicology; drug/toxicant disposition, including biotransformation and bioactivation to electrophiles.

PHAR:6502 Toxic Agents and Concepts in Toxicology **1 s.h.**

Specific classes of toxicants and non-organ directed toxicity, including chemical carcinogenesis, oxidative stress, teratogenesis; clinical toxicology, antidotes, methods and models in toxicology.

PHAR:6503 Target-Organ Toxicity **1 s.h.**

Role of drugs/toxicants in systems toxicity (target organ); hepatotoxicity, neurotoxicity, cardiotoxicity, and toxic responses of immune system.

PHAR:6700 Advanced Pharmacokinetics and Pharmacodynamics **3 s.h.**

Application of pharmacokinetics and pharmacodynamics principles in pharmaceutical research. Prerequisites: PHAR:5702 or PHAR:8146 or PHAR:4146. Requirements: two semesters of calculus and one semester of statistics.

PHAR:6701 Stability of Pharmaceuticals **3 s.h.**

Mechanisms of degradation of pharmaceuticals; prediction of shelf life of pharmaceuticals, stabilization. Prerequisites: CHEM:4432.

PHAR:6706 Equilibria Processes **3 s.h.**

Equilibria pertaining to ionic systems, complexation, partitioning, solubility. Prerequisites: CHEM:4431.

PHAR:6710 Pharmaceutics Graduate Seminar **1-2 s.h.****PHAR:6720 Pharmaceutics Research** **arr.****PHAR:7100 Translational Research and Clinical Drug Development** **3 s.h.**

Clinical drug development; preclinical studies and clinical trials; phase I, II, and III clinical trials, including regulatory considerations.

PHAR:7101 Principles of Experimental Therapeutics **3 s.h.**

Introduction to key principles and concepts for research in experimental therapeutics; basic principles related to drug disposition, toxicity, and efficacy.

PHAR:7102 Applied Clinical and Translational Science **3 s.h.**

Application of clinical and translational science in a multidisciplinary collaborative environment to develop, conduct, and report research.

PHAR:7331 Analytic Issues in Health Services Research II **3 s.h.**

Continuation of HMP:7960; advanced applications, including panel data and qualitative response models. Prerequisites: HMP:7960. Same as HMP:7965.

PHAR:7701 Surface Phenomena **arr.**

Behavior of matter in phase boundaries, especially adsorptive processes at liquid-solid and vapor-solid interfaces. Prerequisites: CHEM:4431.

PHAR:7702 Transport Phenomena **3 s.h.**

Diffusion and mass transport phenomena related to pharmaceutical systems. Prerequisites: CHEM:4431.

PHAR:8105 Social Aspects of Pharmacy Care **2 s.h.**

Conceptual issues related to social and behavioral components of pharmacy care; social construction of health and illness, medication use process, health communications, cultural competence, health disparities, public health. Requirements: P1 standing.

PHAR:8112 Pharmaceutics II: Solids and Semi-Solids **4 s.h.**

Properties of solids; formulation, preparation, evaluation of solid dosage forms. Requirements: P1 standing.

PHAR:8121 Medicinal and Natural Products Chemistry I: Biotechnology and Chemotherapy **3 s.h.**

Organic and inorganic medicinal and therapeutic agents of natural and synthetic origin; physical, chemical, biological, and biochemical properties as they relate to medicinal and therapeutic effects; comparative biological activity and toxicity; detoxication mechanisms; functional group chemistry; nomenclature; chemistry of radiodiagnostic and therapeutic agents; introduction to biopharmaceutical analysis. First in a three-course sequence. Prerequisites: CHEM:2220 and MICR:3112. Requirements: P1 standing.

PHAR:8122 Medicinal and Natural Products Chemistry II: Pharmacodynamic Agents **3 s.h.**

Medicinal chemistry of pharmacodynamic agents; introduction to peptides and proteins, thyroid hormone, diabetes, vaccines, gene therapeutics, NSAIDs, cardiovascular drugs, antihistamines, anticancer drugs. Second in a three-course sequence. Prerequisites: PHAR:8121. Requirements: P2 standing.

PHAR:8123 Medicinal and Natural Products Chemistry III: Medicinal Neurochemistry 3 s.h.

Receptor site theory; steroids, lipids, and prostaglandins; sedatives and hypnotics; drugs of abuse; cholinergics; excitatory amino acids and anticonvulsants; major analgesics; adrenergics; psychotherapeutics. Third in a three-course sequence. Prerequisites: PHAR:8121 and PHAR:8122. Requirements: P2 standing.

PHAR:8130 Foundations of Pharmacy Practice I 4 s.h.

Introduction to contemporary pharmacy practice; small-group discussion, application of core concepts through active hands-on learning approaches; for first-year student pharmacists. Requirements: P1 standing.

PHAR:8131 Engagement: Professional Skills and Values 1 s.h.

Opportunity for student engagement in the College of Pharmacy prior to Professionalism Ceremony; development as a responsible partner in learning process by nurturing collaboration, leadership, service, compassion, community, self development, and social enrichment among students, faculty, and staff. Requirements: P1 standing.

PHAR:8132 Continuing Professional Development 1 s.h.

Engagement with profession of pharmacy and community through service and leadership activities, reflection; use of Continuous Professional Development Cycle (CPD) approach to learning. Requirements: P3 standing.

PHAR:8133 Introductory Pharmacy Practice Experience Career Exploration 1 s.h.

Hands-on exposure to various pharmacist career opportunities in four different pharmacy practice patient care settings; settings include practice areas and rotation types required for P4 Advanced Pharmacy Practice Experience (APPE) sites in community pharmacy, hospital pharmacy, ambulatory care/family practice, acute care medicine, and other elective practice settings; work with faculty mentor. Requirements: P1 standing.

PHAR:8134 Foundations of Health Services 3 s.h.

Foundation issues for pharmacist practice related to social, cultural, behavioral, economic, and organization design components of pharmacy care. Requirements: P1 standing.

PHAR:8135 Health Information Retrieval and Informatics 3 s.h.

Introduction and overview of health care information retrieval, organization, and dissemination; retrieval and organization of health information from pharmacy and medical primary and tertiary literature using secondary resources; knowledge and skills to manage, analyze, and legally share health information in electronic health records, pharmacy information systems, and automated systems. Requirements: P1 standing.

PHAR:8136 Foundations of Pharmaceutical Sciences I 3 s.h.

Introduction and overview of foundations of pharmaceutical sciences. Requirements: P1 standing.

PHAR:8137 Foundations of Pharmaceutical Sciences II 2 s.h.

Introduction and overview of foundations of pharmaceutical sciences. Recommendations: P1 standing.

PHAR:8140 Foundations of Pharmacy Practice II 4 s.h.

Introduction to contemporary pharmacy practice for first-year student pharmacists; classroom methods include small group discussion-based and active hands-on learning approaches where students will apply core concepts.

PHAR:8141 Discovery I: Introduction and Background 3 s.h.

Create and disseminate new knowledge related to pharmacy or health care; broadly based scholarly effort with topics ranging from patient case studies, literature reviews, and analysis of pharmacy practice problems or basic research.

PHAR:8142 Foundations of Health, Wellness, and Disease 2 s.h.

Overview of the basic processes of good health and practices that promote wellness; emphasis on the mechanistic causes of human disease.

PHAR:8146 Foundations of Pharmaceutical Sciences III 2 s.h.

Continuation of PHAR:8137.

PHAR:8147 Foundations of Pharmaceutical Sciences IV 3 s.h.

Continuation of PHAR:8146.

PHAR:8200 Introduction to Community Pharmacy Practice 3 s.h.

Exposure to community pharmacy through activities focusing on drug distribution, legal requirements, communication, patient interaction; during breaks in P2 year. Requirements: P2 standing.

PHAR:8201 Clinical Practice Skills I: Theory and Application 2 s.h.

Exploration and development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral), teamwork. Corequisites: PHAR:8242.

PHAR:8203 Pharmacy Practice Lab III 2 s.h.

Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include prescription interpretation and counseling, compounding, applications of drug information, use of patient screening tools, physical assessment, and pharmacy law. Corequisites: PHAR:8240 and PHAR:8241, if not taken as prerequisites.

PHAR:8204 Pharmacy Practice Lab IV 2 s.h.

Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include providing medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: PHAR:8242 and PHAR:8243, if not taken as prerequisites. Requirements: P2 standing.

PHAR:8205 Student Pharmacist Professionalism 1 s.h.

Participation in activities promoting leadership and professional learning, and service learning; required participation P1 through P3 years.

PHAR:8206 Introduction to Hospital Pharmacy Practice 2 s.h.

Exposure to hospital pharmacy through activities focusing on drug distribution, legal requirements, communication, patient interaction; during breaks in P2 year. Requirements: P2 standing.

PHAR:8207 Introductory Pharmacy Practice Experiences Community 3 s.h.

Exposure to the provision of care in a community pharmacy setting; activities focus on those experiences related to the community pharmacy environment, medication distribution, special products and populations, and related professional activities; delivered in set time blocks over winter break and during summer session before or after the P2 year.

PHAR:8208 Introductory Pharmacy Practice Experiences Hospital 80**2 s.h.**

Exposure to the provision of care in a hospital pharmacy setting; activities focus on those experiences related to the hospital pharmacy environment, medication distribution, special products and populations, and related professional activities.

PHAR:8209 Introductory Pharmacy Practice Experiences Hospital**3 s.h.**

Exposure to the provision of care in a hospital pharmacy setting; activities focus on those experiences related to the hospital pharmacy environment, medication distribution, special products and populations, and related professional activities.

PHAR:8213 Pharmacokinetics and Biopharmaceutics**3 s.h.**

Qualitative and quantitative description of kinetics of drug absorption, distribution, and elimination, including physiological factors that influence each process; adjustment of dosing regimens for optimizing therapeutic drug levels in the body; dosing considerations in special populations.

PHAR:8230 Clinical Pharmacokinetics**3 s.h.**

Application of pharmacokinetics to the clinical setting. Requirements: P2 standing.

PHAR:8240 Introduction to Therapeutics/Special Populations**2 s.h.**

Treatment modalities that promote health and treat common diseases; common laboratory and diagnostic procedures used to diagnose and monitor diseases; basic types of adverse drug reactions. Requirements: P2 standing.

PHAR:8241 Endocrinology, Ophthalmology, Women's and Men's Health Therapeutics**2 s.h.**

Pharmacotherapy for endocrine and ophthalmologic disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.

PHAR:8242 Respiratory and Dermatologic Therapeutics**2 s.h.**

Pharmacotherapy for respiratory and dermatology disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.

PHAR:8243 Cardiovascular Therapeutics**2 s.h.**

Pharmacotherapy for cardiovascular disorders; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P2 standing.

PHAR:8250 Applications of Pharmacy Practice I**1 s.h.**

Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific aligned component courses; taught using a variety of classroom methods including small-group, discussion-based, and active hands-on learning approaches where students will apply core concepts.

PHAR:8251 Integrated Pharmacotherapy: Dermatology and Sensory**3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8252 Integrated Pharmacotherapy: Musculoskeletal**4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8253 Integrated Pharmacotherapy: Genitourinary and Reproductive**3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8254 Integrated Pharmacotherapy: Endocrine**3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8255 Discovery II: Design and Methods**arr.**

Create and disseminate new knowledge related to pharmacy or health care with emphasis on design methods and data collection.

PHAR:8260 Integrated Pharmacotherapy: Cardiovascular**4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8261 Integrated Pharmacotherapy: Neurology and Psychiatry**4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8262 Integrated Pharmacotherapy: Oncology**3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8263 Integrated Pharmacotherapy: Infectious Diseases**4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8264 Discovery III: Data Collection and Results**1 s.h.**

Create and disseminate new knowledge related to pharmacy or health care with emphasis on data collection and results.

PHAR:8265 Applications of Pharmacy Practice II**1 s.h.**

Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific integrated pharmacotherapy courses; taught using a variety of classroom methods including small group, discussion-based, and active hands-on learning approaches where students apply core concepts.

PHAR:8300 Introduction to Clinical Pharmacy Practice**1 s.h.**

Clinical practice experience observing and participating in clinical activities with P4 students, faculty, and other health care providers. Requirements: P3 standing.

PHAR:8301 Introductory Pharmacy Practice Experience Clinical**1 s.h.**

This third IPPE clinical is completed as an introduction to the Advanced Pharmacy Practice Experiences (APPE) to which student pharmacists are exposed during their P4 year; the IPPE clinical involves a P3 student observing and participating with a P4 student currently on an APPE rotation.

PHAR:8302 Clinical Practice Skills II: Critical Patient Analysis**2 s.h.**

Continuation of PHAR:8201; development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral) skills. Corequisites: PHAR:8340. Requirements: P3 standing.

PHAR:8303 Clinical Practice Skills III: Applied Patient Management 2 s.h.

Continuation of PHAR:8302; development of professional skills required for delivery of patient care; patient assessment, clinical decision making, communication (written and oral), teamwork. Corequisites: PHAR:8342. Requirements: P3 standing.

PHAR:8305 Pharmacy Practice Lab V 2 s.h.

Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: PHAR:8340 and PHAR:8341, if not taken as prerequisites.

PHAR:8306 Pharmacy Practice Lab VI 2 s.h.

Practical application of scientific and clinical knowledge in the provision of patient-centered care; activities include medication therapy management for patients, prescription and self-care counseling, and application of drug information skills. Corequisites: PHAR:8342 and PHAR:8343, if not taken as prerequisites. Requirements: P3 standing.

PHAR:8308 Pharmaceutical Economics and Insurance 3 s.h.

Financing of health care in the U.S.; insurance and reimbursement in pharmacy and pharmacoeconomics. Requirements: P3 standing.

PHAR:8309 Pharmacy Management and Marketing 2 s.h.

Application of management principles to pharmacy practice; marketing techniques for pharmacy practice; operations, human resources, finance, quality improvement and service marketing management.

PHAR:8313 Drug Literature Evaluation 2 s.h.

Study design methods, drug information techniques and skills; skill development in critical analysis and evaluation of published reports of drug use and drug trials, assessment of validity of reports, trials and studies, assessment of generalizability of results to individual patients and patient groups; laboratory experience in biomedical literature analysis, evaluation.

PHAR:8340 FEN, GI, and Renal Therapeutics 2 s.h.

Pharmacotherapy for fluid/electrolyte/nutrition disorders; gastrointestinal and renal diseases; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.

PHAR:8341 Rheumatology, Immunology, Hematology, Oncology, and Transplantation Therapeutics 2 s.h.

Pharmacotherapy for rheumatology, immunology, hematology, oncology, and transplantation; review of disorders, treatment goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.

PHAR:8342 Neurology/Psychiatry Therapeutics 2 s.h.

Pharmacotherapy for psychiatric and neurologic disorders; review of disorders, therapeutic goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.

PHAR:8343 Infectious Disease Therapeutics 2 s.h.

Pharmacotherapy for infectious diseases; review of disease, therapeutic goals, treatment plans, patient counseling, monitoring of patient outcomes. Requirements: P3 standing.

PHAR:8370 Integrated Pharmacotherapy: Respiratory and Allergy 3 s.h.

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8371 Integrated Pharmacotherapy: Oncology and Hematology 3 s.h.

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8372 Integrated Pharmacotherapy: Gastroenterology and Nutrition 3 s.h.

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8373 Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes 2 s.h.

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

PHAR:8374 Applications of Pharmacy Practice III 1 s.h.

Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific aligned component courses; taught using a variety of classroom methods including small group, discussion-based, and active hands-on learning approaches where students apply core concepts.

PHAR:8375 Advanced Topics in Health Services 2 s.h.

Exploration of advanced topics in health service.

PHAR:8376 Discovery IV: Presentation of Results 1 s.h.

Dissemination and presentation of new knowledge related to pharmacy or health care with emphasis on design methods and data collection.

PHAR:8377 Integrated Pharmacotherapy: Capstone 4 s.h.

Capstone serves as a culminating academic and research project for students and mentors, integrating all areas of professional discovery.

PHAR:8378 Pharmacy Law and Ethics 2 s.h.

Topics include ethical behavior for pharmacists and student of pharmacy law.

PHAR:8379 Advanced Pharmacy Practice Experiences Preparation 1 s.h.

Guidance provided for advanced pharmacy practice experiences.

PHAR:8380 Learning Portfolio 1 s.h.

Compilation of student work.

PHAR:8387 Capstone: Skills-Based Assessment 1 s.h.

Further development of assessment skills.

PHAR:8400 Introductory Pharmacy Practice Experience Transitions 1 s.h.

This final IPPE transitions is completed as an introduction to the Advanced Pharmacy Practice Experiences (APPE) to which student pharmacists are exposed during the P4 year; student pharmacists work alongside a pharmacist preceptor to assist them in making a smooth transition to the APPE curriculum; students identify, collect pertinent information, evaluate, and document a patient case or problem encountered at a pharmacy practice site.

PHAR:8500 Advanced Drug Literature Evaluation and Application 2 s.h.

Critical evaluation, utilization, and clinical application of drug literature.

PHAR:8501 Introduction to Nuclear Pharmacy 2 s.h.

Nuclear pharmacy as a specialty area of pharmacy practice that involves preparation of radioactive materials for patient administration.

PHAR:8502 Advanced Pharmacopalliation of Pain 2 s.h.

Exploration of symptom management across the trajectory of serious illness through a series of longitudinal patient cases.

PHAR:8503 Advanced Pharmacopalliation of Non-Pain Symptoms 3 s.h.

Terminal extubation, terminal agitation, discontinuing life sustaining therapies, and pharmacokinetic and pharmaceutical issues in advanced illness.

PHAR:8504 Sustained Clinical Pharmacy Services 2 s.h.

Pharmacists may find themselves needing to justify their salary, the cost effectiveness of their pharmacy services, or may wish to create a new clinical service; introduction to pharmacists' role in initiating and sustaining clinical services in the ambulatory setting; writing a business plan; identifying and communicating with key stakeholders; finding billable opportunities.

PHAR:8505 Advanced Topics in Infectious Disease, HIV, and Antimicrobial Therapy 2 s.h.

Topics in antimicrobial treatment of infectious diseases beyond those in the required pharmacy curriculum, including topics covered in the infectious disease therapeutics course; lectures, case discussion, class participation, and summary presentations of an uncommon organism or antimicrobial agent.

PHAR:8506 Health Informatics Essentials 2 s.h.

Health informatics as a multidisciplinary field that uses health information technology to improve health care services for patients.

PHAR:8507 Personal and Professional Transformation 2 s.h.

How to maximize personal and professional goals; focus on what students want to achieve in their personal and professional life.

PHAR:8508 Interprofessional Case Studies 2 s.h.

Interdisciplinary collaboration to formulate pharmacologic treatments of common diseases; case-based learning utilized with peer teaching; medical and pharmacy students revisit and share foundational science concepts from their disciplines, including mechanisms of health and disease and principles of pharmacokinetics and pharmacodynamics; discussions led by students and facilitated with a Carver College of Medicine clinician and a College of Pharmacy clinical pharmacist; students formulate treatment plans using the World Health Organization's six step approach to good prescribing. Requirements: P3 standing.

PHAR:8702 Dean's Pharmacy Forum II 2 s.h.

Contemporary issues in pharmacy practice, pharmacy education, and health care.

PHAR:8706 Pharmacy Projects arr.

Basic and applied research problems of pharmaceutical interest.

PHAR:8708 Substance Abuse 2 s.h.

Themes and concepts in substance abuse and treatment; stimulants, depressants, alcohol, opiates, hallucinogenics, steroids; drug abuse prevention and treatment, including dual diagnosis, from cradle to the grave.

PHAR:8709 Pharmacist Role in Health Coaching and Nutrition 2 s.h.

Exploration of pharmacist role in health coaching and nutrition.

PHAR:8712 Nonprescription Pharmacotherapy and Self-Care 2 s.h.

Introduction to nonprescription medications; development of patient assessment and consultation skills; understanding of pharmacist's role in patient self-care. Requirements: P3 standing.

PHAR:8715 Health Disparities and Cultural Competence 2-4 s.h.

Characteristics, causes, and effects of health disparities in the U.S. health care system; foundation for development of knowledge, attitudes, and skills required of culturally competent health care providers; definitions and models of cultural competence, characteristics of culturally effective practitioners and workplaces; health disparities among specific populations, evidence for cultural competence as a remedy; taking a culturally appropriate history; working with interpreters; legal and professional imperatives for cultural competence. Same as NURS:3715.

PHAR:8717 Ambulatory Care Pharmacy 2 s.h.

Additional experience in the practice of clinical pharmacy; focus on key therapeutic areas where ambulatory care clinical pharmacists currently have a significant impact improving patient care, including anticoagulation management, hyperlipidemia management, and diabetes management; opportunity to develop expertise in clinical decision making, improve problem solving abilities, and continued development in writing and oral presentation skills. Prerequisites: PHAR:8241 and PHAR:8243. Requirements: P3 standing.

PHAR:8718 Special Topics in Acute Care 2 s.h.

Pharmacotherapy for common but varied inpatient medicine topics; review of disorder, therapeutic goals, treatment plans, patient education, monitoring; lecture or case-based classes; anticoagulation, hemostasis, diabetic ketoacidosis, ICU overview, hepatic failure, renal replacement therapies, ACLS, antimicrobial and antifungal selection, septic shock, cardiogenic shock, neurogenic shock and neuro/neurosurgical emergencies, burns, sedation.

PHAR:8719 Overview of Pediatric Pharmacotherapy 2 s.h.

Discussion of issues and problems in pediatric pharmacotherapy; clinical practicum. Prerequisites: PHAR:8230 and PHAR:8240. Requirements: P3 standing.

PHAR:8721 Leadership and Political Advocacy arr.

Contemporary issues in pharmacy; role of leadership and advocacy in shaping profession; becoming effective advocates within political and policy making process; development of advocacy and leadership skills essential to improve self, profession, and community. Requirements: P1, P2, or P3 standing. Recommendations: PHAR:8702 and PHAR:8722.

PHAR:8722 Current Topics in Health Policy 2 s.h.

Legislative process and broad range of current issues in health policy; general- and pharmacy-specific health policy topics at state and federal levels. Requirements: P1, P2, P3, or graduate standing.

PHAR:8723 Infectious Disease for Acute Care Practice 1 s.h.

Contemporary issues related to infectious diseases; unusual pathogens such as Ebola, tropical medicine, bioterrorism, resistance, travel medicine, epidemiology.

PHAR:8724 Hospital Pharmacy Practice Management Elective 2 s.h.

Organizational structure of pharmacy departments in hospitals and health care systems; models for delivery of pharmaceutical care; pharmacy's role in drug-policy decision making; provision of drug information; clinical and distributive pharmacy services; control of pharmacy and pharmacy costs; use of information technology and automation for service delivery; supervisory management; quality improvement. Requirements: P3 standing.

PHAR:8725 Career Pathways in Pharmacy 1 s.h.

Career preparation through writing, speaking, reading, and listening; writing résumés, curricula vitae, cover letters; interviewing techniques; electronic portfolios; web-based career information; guest speakers from pharmacy associations, major chains; workshop approach. Requirements: P2 or P3 standing.

PHAR:8788 International Perspectives: Xicotepec 2-3 s.h.

Introduction to providing service to a community in a less developed country; student projects intended to improve community life in Xicotepec. Requirements: P3 standing. Same as CEE:4788, GHS:4126, THTR:4265.

PHAR:8790 Sustainable Clinical Pharmacy Services: Leadership, Management, and Implementation 2 s.h.

Practical knowledge and understanding of how to implement and sustain clinical pharmacy services in a variety of practice settings; how to identify outcomes to evaluate the success of ongoing services; students explore the perspective of leadership and management as it pertains to clinical pharmacy services.

PHAR:8791 Survey of Basic Pharmaceutical Sciences 1 s.h.

Aspects of drug discovery and development; seminar with guest speakers from industry. Requirements: admission to Pharm.D. program.

PHAR:8792 Spanish for the Pharmacy Profession 2 s.h.

Intermediate to advanced professional Spanish communication skills for the pharmacist. Requirements: one year of college-level Spanish.

PHAR:8793 Introduction to Global Health Studies 1 s.h.

Overview of topics pertaining to international health and cultural diversity in relation to pharmacy and global health; preparation for student pharmacists to become health care practitioners who optimize the health of patients and society; inspires students to advance the profession by fostering collaboration, global and public health leadership, professionalism and civic engagement; introduction and discussion of important topics in global health, focusing specifically on care of the underserved in a global context.

PHAR:8794 Emergency Medicine and Toxicology 2 s.h.

Pharmacology in the world of emergency medicine and toxicology; students learn through lecture, case discussion, class participation, and evaluation of evidence-based medicine literature in emergency medicine and toxicology.

PHAR:8795 Foundations of Palliative Care 2 s.h.

Introduction to palliative care as a public health issue; exploration of the principles and practice of palliative care including interdisciplinary care of the whole person and family, communication, and self care.

PHAR:8796 Introduction to Travel Medicine 1 s.h.

Overview of services provided to travelers to prevent and management conditions that may arise prior to, during, and after international travel; students learn about topics pertaining to each of these areas.

PHAR:8797 Ethics and Spirituality in Health Care 3 s.h.

Case-based examination of ethical issues in caring for patients with serious illness; exploration of suffering, spirituality, death, and dying. Requirements: P2 or P3 standing.

PHAR:8798 Continuing Professional Development in Palliative Care 1 s.h.

Self-directed learning and development in palliative care; creation and implementation of a professional development plan including activities in service, scholarship and education, leadership and advocacy, and self-care and personal resilience.

PHAR:8811 New Drugs for New Therapies: Introduction to Drug Discovery, Development, and Registration 1-2 s.h.

From "magic bullets" to "personalized medicine," the quest for new drugs to treat disease involves serendipity, science, and business success; through lectures, presentations, readings, and discussion, students will learn how potential new drug therapies are identified and what happens between finding a drug that seems to work and the launch of a commercial drug product.

PHAR:8818 Nutritional Supplements in Health and Disease: Mechanisms and Actions 3 s.h.

Mechanisms of action and current use of common dietary supplements including vitamins, minerals, herbals and botanicals, amino acids, and enzymes; focus on evidence-based approaches to functional use of supplements and their roles in achieving and maintaining health.

PHAR:9401 Ambulatory Care Rotation 6 s.h.

Clinical experience in providing pharmaceutical care in outpatient clinic settings. Requirements: P4 standing.

PHAR:9402 Elective Ambulatory Care Rotation 6 s.h.

Clinical experience providing pharmaceutical care in specialty outpatient settings. Requirements: P4 standing.

PHAR:9403 Elective Nuclear Pharmacy Rotation 6 s.h.

Practical experience in the handling and clinical use of radiopharmaceuticals. Requirements: P4 standing.

PHAR:9404 Community Clinical Rotation 6 s.h.

Clinical experience in the community setting; emphasis on delivery of pharmaceutical care. Requirements: P4 standing.

PHAR:9405 Elective Hospice and Palliative Care Rotation 6 s.h.

Clinical experience providing pharmacotherapy for end-of-life care. Requirements: P4 standing.

PHAR:9406 Elective: Drug Information Rotation 6 s.h.

Practice experience applying drug information knowledge to service and research projects. Requirements: P4 standing.

PHAR:9407 Elective Family Medicine Rotation 6 s.h.

Clinical practice experience applying primary care therapeutics in family medicine practice settings. Requirements: P4 standing.

PHAR:9408 Elective Hematology/Oncology Rotation**6 s.h.**

Drug therapy management of oncology patients and patients with hematologic malignancies, aplastic anemia, sickle cell disease, hemophilia. Requirements: P4 standing.

PHAR:9409 Elective Home Health Care Rotation**6 s.h.**

Clinical experience in the team approach to health care delivery, including total parenteral nutrition, chemotherapy, intravenous antibiotics, lab analysis, hospice care, and pain management. Requirements: P4 standing.

PHAR:9410 Hospital Pharmacy Rotation**6 s.h.**

Instruction and practical experience in various components of hospital pharmacy; emphasis on hospital organization, inpatient and outpatient services, IV admixtures, unit dose, and clinical services. Requirements: P4 standing.

PHAR:9411 Elective Long Term Care Rotation**6 s.h.**

Practice in consulting and providing services to varied long-term patient care environments. Requirements: P4 standing.

PHAR:9412 Elective Managed Care Rotation**6 s.h.**

Practice experience in providing pharmaceutical care or pharmacy-related services in a managed care organization. Requirements: P4 standing.

PHAR:9413 Acute Care Medicine Rotation**6 s.h.**

Clinical experience applying therapeutic skills for the pharmacotherapeutic management of patients on general medicine or specialty inpatient areas. Requirements: P4 standing.

PHAR:9415 Elective: Pediatrics Rotation**6 s.h.**

Clinical experience in drug therapy management of general and specialty pediatric patients. Requirements: P4 standing.

PHAR:9416 Elective: Pharmacy Rotation**6 s.h.**

Selected practice experiences in various pharmacy practice settings. Requirements: P4 standing.

PHAR:9417 Elective Psychiatry Rotation**6 s.h.**

Clinical experience in the rational use of drugs in psychiatric disorders. Requirements: P4 standing.

PHAR:9418 Elective Research Rotation**6 s.h.**

Practice experience in basic pharmaceutical or clinical research; proposal, study design, data collection and analysis, presentation of results. Requirements: P4 standing.

PHAR:9419 Elective: Surgery Rotation**6 s.h.**

Clinical experience in drug therapy management on a surgery unit. Requirements: P4 standing.

PHAR:9420 Elective Pharmacy Practice Underserved Population Rotation**6 s.h.**

Opportunity to learn the best practices for pharmaceutical management; approaches to enhance access to and appropriate use of medicines in underserved and resource-limited environments. Requirements: P4 standing.

PHAR:9421 Elective Community Management Rotation**6 s.h.**

Practice exposure to community pharmacy operations and management at the store, district, or corporate level. Requirements: P4 standing.

PHAR:9422 Elective: Compounding/Complementary Alternative Medicine Rotation**6 s.h.**

Clinical work in a community setting with focus on team approach; experience developing extemporaneous compounds to optimize patient care and/or integrating traditional and nontraditional medicine. Requirements: P4 standing.

PHAR:9423 Elective: Critical Care Medicine Rotation**6 s.h.**

Practice experience providing pharmaceutical services to intensive care unit patients. Requirements: P4 standing.

PHAR:9424 Elective Emergency Medicine Rotation**6 s.h.**

Clinical experience providing pharmaceutical care for patients treated in the emergency department. Requirements: P4 standing.

PHAR:9425 Elective Hospital Management Rotation**6 s.h.**

Practice experience in hospital pharmacy operations and management. Requirements: P4 standing.

PHAR:9426 Elective Infectious Disease Rotation**6 s.h.**

Clinical experience providing pharmacotherapeutic management of patients receiving antimicrobial medications. Requirements: P4 standing.

PHAR:9427 Elective Medication Use Evaluation Rotation**6 s.h.**

Practical experience in drug use evaluation to improve patient outcomes. Requirements: P4 standing.

PHAR:9428 Elective Pharmacy Industry Rotation**6 s.h.**

Practice experience in an area of the pharmaceutical or related industries. Requirements: P4 standing.

PHAR:9429 Elective: Pharmacy Regulatory Rotation**6 s.h.**

Practice experience with a pharmacy regulatory body. Requirements: P4 standing.

PHAR:9430 Elective: Professional Association Rotation**6 s.h.**

Practice experience in professional association management environment at the state or national level. Requirements: P4 standing.

PHAR:9431 Elective: Veterinary Pharmacy Rotation**6 s.h.**

Practice experience in managing drug therapy for animals. Requirements: P4 standing.

PHAR:9432 Elective Community Rotation**6 s.h.**

Community pharmacy experience emphasizing patient-centered care. Requirements: P4 standing.

PHAR:9433 Elective Academic Rotation**6 s.h.**

Practice experience delivering pharmacy education with a College of Pharmacy faculty member. Requirements: P4 standing.

PHAR:9434 Elective International Pharmacy Non-Patient Care Rotation**6 s.h.**

Practice experiences in pharmacy practice outside the United States with a focus on research, health care policy, and/or pharmacy education. Requirements: P4 standing.

PHAR:9435 Administrative Bye Rotation**6 s.h.****PHAR:9436 Elective Transitions of Care Rotation****6 s.h.**

Practice experience consulting and providing services to patients transitioning through different patient care environments.

PHAR:9437 Elective Informatics Rotation**6 s.h.**

Practice experience in informatics in health care setting.

PHAR:9438 Elective International Pharmacy Patient Care Rotation**6 s.h.**

Practice experiences in pharmacy practice outside the United States with a patient care focus.

Drug Delivery, Certificate

The undergraduate Certificate in Drug Delivery requires a minimum of 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.50 in required course work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students may count a maximum of 6 s.h. completed for a major, minor, or another certificate toward the Certificate in Drug Delivery.

The certificate program offers students the opportunity to become knowledgeable about techniques used to provide and administer drugs to humans and to animals. Students learn about the selection of materials for use in drug products; characteristics of delivery systems used for injectable, oral, and topical drugs; targeting strategies to limit side effects; design strategies to match drugs with biologics; product quality standards and testing; and the role of drug development in the regulatory approval process. They will be prepared for opportunities in the biopharmaceutical and pharmaceutical industries; health sciences professions; regulatory agencies; or for advanced graduate or professional education.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Prerequisite course work does not count toward certificate requirements.

The Certificate in Drug Delivery requires the following course work.

Code	Title	Hours
One of these:		
PHAR:1100	Introduction to Pharmaceutical Sciences: Drug Development	2
PHAR:1111	Need a New Drug?	1
All of these:		
PHAR:4146	Drug Disposition and Pharmacokinetics	2
PHAR:4736	Properties of Dosage Forms I	3
PHAR:4737	Properties of Dosage Forms II	3
PHAR:4740	Materials in Drug and Gene Delivery	3
PHAR:4745	Drug Delivery I	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
One of these:		
Pharmaceutical chemical analysis course (consult advisor)		4
Bioanalytical techniques course (consult advisor)		2

Admission

Applicants must have a cumulative g.p.a. of at least 3.00, and earn a minimum grade of B-minus in all prerequisite course work. Those who do not meet the admission requirements should contact the associate dean for undergraduate education to discuss admission to the certificate program.

Students must submit an enrollment questionnaire to the College of Pharmacy's Office of Undergraduate Education (OUE) to request admission to the certificate program.

Drug Discovery, Certificate

The undergraduate Certificate in Drug Discovery requires a minimum of 16 s.h. of credit. Students must maintain a g.p.a. of at least 2.50 in required course work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students may count a maximum of 6 s.h. completed for a major, minor, or another certificate toward the Certificate in Drug Discovery.

The certificate program provides an introduction to the properties of molecules that influence their suitability and effectiveness as drug therapies. Students learn about concepts and approaches used in successful drug design; synthetic and biological approaches to produce high-quality drug substances; common metabolic and toxicologic pathways that affect drug safety; biological targets for drug action and high throughput methods leading to the discovery of active drug molecules; chemical and material properties of active agents suitable for drug product development; and the approval process for drug candidates. They will be prepared for opportunities in the pharmaceutical and biotechnology industries, regulatory agencies or sciences, or for advanced graduate or professional education.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Prerequisite course work does not count toward certificate requirements.

The Certificate in Drug Discovery requires the following course work.

Code	Title	Hours
One of these:		
PHAR:1100	Introduction to Pharmaceutical Sciences: Drug Development	2
PHAR:1111	Need a New Drug?	1
All of these:		
PHAR:1200	Medicines That Changed or Will Change the World	1
PHAR:4501	Basic Principles of Toxicology	1
PHAR:4502	Toxic Agents	1
PHAR:4503	Organ and Organism Toxicity	1
PHAR:4512	Principles of Drug Discovery	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
Principles and approaches to medicinal chemistry course (consult advisor)		3
Small molecule drug design course (consult advisor)		3
One of these:		
PHAR:4521	High Throughput Screening in Drug Discovery	1
Introduction to biocatalysis in drug discovery course (consult advisor)		2

Admission

Applicants must have a cumulative g.p.a. of at least 3.00, and earn a minimum grade of B-minus in all prerequisite course work. Those who do not meet the admission requirements should contact the associate dean for undergraduate education to discuss admission to the certificate program.

Students must submit an enrollment questionnaire to the College of Pharmacy's Office of Undergraduate Education (OUE) to request admission to the certificate program.

Drug Disposition and Metabolism, Certificate

The undergraduate Certificate in Drug Disposition and Metabolism requires a minimum of 16 s.h. of credit. Students must maintain a g.p.a. of at least 2.50 in required course work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students may count a maximum of 6 s.h. completed for a major, minor, or another certificate toward the Certificate in Drug Disposition and Metabolism.

The certificate program prepares students to quantitatively describe the distribution properties of drugs throughout the body in order to optimize drug action and predict and prevent toxicity. Courses focus on the molecular basis for drug action; identification of common chemical properties and biochemical transformations that result in toxic responses; and recognition of biochemical pathways affected by environmental, drug, food, and accidental exposures. Additional courses provide an understanding of the role of drug development in the regulatory approval process. Students will be prepared to play important roles in biomedical and clinical investigation with additional opportunities in the biotechnology, biopharmaceutical, and pharmaceutical industries; health sciences professions; regulatory agencies; or for advanced graduate or professional education.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Prerequisite course work does not count toward certificate requirements.

Certificate students have the option to select from two certificate subprograms—kinetic processes and modeling, or toxicology. Students take the courses required for all certificate students and the course(s) for their subprogram from the following.

Code	Title	Hours
Required Courses		
All students complete the required course work below.		
One of these:		
HHP:4480	Introduction to Human Pharmacology	3
PCOL:2120	Drugs: Their Nature, Action, and Use	2
PCOL:4130	Drug Mechanisms and Actions	3
One of these:		
PHAR:1100	Introduction to Pharmaceutical Sciences: Drug Development	2
PHAR:1111	Need a New Drug?	1
All of these:		
PHAR:1200	Medicines That Changed or Will Change the World	1
PHAR:4146	Drug Disposition and Pharmacokinetics	2
PHAR:4512	Principles of Drug Discovery	3

PHAR:4537	Principles of Drug Metabolism	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1

Kinetic Processes and Modeling Subprogram

Kinetic processes and modeling students take this course:

PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics	3
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Toxicology Subprogram

Toxicology students take these courses:

PHAR:4501	Basic Principles of Toxicology	1
PHAR:4502	Toxic Agents	1
PHAR:4503	Organ and Organism Toxicity	1

Admission

Applicants must have a cumulative g.p.a. of at least 3.00, and earn a minimum grade of B-minus in all prerequisite course work. Those who do not meet the admission requirements should contact the associate dean for undergraduate education to discuss admission to the certificate program.

Students must submit an enrollment questionnaire to the College of Pharmacy's Office of Undergraduate Education (OUE) to request admission to the certificate program.

Doctor of Pharmacy, Pharm.D.

Requirements

The Doctor of Pharmacy (Pharm.D.) program provides professional education in a number of areas, including pharmaceutical technology, biopharmaceutics, medicinal chemistry and natural products, pharmaceutical socioeconomics, pharmacotherapy, patient care, clinical and hospital pharmacy, and aspects of biotechnology. Graduates of the program are qualified to take the Iowa Board of Pharmacy examination that is required for licensure as a pharmacist.

The program requires four years of full-time pharmacy study preceded by at least two years of pre-pharmacy study in the College of Liberal Arts and Sciences at the University of Iowa or at an accredited community or liberal arts college in the United States or Canada. During pre-pharmacy study, students complete the prerequisites for admission to the Pharm.D. program (see Admission [p. 1707] in this section of the Catalog for a list of prerequisite course work). If possible, students should complete all 20 s.h. of their general education work before they enter the Pharm.D. program. Courses in moral reasoning or ethics, communication, computer science, business, behavioral and social sciences, and the humanities are recommended. Courses in physical education skills, applied music, and studio art do not count toward the general education electives requirement. Students must maintain a pharmacy and cumulative g.p.a. of at least 2.00.

For rules and regulations concerning academic probation, pass/nonpass, credit by examination, maximum schedule, second-grade-only option, waiver or substitution of courses, cancellation of registration, and drop date, see Student Resources on the College of Pharmacy website.

The College of Pharmacy provides students with the highest possible quality in the professional experiential program. Faculty and adjunct faculty serve as preceptors, providing introductory and advanced practice experience at institutions and pharmacies in Iowa, nationwide, and around the world.

Professional Curriculum

The Pharm.D. degree requires the course work listed below, including at least 6 s.h. of professional electives. In addition, students must complete all prerequisites to admission to the Pharm.D. program, including a minimum of 12 s.h. of general education courses chosen from behavioral, social, humanistic, and business disciplines (see Admission [p. 1707] in this section of the Catalog). They also must complete an additional 8 s.h. of general education course work either before or after admission to the Pharm.D. program.

First Year

Code	Title	Hours
Fall Semester		
PHAR:8130	Foundations of Pharmacy Practice I	4
PHAR:8131	Engagement: Professional Skills and Values	1
PHAR:8133	Introductory Pharmacy Practice Experience Career Exploration	1

PHAR:8134	Foundations of Health Services	3
PHAR:8135	Health Information Retrieval and Informatics	3
PHAR:8136	Foundations of Pharmaceutical Sciences I	3
PHAR:8137	Foundations of Pharmaceutical Sciences II	2

Spring Semester

PHAR:8133	Introductory Pharmacy Practice Experience Career Exploration	1
PHAR:8140	Foundations of Pharmacy Practice II	4
PHAR:8141	Discovery I: Introduction and Background	3
PHAR:8142	Foundations of Health, Wellness, and Disease	2
PHAR:8146	Foundations of Pharmaceutical Sciences III	2
PHAR:8147	Foundations of Pharmaceutical Sciences IV	3

Second Professional Year

Code	Title	Hours
Fall Semester		
PCOL:8180	Pharmacology for Pharmacy Students I	1
PHAR:8207	Introductory Pharmacy Practice Experiences Community (may be taken in a different session)	3
PHAR:8208	Introductory Pharmacy Practice Experiences Hospital 80 (may be taken in a different session)	2
PHAR:8250	Applications of Pharmacy Practice I	1
PHAR:8251	Integrated Pharmacotherapy: Dermatology and Sensory	3
PHAR:8252	Integrated Pharmacotherapy: Musculoskeletal	4
PHAR:8253	Integrated Pharmacotherapy: Genitourinary and Reproductive	3
PHAR:8254	Integrated Pharmacotherapy: Endocrine	3
PHAR:8255	Discovery II: Design and Methods	1

Spring Semester

PHAR:8207	Introductory Pharmacy Practice Experiences Community (may be taken in a different session)	3
PHAR:8208	Introductory Pharmacy Practice Experiences Hospital 80 (may be taken in a different session)	2

PHAR:8260	Integrated Pharmacotherapy: Cardiovascular	4
PHAR:8261	Integrated Pharmacotherapy: Neurology and Psychiatry	4
PHAR:8263	Integrated Pharmacotherapy: Infectious Diseases	4
PHAR:8264	Discovery III: Data Collection and Results	1
PHAR:8265	Applications of Pharmacy Practice II	1

Third Professional Year

Code	Title	Hours
Fall Semester		
PHAR:8300	Introduction to Clinical Pharmacy Practice	1
PHAR:8370	Integrated Pharmacotherapy: Respiratory and Allergy	3
PHAR:8371	Integrated Pharmacotherapy: Oncology and Hematology	3
PHAR:8372	Integrated Pharmacotherapy: Gastroenterology and Nutrition	3
PHAR:8373	Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes	2
PHAR:8374	Applications of Pharmacy Practice III	1
PHAR:8375	Advanced Topics in Health Services	2
PHAR:8376	Discovery IV: Presentation of Results	1
Spring Semester		
PHAR:8132	Continuing Professional Development	1
PHAR:8377	Integrated Pharmacotherapy: Capstone	4
PHAR:8378	Pharmacy Law and Ethics	2
PHAR:8379	Advanced Pharmacy Practice Experiences Preparation	1

One additional rotation numbered PHAR:9401 through PHAR:9433 may be taken

Third Year Spring Semester and Fourth Year: Advanced Pharmacy Practice Rotations

During the spring semester of the third year and the fourth year, students are required to complete nine or ten advanced pharmacy practice rotations. All students must complete the first four rotations listed below (24 s.h.); the remaining rotations may be selected by the student.

Code	Title	Hours
All of these:		
PHAR:9401	Ambulatory Care Rotation	6

PHAR:9404	Community Clinical Rotation	6
PHAR:9410	Hospital Pharmacy Rotation	6
PHAR:9413	Acute Care Medicine Rotation	6
Four of these:		
PHAR:9402	Elective Ambulatory Care Rotation	6
PHAR:9403	Elective Nuclear Pharmacy Rotation	6
PHAR:9406	Elective: Drug Information Rotation	6
PHAR:9407	Elective Family Medicine Rotation	6
PHAR:9408	Elective Hematology/Oncology Rotation	6
PHAR:9409	Elective Home Health Care Rotation	6
PHAR:9411	Elective Long Term Care Rotation	6
PHAR:9412	Elective Managed Care Rotation	6
PHAR:9415	Elective: Pediatrics Rotation	6
PHAR:9416	Elective: Pharmacy Rotation	6
PHAR:9417	Elective Psychiatry Rotation	6
PHAR:9418	Elective Research Rotation	6
PHAR:9419	Elective: Surgery Rotation	6
PHAR:9420	Elective Pharmacy Practice Underserved Population Rotation	6
PHAR:9422	Elective: Compounding/Complementary Alternative Medicine Rotation	6
PHAR:9423	Elective: Critical Care Medicine Rotation	6
PHAR:9424	Elective Emergency Medicine Rotation	6
PHAR:9425	Elective Hospital Management Rotation	6
PHAR:9426	Elective Infectious Disease Rotation	6
PHAR:9427	Elective Medication Use Evaluation Rotation	6
PHAR:9428	Elective Pharmacy Industry Rotation	6
PHAR:9429	Elective: Pharmacy Regulatory Rotation	6
PHAR:9430	Elective: Professional Association Rotation	6
PHAR:9431	Elective: Veterinary Pharmacy Rotation	6
PHAR:9432	Elective Community Rotation	6
PHAR:9433	Elective Academic Rotation	6

Professional Electives

Pharm.D. students must complete at least 6 s.h. of professional electives, which they may choose from the following list.

Code	Title	Hours
PHAR:3740	End-of-Life Care for Adults and Families	3

PHAR:4745	Drug Delivery I	arr.
PHAR:5515	Perspectives in MNPC Research	2
PHAR:8702	Dean's Pharmacy Forum II	2
PHAR:8706	Pharmacy Projects	1-3
PHAR:8708	Substance Abuse	2
PHAR:8709	Pharmacist Role in Health Coaching and Nutrition	2
PHAR:8712	Nonprescription Pharmacotherapy and Self-Care	2
PHAR:8715	Health Disparities and Cultural Competence	2-4
PHAR:8717	Ambulatory Care Pharmacy	2
PHAR:8718	Special Topics in Acute Care	2
PHAR:8719	Overview of Pediatric Pharmacotherapy	2
PHAR:8721	Leadership and Political Advocacy	arr.
PHAR:8722	Current Topics in Health Policy	2
PHAR:8724	Hospital Pharmacy Practice Management Elective	2
PHAR:8725	Career Pathways in Pharmacy	1
PHAR:8788	International Perspectives: Xicotepec	2
PHAR:8790	Sustainable Clinical Pharmacy Services: Leadership, Management, and Implementation	2
PHAR:8791	Survey of Basic Pharmaceutical Sciences	1

Combined Programs

Pharm.D./M.P.H.

The College of Pharmacy and the College of Public Health offer the combined Doctor of Pharmacy/Master of Public Health program. The combined program requires 42 s.h. of graduate credit in addition to the requirements of the Pharm.D. degree. Students who complete the program are granted both degrees.

The Pharm.D./M.P.H. program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate admission to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

See "M.P.H./Pharm.D." under Combined Programs [p. 1736] in the Master of Public Health section of the Catalog to

learn about curriculum and admission requirements for the combined program.

Pharm.D./M.S. in Informatics (Health Informatics Subprogram)

The College of Pharmacy and the Graduate College offer the combined Doctor of Pharmacy/Master of Science in informatics with a health informatics subprogram. The combined degree program requires completion of 32 s.h. beyond the bachelor's degree. Students who complete the program are granted both degrees.

The Pharm.D./M.S. program assists students to develop special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, as well as other competencies. Graduates will be prepared for employment in industry or academic institutions with skills to address pharmacotherapy issues as well as information technology management.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the M.S. program before entering the spring semester of their first year in the pharmacy program.

For information about the Master of Science degree, see the M.S. in informatics [p. 1469] (Graduate College) in the Catalog.

Admission

Individuals apply to the Pharm.D. program using PharmCAS, the American Association of College of Pharmacy application service. Applicants also must submit a supplemental application, including the application fee, to the University of Iowa College of Pharmacy; see Doctor of Pharmacy on the University of Iowa Graduate Admissions website for more information.

All application materials must be received by December 1 of the year before the applicant intends to enter the College of Pharmacy. Entry is for fall semester. All Pharm.D. applicants must take the Pharmacy College Admission Test (PCAT) before December 1 of the year before they wish to enter the College of Pharmacy in order to be considered by the admissions committee.

Applicants must complete the college-level work listed under "Prerequisites for Admission to the Pharm.D. Program" below. They also must have an overall cumulative g.p.a. of at least 2.50 and must submit two letters of recommendation and a personal statement. Applicants considered for admission must have a personal interview; the college contacts applicants to arrange interview appointments.

Fulfillment of the admission requirements listed above does not ensure admission to the College of Pharmacy. The admissions committee considers applicants who meet these requirements and selects individuals who, in their judgment, are the best qualified for the study and practice of pharmacy.

Applicants who are accepted for admission are required to submit to a criminal background check and pay an admission acceptance fee. The fee is applied to tuition for the student's first semester of enrollment in the college. The deposit is not

refunded to applicants who do not enroll in the College of Pharmacy.

Entering health sciences students are required to have an annual tuberculin skin test (TST) and proof of immunization against mumps, measles and rubella (2 MMRs), tetanus, diphtheria and varicella before classes begin. The usual regimen of three doses of Hepatitis B vaccine and a Hepatitis B titre must be completed by the second semester of the first year. All students are required to have hospitalization and health insurance.

Prerequisites for Admission to the Pharm.D. Program

Applicants to the Pharm.D. program must have completed the following college-level work.

Rhetoric: 4 s.h. (RHET:1030 Rhetoric) or 6 s.h. of transfer credit in English composition and rhetoric and 3 s.h. in speech

Biochemistry: 3 s.h. (BIOC:3110 Biochemistry)

General biology: 8 s.h. (BIOL:1411 Foundations of Biology and BIOL:1412 Diversity of Form and Function)

General chemistry: 8 s.h. (CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II)

Human anatomy: 3 s.h. (ACB:3110 Principles of Human Anatomy)

Human physiology: 3 s.h. (HHP:3500 Human Physiology)

Organic chemistry: 6 s.h. (CHEM:2210 Organic Chemistry I and CHEM:2220 Organic Chemistry II)

Mathematics: 3-4 s.h. of a satisfactory differential and integral calculus course (MATH:1460 Calculus for the Biological Sciences)

Microbiology: 4 s.h. (MICR:3112 Pharmacy Microbiology)

Microeconomics: 3-4 s.h. (ECON:1100 Principles of Microeconomics)

Physics: one year of high school physics or one semester of college-level physics with a lab (PHYS:1400 Basic Physics)

Statistics: 3 s.h.

General education electives: a minimum of 12 s.h.

Courses in moral reasoning or ethics, communications, computer science, and business, behavioral and social sciences, and the humanities are accepted. Courses in physical education skills, applied music, and studio art do not count toward the general education requirement.

Financial Support

All second-, third-, and fourth-year pharmacy students are encouraged to apply for College of Pharmacy scholarships. Applications are available each April from the College of Pharmacy Office of Academic Affairs. Students complete a single application form in order to be considered for all scholarships. Award amounts vary. The Awards and Recognition Committee selects the best-qualified applicant for each scholarship.

Steve and Teresa Berge Scholarship: for a pharmacy student who is a U.S. citizen and has a g.p.a. of at least 3.00; experience doing volunteer work highly desirable.

Seymour M. Blaug Memorial Award: for a pharmacy student with above-average academic achievement.

Dennis and Bev Boussetot Scholarship: life insurance gift bequeathed.

Ilse O. Buckner Scholarship: for a pharmacy student who maintains satisfactory academic progress; nonrenewable, financial need is considered.

Burroughs-Wellcome Scholarship Fund: for a student of the committee's choice.

David and James Carlson Scholarship: for two pharmacy students interested in clinical or hospital practice; preference given to students from north of U.S. Interstate 80 and west of U.S. Interstate 35 who show financial need.

Todd and Jody Christiansen Scholarship Fund: for a pharmacy student who is enrolled in a dual degree or certificate program; shows financial need and academically strong.

Class of 2009 Award: qualifications vary.

Jordan and Jana Cohen Doctor of Pharmacy Scholarship: for a pharmacy student in good academic standing; based on merit and need; renewable.

College of Pharmacy Executive Leadership Board Excellence Fund: for the senior class president and/or qualifications vary.

Vernon Conzemius Scholarship: for a pharmacy student who demonstrates financial need; preference is given to students in the upper half of their class.

CVS Scholarships: for two pharmacy students in good academic standing who are interested in community pharmacy.

John and Margo Daniel Scholarship: preference is given to a student from Webster County, Iowa.

Max Eggleston Scholarship: for a student who has completed one year; preference is given to students from Iowa; based on financial need.

Alice Gates Coxon Memorial Scholarship: for a student in good academic standing; essay required.

Lori A. Grimes Memorial Scholarship: based on financial need; renewable.

Dick and Brenda Hartig Scholarship: for a student who demonstrates financial need; preference is given to students from Dubuque, Waukon, Dyersville, and Iowa City, Iowa; and Galena and Stockton, Illinois.

Thomas D. Hill Scholarship: for a pharmacy student in good academic standing.

Janet Hinderliter Scholarship: for a P3 or P4 student with a g.p.a. of at least 3.00 and demonstrated involvement in campus and community affairs.

Frances T. and Charles Holub Memorial Award: for a third-year pharmacy student; financial need is considered; renewable once.

Iowa Pharmacy Foundation Scholarships: for selected pharmacy students who are residents of Iowa and who demonstrate outstanding academic ability; financial need is considered (Eggleston-Granberg Scholarship is awarded from this fund).

R.A. Kuever Scholarship Fund: for a pharmacy student from Iowa who is in good academic standing.

Ernest Kyle Memorial Scholarship: for a student of the committee's choice.

Ronald Madden Scholarship: for an Iowa high school graduate in good academic standing.

Charles J. Malecek Pharmacy Scholarship: for a student of the committee's choice.

Virgil R. McCutchan Memorial Scholarship: for a deserving pharmacy student.

Carleton Mikkelsen Scholarship: for the top P4 student based on final P3 grade-point average; in case of a tie, the committee chooses the recipient.

Miller-Ruegnitz Scholarships: based on financial need; nonrenewable.

NACDS Scholarship: for a student interested in community pharmacy.

Petersen Linder Scholarship: for a pharmacy student in excellent academic standing who has outstanding leadership skills; based on financial need.

Pharmacists Mutual Scholarship: for a student of the committee's choice.

Pharmacy Student Aid Scholarship: for a student of the committee's choice.

Quad Cities Area Pharmacists Association Scholarships: for students who demonstrate financial need; preferably one student from Iowa and one from Illinois.

Robert E. and Barbara J. Rehal Family Scholarship: for a student who has interest in independent or community pharmacy; preferably from Sioux City, Iowa.

Sattler Family Scholarship: for a student of the committee's choice, alternates with the Carver College of Medicine.

Hal Schimmelpfenning Scholarship Fund: for a pharmacy student from Sigourney, Iowa.

Scherling Scholarship: for a student who demonstrates superior academic achievement in organic chemistry.

Chuck and Jacqueline Schwenke Scholarship: for a student of the committee's choice.

Gordon H. Sheffield Scholarship: for a P3 or P4 student from Iowa; preference given to a student who demonstrates leadership and financial need.

ShopKo Scholarship: preference given to students who reside or have resided in a state where Shopko is located.

Shutt Pharmacy Scholarship: preference is given to Iowa residents; based on financial need.

H. Curtis Snyder Award: for a pharmacy student in good standing.

Paul G. and Vivian Soderdahl: for a student of the committee's choice.

Wilber J. Teeters and the Teeters/Wahl Scholarships: for a pharmacy student who has completed at least one year in the college; financial need is considered.

Thompson Scholarship Fund in Memory of Rob Chabal: preference given to a fourth-year student committed to community pharmacy practice.

John S. Thor (Nash) Scholarship Fund: for a pharmacy student in good standing; renewable.

Colonel Thomas C. Veach Class of 1952 Scholarship Fund: preference given to a student interested in compounding or industrial pharmacy.

Walgreens Diversity Scholarship: for a student who has made significant efforts toward raising awareness about matters of diversity that affect the pharmacy profession.

Wal-Mart Scholarship: for a P3 or P4 student with high scholastic standing who demonstrates strong leadership, desire to enter a community pharmacy practice, and financial need.

Jo H. and Robert A. Wiley Scholarship Fund: for a pharmacy student who is an Iowa native and shows financial need.

Louis C. Zopf Memorial Award: for a pharmacy student who is academically qualified; financial need is considered.

John D. Zuelke Scholarship: for a pharmacy student (preferably P3 or P4) from Wapello County, Iowa.

Career Advancement

The College of Pharmacy has had nearly a 100 percent placement rate for its graduates for many years.

Pharmacists often choose to practice in a community pharmacy or a hospital setting. They hold positions in government, independent businesses, home health care, consulting, clinical pharmacy, managed care facilities, higher education, or the pharmaceutical industry.

Palliative Care, Professional Certificate

The professional Certificate in Palliative Care requires 17 s.h. of credit. Students must maintain a pharmacy and cumulative g.p.a. of at least 2.00 in work for the certificate.

The certificate program prepares students to practice as palliative care generalists upon graduation from the Doctor of Pharmacy (Pharm.D.) program. Students who complete the certificate will process the knowledge, skills, and attitudes to serve patients living with serious illnesses across the trajectory of life in a variety of general pharmacy practice environments and non-palliative pharmacy specialties, including critical care, emergency medicine, geriatrics, and cardiology. The program addresses the educational needs of pharmacy students who may provide pharmaceutical care in a community pharmacy setting, a long-term care pharmacy, oncology, cardiology, infectious disease, critical care, transplant, and emergency medicine. The certificate also prepares graduates to pursue advanced postgraduate clinical training in palliative care and hospice, including palliative care residencies and fellowships.

The Certificate in Palliative Care requires the following course work.

Code	Title	Hours
PHAR:8502	Advanced Pharmacopalliation of Pain	2
PHAR:8503	Advanced Pharmacopalliation of Non-Pain Symptoms	3
PHAR:8795	Foundations of Palliative Care	2
PHAR:8797	Ethics and Spirituality in Health Care	3
PHAR:8798	Continuing Professional Development in Palliative Care	1
Elective rotation in palliative care		6

Admission

Applicants must have a cumulative g.p.a. of at least 3.00.

They should submit an application that includes:

- a letter of intent;
- one letter of recommendation from the student's College of Pharmacy faculty mentor; and
- one letter of recommendation from a professional reference outside the College of Pharmacy, such as an employer, previous professor, coach, colleague or supervisor of a volunteer experience.

Applicants are then selected for an interview with certificate committee members. Students will be notified if they are selected.

Pharmacy, M.S.

Requirements

The Master of Science in pharmacy offers programs in four areas: clinical pharmaceutical sciences, health services research, medicinal and natural products chemistry, and pharmaceuticals.

The clinical pharmaceutical sciences area is designed for students interested in clinical research. The goal of the program is to advance the science of human pharmacology and therapeutics and to improve the safe, effective, and economical use of medications by patients. The program emphasizes the integration of clinical and basic research. It involves advanced studies of clinical pharmacology, pharmacokinetics, pharmacodynamics, pharmacogenetics, and the requirements for regulatory approval of new drugs.

The health services research area provides an innovative approach to studying the challenges facing the health care system and provides evidence to support policy-based solutions. The program combines ideas across several distinct scientific paradigms (sociology, economics, psychology, business, and anthropology) to better understand the factors leading to decisions in health care and the consequences of these decisions. Students gain broad knowledge of health and pharmaceutical care, informed by theories from economics and social psychology. The program teaches intellectual and practical skills to investigate research questions dealing with current issues.

The medicinal and natural products chemistry area educates students in the chemistry and biology of drug discovery. The program offers an interdisciplinary course of study and challenging opportunities to do fundamental drug-related research in the basic chemical and biological sciences. The program spans many aspects of the subdisciplines of chemistry, biochemistry, and pharmacology with a common theme of drug discovery.

Contemporary research geared toward drug discovery and design is the cornerstone of graduate study in this area. Students design a course of study, including core courses in synthesis, spectroscopy, enzymology, pharmacology, analytical chemistry, toxicology, and drug design as well as elective courses to maintain breadth and achieve depth in a research area.

The pharmaceuticals area provides an examination of the development, production, and characterization of dosage forms, as well as the disposition and action of drugs in the body.

For more information about graduate study, visit the College of Pharmacy website.

Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Academic requirements for maintaining graduate registration are determined by the Graduate College and by the individual divisions of the College of Pharmacy.

Career Advancement

The College of Pharmacy has had a 100 percent placement rate for many years.

Advanced study in the pharmaceutical sciences prepares students for research, teaching, and administrative positions in the pharmaceutical industry, in colleges and universities, in government agencies, and in health-related institutions and organizations.

Pharmacy, Ph.D.

Requirements

The Doctor of Philosophy program in pharmacy offers programs in four areas: clinical pharmaceutical sciences, health services research, medicinal and natural products chemistry, and pharmaceuticals.

The clinical pharmaceutical sciences area is designed for students interested in clinical research. The goal of the program is to advance the science of human pharmacology and therapeutics and to improve the safe, effective, and economical use of medications by patients. The program emphasizes the integration of clinical and basic research. It involves advanced studies of clinical pharmacology, pharmacokinetics, pharmacodynamics, pharmacogenetics, and the requirements for regulatory approval of new drugs.

The health services research area provides an innovative approach to studying the challenges facing the health care system and provides evidence to support policy-based solutions. The program combines ideas across several distinct scientific paradigms (sociology, economics, psychology, business, and anthropology) to better understand the factors leading to decisions in health care and the consequences of these decisions. Students gain broad knowledge of health and pharmaceutical care, informed by theories from economics and social psychology. The program teaches intellectual and practical skills to investigate research questions dealing with current issues.

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Contemporary research geared toward drug discovery and design is the cornerstone of graduate study in this area. Students design a course of study, including core courses in synthesis, spectroscopy, enzymology, pharmacology, analytical chemistry, toxicology, and drug design as well as elective courses to maintain breadth and achieve depth in a research area.

The pharmaceuticals area provides an examination of the development, production, and characterization of dosage forms, as well as the disposition and action of drugs in the body.

For more information about graduate study, visit the College of Pharmacy website.

Admission

For further information, Doctor of Philosophy applicants should view How to Apply to Our Graduate Program on the College of Pharmacy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Academic requirements for maintaining

graduate registration are determined by the Graduate College and by the individual divisions of the College of Pharmacy.

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College of Public Health

Dean

- Edith A. Parker

Associate Dean, Faculty Affairs

- Jeffrey D. Dawson

Associate Dean, Research

- Corinne Peek-Asa

Interim Associate Dean, Academic Affairs

- Thomas E. Vaughn

Associate Dean, Administration

- Lori J. Cranston

Director, Undergraduate Programs

- Margaret L. Chorzay

Director, Master of Public Health Program

- Anjali D. Deshpande

Undergraduate major: public health (B.A., B.S.)

Undergraduate certificate: public health

Graduate degrees: M.H.A.; M.P.H.; M.S.; Ph.D.

Graduate certificates: agricultural safety and health; biostatistics; emerging infectious disease epidemiology; healthcare management; public health; translational and clinical investigation

Website: <https://www.public-health.uiowa.edu/>

The College of Public Health, established in 1999, is a partner with the Carver College of Medicine and the Colleges of Dentistry, Nursing, and Pharmacy in striving to improve human health and well-being. Consistent with the interdisciplinary traditions of public health, the college also collaborates with non-health science colleges across the University and with other Board of Regents, State of Iowa institutions, state and local agencies, and the private sector.

Public health is the science of protecting and improving the health of communities. Professionals in this field use specialized knowledge and skills to better understand the root causes of diseases and injuries and, whenever possible, develop strategies to prevent them.

A population-based approach to health is a distinguishing feature of public health and of the college. For public health practitioners—a wide range of professionals including physicians, nurses, dentists, pharmacists, social workers, nutritionists, environmental scientists, health educators, and health service administrators—the primary focus is on the health of entire communities rather than individual patients. Tools that public health professionals use to improve and enhance quality of life include analytical methods to identify, describe, and monitor the health of communities and populations at risk; education and prevention programs, methods of assuring access to appropriate and cost-effective care; and formulation of sound public policies.

The public health approach has led to many important health improvements over the past century. Vaccination campaigns, improved sanitation, fluoridation of drinking water, and efforts to reduce tobacco use are among the most recognizable

public health initiatives. Public health programs also have led to safer workplaces, reduction of deaths from coronary heart disease and stroke, improved motor vehicle safety, and creation of effective health systems to provide care to those who need it. Today, public health professionals play an important role worldwide in seeking better approaches to complex issues such as quality of life for the elderly, drug and alcohol abuse, teen pregnancy, new and reemerging infectious diseases, bioterrorism, health literacy, nutrition, and food safety.

The College of Public Health provides educational opportunities to students campuswide. In addition to training and educating public health students, the college welcomes students from the Tippie College of Business, the Carver College of Medicine, the Graduate College, and the Colleges of Dentistry, Education, Engineering, Law, Nursing, and Pharmacy who enroll in public health courses. Undergraduate students in the College of Liberal Arts and Sciences and graduate students from programs such as anthropology, microbiology, and statistics also register for public health courses. The college's faculty members, staff members, and graduate and postdoctoral students contribute to teaching and research activities throughout the health sciences campus and provide services to Iowa and the nation. Partnerships for teaching and research extend across the campus. This background provides a rich array of educational opportunities.

The college includes the Departments of Biostatistics [p. 1742], Community and Behavioral Health [p. 1750], Epidemiology [p. 1757], Health Management and Policy [p. 1767], and Occupational and Environmental Health [p. 1778]. It offers programs leading to two undergraduate degrees: Bachelor of Arts (B.A.) and Bachelor of Science (B.S.). It also offers programs leading to four graduate degrees: Master of Health Administration (M.H.A.), Master of Public Health (M.P.H.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). In addition, it offers the Certificate in Agricultural Safety and Health [p. 1741], the Certificate in Biostatistics [p. 1749], the Certificate in Emerging Infectious Disease Epidemiology [p. 1756], the Certificate in Healthcare Management [p. 1777], the undergraduate Certificate in Public Health [p. 1731], the graduate Certificate in Public Health [p. 1739], and the Certificate in Translational and Clinical Investigation [p. 1788].

The undergraduate and graduate programs of the college are accredited by the Council on Education for Public Health (CEPH), the accrediting body for schools and programs of public health. Three programs in the college also are accredited: the industrial hygiene M.S. training program is accredited by the Accreditation Board for Engineering and Technology (ABET), the Master of Health Administration is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME), and the Occupational Medicine Residency is accredited by the Accreditation Council for Graduate Medical Education (ACGME).

Faculty

The college's faculty includes members with single appointments in the College of Public Health as well as secondary and adjunct appointments. See Faculty A-to-Z List on the college's website for more information.

Programs

Undergraduate Programs of Study

The College of Public Health offers the Bachelor of Arts (B.A.) and the Bachelor of Science (B.S.); see the B.A. in public health [p. 1721] and the B.S. in public health [p. 1726] in the Catalog for more information. The college also offers the undergraduate Certificate in Public Health [p. 1731].

Graduate Programs of Study

The College of Public Health offers the Master of Public Health [p. 1732] (M.P.H.); the Master of Health Administration [p. 1770] (M.H.A.), the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.); see the Biostatistics [p. 1742], Community and Behavioral Health [p. 1750], Epidemiology [p. 1757], Health Management and Policy [p. 1767], and Occupational and Environmental Health [p. 1778] departmental sections of the Catalog for more information.

The College of Public Health also offers graduate Certificates in Public Health [p. 1739], Agricultural Safety and Health [p. 1741], Biostatistics [p. 1749], Emerging Infectious Disease Epidemiology [p. 1756], Healthcare Management [p. 1777], and Translational and Clinical Investigation [p. 1788].

Undergraduate Rules and Procedures

Academic Advising

First-year students directly admitted to the College of Public Health major are advised by undergraduate program staff at the College of Public Health. First-year College of Liberal Arts and Sciences (CLAS) public health interest students are advised at the University's Academic Advising Center. CLAS public health interest students who apply and are admitted to the College of Public Health are advised at the College of Public Health by undergraduate program staff. All students are required to have a conference with their advisor before registering for classes each semester.

Application for Degree

Students who wish to be considered for graduation must submit an Application for Degree through MyUI the session before they are eligible to graduate or before the deadline date during the session in which they expect to graduate.

Students who do not graduate in the session they submitted their Application for Degree must submit another application through MyUI for the next applicable session. Students do not need to be registered to apply for a degree.

See Degree Application on the Office of the Registrar website.

Academic Recognition

Dean's List

Undergraduate students in the College of Public Health who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded course work during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

President's List

Undergraduate students in the College of Public Health who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded course work and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

Graduation with Distinction

Graduation with distinction recognizes high academic achievement based on grades. The college awards degrees "with highest distinction" to students in the highest two percent of their graduating class, "with high distinction" to students in the next-highest three percent, and "with distinction" to students in the next-highest five percent. Ranking is based on students' grade-point average for all college-level study taken up to their final registration.

To be eligible to be considered for graduation with distinction, students must complete their final 60 s.h. of study in residence at the college and must have completed at least 45 s.h. in the college before their final registration.

Graduation with Honors

Graduation with honors recognizes high academic achievement based on both grades and exceptional accomplishment.

Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college course work, and in all UI course work.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement.

Academic Standards

Maximum Schedule

Course schedules of more than 19 s.h. for a semester, 12 s.h. for a summer session, or 3 s.h. for a winter session require approval of the advising staff in the undergraduate program office.

Classification of Students

Students are classified by the number of semester hours of credit they have earned toward the bachelor's degree:

Code	Title	Hours
First year: 0-29 s.h.		
Second year: 30-59 s.h.		

Junior: 60-89 s.h.
Senior: 90 s.h. or more

Credit and Grading

Credit by Examination

Students may earn up to 30 s.h. of credit by examination by taking selected tests from the College Level Examination Program (CLEP) and the Advanced Placement Program (AP) of the College Board, the Cambridge International Examinations (CIE), or the International Baccalaureate Program (IB). For information about when and how to take the CLEP and AP examinations, contact the University's Office of Teaching, Learning & Technology.

The College of Public Health has information on scores, credit, and course duplicates for all CLEP, AP, and IB tests accepted by the college. Ordinarily, credit earned through examination is applied first to the General Education Requirements. Credit also may be applied to requirements of a major, minor, or certificate, or as elective credit.

Credit From Other Colleges

Students who have taken courses at another institution that are similar to those approved for the public health major or the General Education Requirements may request that these courses be evaluated for transfer credit. When students apply for admission to the College of Public Health, they must submit official transcripts from each college attended along with their application for admission. After the credit has been certified by the Office of Admissions as college-level work from an accredited institution and after admission has been granted, the credit is evaluated by the undergraduate program either before or during the student's first semester of enrollment in the college.

Grading System

The college uses a letter grading system. A denotes superior performance, B denotes above average, C denotes average, D denotes below average, and F denotes failure of the course. Plus and minus designate gradations of performance between letter grades. Letter grades and their numerical equivalents are as follows.

A+	4.33
A (superior)	4.00
A-	3.67
B+	3.33
B (above average)	3.00
B-	2.67
C+	2.33
C (average)	2.00
C-	1.67
D+	1.33
D (below average)	1.00
D-	0.67
F (failing)	0

Adding and Dropping Courses

Students may drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for regular and off-cycle courses. See Academic Calendar on the Office of the Registrar website.

Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

Auditing Courses

College of Public Health students may choose to take courses without earning credit for them (audit) with the permission of the course instructor and their advisor. Students are still charged for auditing courses. The mark of AUS (audit successful) is assigned to students registered for zero credit if attendance and performance in the course are satisfactory; if unsatisfactory, the mark of AUU (audit unsuccessful) is assigned. Courses completed with a mark of AUS do not meet any requirements nor do they carry any credit toward graduation. Auditing may not be used as a second-grade-only option.

To register for a course on an audit basis, students must obtain the instructor's authorizing signature and their advisor's signature and must register for 0 s.h. To change registration from audit to credit or from credit to audit, a change in registration form is used. These changes must be made during the period when adding courses is allowed.

Pass/Nonpass Courses

Undergraduate students in the College of Public Health may not use courses taken P/N (pass/nonpass) to satisfy General Education Requirements, high school course requirements, prerequisite or major public health course requirements, or any course in the College of Public Health. Major public health requirements include any course that fulfills the major course requirements (including public health electives), regardless of the college offering the course. The College accepts a maximum of 15 s.h. of P (pass) credit from the University of Iowa toward the bachelor's degree and a maximum of 30 s.h. of P (pass) and S (satisfactory) grades from all sources (UI as well as transfer work) toward the bachelor's degree.

Pass/nonpass registration must be completed during the first 10 days of a fall or spring semester or the first one-and-one-half weeks of a summer session, and it requires the approval of the advisor and the instructor. For courses taken pass/nonpass, an earned grade of C-minus or higher is recorded as a P; an earned grade of D-plus or lower is recorded as an N. Pass/nonpass credit is not included in grade-point average calculations.

Satisfactory/Fail Courses

The College of Public Health Direct Admit Seminar, Second Year Undergraduate Public Health Seminar, and Third Year Undergraduate Public Health Seminar are offered only satisfactory/fail (S/F). A grade of F (fail) earned for these seminars does not satisfy any portion of the professional development seminar requirement.

Certain other College of Public Health courses are offered satisfactory/fail (S/F). All students registered for these courses receive one of these marks.

Semester hours of S graded course work are not used in computing grade-point averages, but hours of F graded course work are used. Semester hours of S graded course work are counted as semester hours earned toward graduation; semester hours of F graded course work do not count as semester hours earned toward graduation.

College of Public Health undergraduates may not use S graded course work to fulfill General Education Requirements.

The college accepts a maximum of 15 s.h. of S credit from the University of Iowa toward the bachelor's degree and a

maximum of 30 s.h. of S and P grades from all sources (UI as well as transfer work) toward the bachelor's degree.

Incomplete Grades

Instructors may report a mark of I (incomplete) only if the unfinished part of a student's work in a course other than research, thesis, or independent study is small; if the work is unfinished for reasons acceptable to the instructor; and if a student's standing in the course is satisfactory.

Students should not re-enroll in a course for which they have an incomplete. Incomplete grades must be removed by completing the unfinished part of the work. Faculty and students are encouraged to state clearly in a written agreement how the incomplete is to be completed and the due date for the remaining work. Both the faculty member and the student should keep a record of the written agreement.

Failure to remove the incomplete before the end of the next full semester, excluding summer and winter sessions, results in replacement of the I with a grade of F, regardless of whether a student is enrolled during that semester. A grade change may be submitted to convert a grade of F to another letter grade, with the instructor's approval.

Students cannot graduate with an I mark on their record. They must either complete the course for a passing grade, or allow the Incomplete to lapse to a grade of F.

Second-Grade-Only Option for CLAS Public Health Interest Students

Public health interest students must follow the rules established by the College of Liberal Arts and Sciences (CLAS). Contact the CLAS Academic Programs & Student Development office or consult the CLAS Academic Policies Handbook for more information.

Second-Grade-Only Option

College of Public Health students may repeat up to three courses taken at the University of Iowa regardless of the grade originally earned in the course and may only be used once per class. A course may not be repeated under the second-grade-only option once it has been used as a prerequisite for a more advanced course that the student has completed successfully. The second-grade-only option cannot be used to remove a grade of incomplete, which must be removed in the usual manner.

The second-grade-only option may be used only for University of Iowa courses. A course taken at another college or university may not be repeated at the University of Iowa under the second-grade-only option, nor may a UI course be repeated at another institution under the second-grade-only option.

Any second-grade-only options used before entry to the College of Public Health count toward the maximum of three second-grade-only options allowed.

If the course was taken for a grade the first time, it must be taken for a grade the second time.

If the course was taken satisfactory/fail the first time, a student may choose to take the course for a grade or as satisfactory/fail the second time.

Any University of Iowa course taken in any mode of delivery—during a regular semester, a summer session, an intensive session, through distance education, or through Distance and

Online Education [p. 1818]—may be repeated in the same mode of delivery or in any other mode of delivery.

Students who have been awarded a degree from the University of Iowa may not use the second-grade-only option on a course taken before the degree was awarded.

Students must register as usual for the course that is to be repeated. After the session in which the course is being repeated has begun, students must request the second-grade-only option by completing the Second-Grade-Only Option Request Form. Students must follow this procedure or both grades will be counted in their University of Iowa grade-point average.

The permanent record is adjusted by placing a pound symbol (#) next to the first grade to indicate that it is no longer being included in the grade-point-average calculation, and only the semester hours from the second registration have been counted as semester hours earned. Once placed on the record, the option may not be retracted. Graduate or professional colleges may recalculate grade-point averages using all grades visible on the permanent record.

Student Academic Misconduct

Policies regarding cases of cheating or plagiarism are outlined in the Undergraduate Student Handbook; see Examples of Academic Misconduct on the College of Public Health website.

Academic Probation and Dismissal

College of Public Health students are expected to meet academic standards set by the college and to demonstrate reasonable progress toward a degree. To be considered in good academic standing, students must earn a minimum cumulative public health major g.p.a., a minimum UI cumulative g.p.a., and a minimum cumulative g.p.a. for all college work of at least 2.00, and a required University of Iowa session g.p.a. of 1.50 or higher during any spring, summer, or fall enrollment. If a student does not meet all grade-point average conditions, then the student is placed on academic probation.

Students usually are allowed only one session to return to good academic standing. They are required to meet with an academic advisor. Students on academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

The college reviews academic records for all students at the end of the fall and spring semesters. There is no review at the end of the summer session. Students are placed on probation, dismissed for unsatisfactory progress (with or without previous probationary status), or restored to good standing only at the end of the fall and spring semesters.

Students who do not make satisfactory progress may be dismissed from the college without an intervening probationary period. Students who are dismissed from the college for unsatisfactory academic progress due to circumstances beyond their control, such as a death in their immediate family or extended personal illness, may appeal for a revocation of the dismissal. A student dismissed in January must submit a written appeal by the second day of spring semester classes. A student dismissed in May must submit the written appeal by June 15.

Students dismissed from the college for poor scholarship may appeal to re-enroll after an interval of at least one calendar year following the end of the term in which they were dismissed. A written appeal for reinstatement must be submitted to the Undergraduate Program Office. Appeals

must be submitted before June 15 for reinstatement in a fall semester or before December 1 for reinstatement in a spring semester.

For details, see Undergraduate Student Handbook on the college's website.

Reinstatement

Students dismissed for unsatisfactory scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Requests for reinstatement must be made in writing and should be addressed to the Associate Dean for Academic Affairs, College of Public Health. Arrangements for a reinstatement interview must be made with the associate dean for academic affairs. The interview must take place between March 1 and July 1 for reinstatement for fall semester, or between October 1 and December 1 for reinstatement to spring semester. Late requests are deferred to the following semester.

Students who are permitted to register following dismissal are registered on academic probation and ordinarily are allowed two semesters to achieve good standing. Most reinstatements include a limit on the number of semester hours the student may take upon reinstatement. Very poor academic work in the first semester of a reinstatement, however, may result in dismissal at the close of that semester.

Facilities

The College of Public Health Building, a state-of-the-art facility that opened in early 2012 on the University's health sciences campus, houses the college's administrative, departmental, and faculty offices. The college's research centers, institutes, and specialized laboratories are located in Westlawn, on the health sciences campus; in University Capitol Centre, on the main campus east; and at the University of Iowa Research Park.

Four student computer laboratories are housed at the college. More than 55 software packages are available for student use, most without charge. Software includes Microsoft Office products, SAS, and S+. Some specialty labs are equipped with RedHat Linux and are loaded with R, Macanova, Xlispstat, Mathematica, and other software.

Students, faculty, and staff draw on extensive library resources available across campus. Hardin Library for the Health Sciences serves as a central resource for all of the health sciences colleges. Hardin Library's Information Commons, a state-of-the-art health sciences educational technology facility, provides central support and delivery for courseware development, classroom instruction, health-related research, and independent learning. It offers high-end multimedia development workstations, networked electronic classrooms, a case-based learning and conference room, and information research workstations for searching health-related databases and the internet.

Research Centers and Institutes

The College of Public Health is home to 26 centers and institutes that conduct research and provide public service. These multidisciplinary centers and institutes—most of which are supported by federal grants—focus their investigative efforts on important public health topics. They conduct an array of outreach, service, and policy activities through which the College of Public Health engages with agencies, communities, and organizations throughout Iowa, the

Midwest, the nation, and the world. Students are encouraged to explore opportunities for involvement with any of the college's centers and institutes.

For more information, see Research Centers and Programs on the college's website.

Courses

College of Public Health Courses

CPH:1000 First-Year Seminar 1 s.h.

Small discussion class taught by faculty member; topics chosen by instructor; may include outside activities (e.g., films, readings, visits to research facilities).

CPH:1050 College of Public Health Direct Admit Seminar 1 s.h.

Introduction for first-year students to student life and the public health profession; tips for student success, resources on campus, coping with adversity, advising responsibilities, curriculum choices and career objectives, and community building events.

CPH:1400 Fundamentals of Public Health 3 s.h.

Introduction to public health; emphasis on issues, challenges, achievements, careers; historical events that serve as a foundation for public health practice. GE: Social Sciences.

CPH:1600 Public Health Science: Inquiry and Investigation in Public Health 3 s.h.

Introduction to epidemiology, biostatistics, and the interdisciplinary nature of public health research and practice; how public policy and population-based interventions are subsequently shaped by public health evidence.

CPH:1800 Social and Psychological Determinants of Health: Changing Behavior, Improving Health 3 s.h.

Study of the social and psychological aspects of health, including understanding behavior change to improve health.

CPH:2050 Second Year Undergraduate Public Health Seminar 1 s.h.

Preparation for experiential learning opportunities, including development of interpersonal, teamwork, leadership, and communication skills; ethical decision making; understanding the cultural contexts in which professionals work; working with communities and the role of advocacy; professionalism.

CPH:2200 Climageddon: Understanding Climate Change and Associated Impacts on Health 2 s.h.

History, underlying theory, and public health impacts of global climate change stressing adaptation and mitigation of this grand public health challenge for the 21st century.

CPH:2210 Introduction to Maternal and Infant Health Epidemiology 2 s.h.

Introductory overview of maternal and infant health concepts, methods, and issues, both domestic and abroad, including contraception and fertility, pregnancy complications, caesarean delivery, maternal and infant morbidity and mortality, and child survival.

CPH:2220 Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures 3 s.h.

Introduction to historical public health practices developed to prevent exposures to environmental contaminants; major sources of those contaminants that adversely affect natural waters and air are evaluated relative to methods used to provide safe drinking water and clean air; in-class exercises involve critical thinking and creativity to understand concepts and tools needed to utilize prior public health successes and application to current and future environmental health events.

CPH:2230 Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats 3 s.h.

Exploration of lay and scientific literature, pandemic infection games, and popular culture television programming to evaluate past and fictional pandemics—are these pandemics rooted in fact or fiction?

CPH:2240 Health Disparities and Intersectionality with U.S. Latina/o Peoples 3 s.h.

Exploration of intersectionality (related to gender, immigration status, and more) and U.S. health disparities, particularly as they impact U.S. Latina/o peoples; Latina/o as a heterogeneous group, originating from a variety of countries, with families that may have mixed immigration, education, class, and/or nationality status; public health approaches and concepts; intersectionality, social determinants of health, the Social Ecological Model, Ecosocial Theory, and Critical Race Theory; examination of various levels of racism, sexism, and other forms of intersectional discrimination. Same as GWSS:2400, LATS:2400.

CPH:2400 The U.S. Health System in a Global Context 3 s.h.

Fundamental organizational structures of the U.S. health system and the difference between systems globally; basic concepts of legal, ethical, economic, and regulatory dimensions of health care and policy and roles, influences, and responsibilities of government agencies.

CPH:2600 Introduction to Public Health Methods 3 s.h.

Introductory quantitative and qualitative methods used in public health practice and research. Prerequisites: CPH:1600 with a minimum grade of C-.

CPH:3050 Third Year Undergraduate Public Health Seminar 1 s.h.

Development and preparation for post-college plans, including how to conduct a job search, write a résumé and cover letter, interview, and apply to graduate programs in public health and related fields.

CPH:3100 Health Economics 3 s.h.

Introduction to microeconomic theory and applications to health and health care, including demand for health and health services, health insurance coverage, health care markets, behavior of health care providers, and role of government.

CPH:3200 Death at Work: Case Studies of Workplace Safety and Health 3 s.h.

Case-study approach to understanding the rights of workers to a safe and healthful workplace; relevant risk factors (physical, economic, social) among several working environments.

CPH:3210 Nutrition in Public Health 3 s.h.

Concepts and methods of obtaining and using food and nutrition information from federal databases and research publications; how food and nutrition knowledge, policy, and research are used for improvement of the health of populations.

CPH:3220 Public Health as a Public Good: Economics and Decision Making in Public Health Systems 3 s.h.

Role of government in the economy from a public health perspective; emphasis on the importance of public goods, behavioral economics in public health solutions, and key methods for evaluation of public programs.

CPH:3230 Human Genetics and Public Health 3 s.h.

Introduction to human genome and its impact on public health; students learn about public health initiatives and policies that include genetics (e.g., newborn screening, birth defects surveillance, cancer screening). Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411.

CPH:3240 Global Health Conference 1 s.h.

Annual conference on major global health issues. Same as GHS:3030.

CPH:3300 Undergraduate Independent Study in Public Health arr.

In-depth pursuit of an area of special interest in public health.

CPH:3400 Health, Work, and the Environment 3 s.h.

Survey of environmental and occupational health hazards and the associated health risks of exposure; how public health protects society from these hazards; how public health policy can be influenced by science. Same as GEOG:3210.

CPH:3500 Global Public Health 3 s.h.

Exploration of historical, current, and forecasted trends in global public health, the factors influencing health demographics in human populations, sources of health inequalities, and appropriate policy and intervention approaches for addressing global public health challenges. Same as GHS:3500.

CPH:3600 Applied Public Health Methods 3 s.h.

Application of quantitative and qualitative methods used in public health practice and research. Prerequisites: CPH:1600 with a minimum grade of C- and CPH:2600 with a minimum grade of C-.

CPH:3700 Methods for Program Implementation and Evaluation 3 s.h.

Introduction of theory and practice of program implementation and evaluation for health care and public health interventions focusing on programs implemented at the community level, including projects in government and nonprofit organizations. Prerequisites: CPH:1600 and CPH:2600.

CPH:3750 Undergraduate Service Learning in Public Health arr.

Community service learning experience directly related to goals and objectives of a specific public health course for undergraduate students; faculty-guided planning and reflection; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

CPH:3800 Public Health Theories and Society 3 s.h.

Examination of public health and social science theories as they relate to socioeconomics, policy, institutions, communities, individual decision making, behavior, and health. Prerequisites: CPH:1400 and CPH:2600.

CPH:3900 Foundations in Public Health Preparedness and Response 3 s.h.

Basic concepts and principles used in emergency prevention, preparedness, response, and recovery at the local, state, and national levels with emphasis on roles and responsibilities of public health that align with policies, laws, and systems.

CPH:3999 Undergraduate Research Experience in Public Health arr.

Hands-on involvement in scholarly public health research activities under the supervision of faculty or research staff; satisfies the experiential learning degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

CPH:4200 Agriculture and the Environment 3 s.h.

Identification and development of tools to measure environmental and social sustainability of global agricultural practices, including interactions with the environment, social considerations, and the ability of agriculture to support farmers' livelihoods.

CPH:4210 Making a Difference: Public Health Policy and Advocacy 3 s.h.

Important role of policy in health, including policy structures, implementation, advocacy, and evaluation; students focus their work on a policy of their specific interest.

CPH:4220 Global Road Safety 3 s.h.

Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as GHS:4530, OEH:4530.

CPH:4230 Injury and Violence Prevention 3 s.h.

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as EPID:4510, OEH:4510.

CPH:4240 Special Topics arr.

Didactic material in public health; may include tutorial, seminar, or faculty-directed work; may be a special topic or experience taught one time or on a first-time basis.

CPH:4250 Field Experiences in Public Health 1 s.h.

Direct involvement in actions being taken at local community level; topics include environmental health, infectious diseases, chronic diseases, and pediatric health; practical examples and hands-on experiences during site visits for topic-specific field investigations. Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411. Requirements: biology or microbiology course work. Same as EPID:4314.

CPH:4750 Undergraduate Global Learning in Public Health arr.

Global public health experience; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

CPH:4755 International Perspectives: Xicotepec 2 s.h.

Interdisciplinary service-learning course to enrich understanding of Mexican culture and history; students hone teamwork, leadership, cultural sensitivity, cultural humility, and project management skills while developing and carrying out public health projects that address community-identified needs; coordinated with the support of Rotary International.

CPH:4850 Undergraduate Public Health Internship arr.

Public health internship experience; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

CPH:4990 Mentored Independent Undergraduate Research in Public Health arr.

Independent student research project under the supervision of a faculty mentor; satisfies the experiential learning degree requirement for undergraduate public health majors. Prerequisites: CPH:3600. Recommendations: CPH:2050 strongly recommended.

CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health 3 s.h.

Students in their final year synthesize and apply knowledge through cumulative and integrative activities that serve as a capstone to their educational experience. Prerequisites: CPH:1600 and CPH:2600 and CPH:3600.

CPH:5100 Introduction to Public Health 3 s.h.

Concepts, structures, and activities in public health practice. Offered fall semesters and summer sessions.

CPH:5201 Interprofessional Education and Practice for M.P.H. Students I 0 s.h.

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

CPH:5202 Interprofessional Education and Practice for M.P.H. Students II 0 s.h.

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

CPH:5203 Interprofessional Education and Practice for M.P.H. Students III 0 s.h.

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

CPH:6100 Essentials of Public Health 2 s.h.

Introduction and overview of the scope of public health; emphasis on history, definitions, issues, achievements, and future challenges; examples of public health research and practice.

CPH:6500 Independent Study in Public Health arr.

In-depth pursuit of an area of special interest in public health. Requirements: approval from the College of Public Health.

CPH:6600 Service-Learning in Public Health arr.

Community service learning experience directly related to goals and objectives of a specific public health course; faculty-guided planning and reflection.

CPH:6700 Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines 2-3 s.h.

Introduction to public health emergency preparedness from a one health perspective; emergency preparedness from federal, state, and local perspectives; important elements for preparing responders; preparedness information systems and communication techniques.

CPH:7000 M.P.H. Practicum Experience 0-6 s.h.

Comprehensive and integrated application of knowledge acquired in the M.P.H. program in a practice setting; demonstration of professional competence in public health practice. Prerequisites: CBH:4105 and (HMP:5005 or HMP:4000) and EPID:4400 and BIOS:4120 and OEH:4240 and CPH:5100. Requirements: an approved practicum proposal.

CPH:7200 M.P.H. Capstone Experience 2 s.h.

Students gain knowledge and skills in public health practice by working on an interdisciplinary team to solve a real-world public health issue; each student has the opportunity to apply classroom and practical experience received throughout their M.P.H. course work into an integrative experience; students particularly gain skills in advocacy, communication with diverse audiences on public health issues, and the role of different public health disciplines in solving health issues in the community.

CPH:7270 Principles of Scholarly Integrity: Public Health 0-1 s.h.

Training in the responsible conduct of research and scholarly activities; discussion of student/mentor responsibilities in pursuit of scholarly work and intellectual dialogues; responsibilities to the institution/scholarly community/society; public health core discipline examples are utilized.

CPH:7500 M.P.H. Applied Practice Experience 1 s.h.

Comprehensive and integrated application of knowledge acquired in the M.P.H. program in a practice setting; demonstration of professional competence in public health practice.

CPH:7604 Principles of Scholarly Integrity: Public Health - Postdoc/K Awardees 0 s.h.

Training in the responsible conduct of research and scholarly activities; discussion of student/mentor responsibilities in pursuit of scholarly work and intellectual dialogues; responsibilities to institution/scholarly community/society; utilization of public health core discipline examples; for public health postdoc/K awardees.

Public Health, B.A.

The Bachelor of Arts (B.A.) degree provides students with a basic understanding of the five core public health knowledge areas: biostatistics, social and behavioral sciences, epidemiology, health policy and management, and occupational and environmental health sciences. Students will be prepared to enter the workforce or continue their education.

A public health core provides the degree with breadth in the biological, social, economic, quantitative, geographic, and educational components of health and health disparities within and across populations. Students complete a cumulative capstone experience during which they will integrate, apply, and synthesize public health knowledge. As an integral part of their education, students also will be exposed to public health professionals and agencies.

Requirements

The Bachelor of Arts with a major in public health requires a minimum of 120 s.h., including at least 62 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major; in all college course work and in all UI public health course work, including any courses administered by the College of Public Health in the Departments of Biostatistics, Community and Behavioral Health, Epidemiology, Health Management and Policy, and Occupational and Environmental Health. Students are required to earn a minimum of 30 s.h. in public health course work at the University of Iowa.

The B.A. with a major in public health requires the following course work.

College Success Requirement

All students are required to complete CSI:1600 Success at Iowa during the fall semester; students complete part one before participating in an orientation program. The course is designed to help students successfully transition to college life. The course covers information about online tools that are specific to the University, such as MyUI and Iowa Courses Online (ICON), and also discusses resources for navigating life on campus. Additional content includes financial aid literacy, strategies for making healthy behavior choices, sexual assault awareness and prevention, and the comprehensive transitional survey known as MAP-Works.

General Education Requirements

Code	Title	Hours
RHET:1030	Rhetoric	4
ENGL:1200	The Interpretation of Literature	3
World Languages		0-10
Natural Sciences		7
Quantitative or Formal Reasoning		3
Social Sciences		3
Historical Perspectives		3
Diversity and Inclusion		3
International and Global Issues		3
Literary, Visual, and Performing Arts		3
Values and Culture		3

Students may complete the world languages requirement using one of the following two options. One year of high school language study is generally equivalent to one semester of college language study.

Option One: attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college course work; or pass an achievement test or evaluation at fourth-level proficiency.

Option Two: attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college course work; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may count courses taken to fulfill General Education Requirements toward other requirements for the B.A.

Prerequisites for Admission to the College

Students who wish to enter the major in public health after declaring the public health interest through the College of Liberal Arts and Sciences must complete the following by the end of the semester in which they apply before they may enter the major:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a cumulative g.p.a. of at least 2.75 in all courses taken at the University of Iowa and in all college-level course work attempted.

Public Health Core Courses

Students must complete all of the following (27 s.h.).

Code	Title	Hours
CPH:1050	College of Public Health Direct Admit Seminar	1
CPH:1400	Fundamentals of Public Health	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3
CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2400	The U.S. Health System in a Global Context	3
CPH:2600	Introduction to Public Health Methods	3
CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3400	Health, Work, and the Environment	3
CPH:3500	Global Public Health	3

CPH:3700	Methods for Program Implementation and Evaluation	3
CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3

Requirements

Students complete 21 s.h. as indicated from the following.

Code	Title	Hours
All of these:		
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CPH:3100	Health Economics	3
CPH:3600	Applied Public Health Methods (section 2)	3
CPH:3800	Public Health Theories and Society	3
CPH:3900	Foundations in Public Health Preparedness and Response	3
Two of these:		
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2164	Culture and Healing for Future Health Professionals	3
COMM:1809	Social Marketing Campaigns	3
GEOG:3110	Geography of Health	3
GEOG:4770	Environmental Justice	3
IS:2000	Introduction to International Studies	3
JMC:3116	Media and Global Cultures	3
JMC:3150	Media and Health	3
PHIL:2402	Introduction to Ethics	3
POLI:3111	American Public Policy	3
SOC:1022	Social Justice and Social Welfare in the United States	3
SOC:2810	Social Inequality	3

Electives

Students complete a minimum of five College of Public Health courses from the following.

Code	Title	Hours
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2220	Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3

CPH:2240	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3
CPH:3200	Death at Work: Case Studies of Workplace Safety and Health	3
CPH:3210	Nutrition in Public Health	3
CPH:3220	Public Health as a Public Good: Economics and Decision Making in Public Health Systems	3
CPH:3230	Human Genetics and Public Health	3
CPH:3240	Global Health Conference	1
CPH:4200	Agriculture and the Environment	3
CPH:4210	Making a Difference: Public Health Policy and Advocacy	3
CPH:4220	Global Road Safety	3
CPH:4230	Injury and Violence Prevention	3
CPH:4250	Field Experiences in Public Health	1

Experiential Learning Requirement

Students must successfully complete at least one of these experiences from the following. Second Year Undergraduate Public Health Seminar (CPH:2050) is strongly recommended prior to enrollment in any of these courses. Contact the undergraduate program office for specific details.

Code	Title	Hours
Research		
CPH:3999	Undergraduate Research Experience in Public Health	0-3
CPH:4990	Mentored Independent Undergraduate Research in Public Health	3
Internship		
CPH:4850	Undergraduate Public Health Internship	0-3
Global Learning		
CPH:4750	Undergraduate Global Learning in Public Health	0-3
Service Learning		
CPH:3750	Undergraduate Service Learning in Public Health	0

B.A./CLAS Undergraduate Degree

Students admitted to or enrolled in the B.A. in public health program may pursue an additional degree in the College of Liberal Arts and Sciences (CLAS). Students pursuing an additional degree outside the College of Public Health are:

- expected to meet all degree requirements, General Education Requirements, and GE CLAS Core requirements for both degree programs;
- required to satisfy the collegiate residence requirements of both colleges;
- assigned two advisors, one in each college; and

assessed tuition for the primary program of study in accordance with the rules of the Registrar's Office.

Additional considerations:

- Students may be awarded degrees in the two colleges simultaneously or separately without requiring additional course work beyond the degree requirements.
- Current students enrolled in the College of Public Health who want to add a CLAS major should use the Change of College Application found in MyUI.
- Students who wish to discontinue the additional degree program will need to file a Discontinuation of Combined Degree Program form in the collegiate office of the program of study they are dropping.

Students may change majors with either college in the college academic programs office and still remain in the additional degree program.

Combined Programs

B.A./Graduate Degree

Combined undergraduate to graduate programs provide an opportunity for students to earn both their B.A. and a master's degree in five years by beginning to earn graduate credit during their fourth year of undergraduate study.

Students in the combined programs must complete all requirements for each degree. Students apply for admission to the combined program during their third year as undergraduates and enter the program at the beginning of their fourth year.

Applicants also must apply for admission to the master's degree program and must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. For more information, see Undergrad to Grad (U2G) on the College of Public Health website.

Public health majors intending to pursue the Undergrad to Grad (U2G) combined degree program in public health must complete 120 s.h. Up to 12 s.h. may be earned in graduate credit by the end of a student's fourth year.

Public health majors must complete all of the following requirements in addition to the 12 s.h. of graduate course work.

Public Health Major Degree Requirements

Course work for the following requirements total approximately 60 s.h.

- public health core courses
- B.A. course work
- public health elective course work
- experiential learning requirement
- General Education Requirement courses

General Electives

- UI (nonmajor) course work to total 120 s.h. by end of the fourth year; this could include up to 12 s.h. of graduate credit in public health course work taken as an undergraduate student

Graduate courses taken during the fourth year do not count toward major requirements (including public health electives)

for the undergraduate public health major. However, these semester hours may count as general elective credits needed to complete the 120 s.h. required for a bachelor's degree.

Honors

Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college course work, and in all UI course work.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement. Consult the College of Public Health undergraduate program office for more information.

University of Iowa Honors Program

Public health interest students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the College of Public Health. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not a requirement for applying to or graduating with honors in the public health major.

Admission

Admission to the Bachelor of Arts program in public health is selective. Students who meet the minimum admission requirements are not guaranteed admission.

Students may be admitted to the College of Public Health either through direct admission or standard admission.

Direct Admission

Direct admission is designed for students applying to the university as first-year students for the fall semester. Applicants who meet the high school course requirements and present an American College Testing (ACT) composite score of 26 or higher or a combined Scholastic Aptitude Test (SAT) evidence-based reading and writing, and math SAT score of at least 1230 for tests taken after March 1, 2016 or a combined Scholastic Aptitude Test (SAT) critical reading and math SAT score of at least 1170 for tests taken prior to March 1, 2016; and a high school g.p.a. of at least 3.60 will be strongly considered for direct admission to the college. Applicants who meet course requirements and either the test score or grade-point average requirement also will be considered. Students who are denied direct admission may file an online petition for direct admission to the College of Public Health.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The scholarship application process is competitive and is based on high school record and short essay responses.

First-year students not admitted directly to the College of Public Health may be admitted to the College of Liberal Arts and Sciences as a public health interest student.

Transfer student applications are not being accepted at this time for direct admission to the College of Public Health. Transfer students may apply to the College of Liberal Arts and Sciences public health interest designation.

Standard Admission

University of Iowa students are eligible to apply for standard admission to the College of Public Health, typically after their first year, once they complete prerequisite courses and earn the required grade-point average.

Application deadline for fall admission is February 1. Students should meet the following requirements by the end of the semester in which they apply:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a minimum g.p.a. of 2.75 in all University of Iowa course work and in all college course work.

Students who are denied standard admission may file an online appeal for denial of admission to the College of Public Health if they can provide documentation of extenuating circumstances that affected their academic performance.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The Four-Year Graduation Plan applies only to students who are directly admitted to the College of Public Health or students who meet the prerequisites and submit an application for standard admission before the third semester begins (including public health interest students).

Before the second semester begins: CPH:1050 College of Public Health Direct Admit Seminar (for direct admits only)

Before the third semester begins: CPH:1400 Fundamentals of Public Health, CPH:1600 Public Health Science: Inquiry and Investigation in Public Health, and at least one-quarter of the semester hours required for graduation

Before the fourth semester begins: CPH:2050 Second Year Undergraduate Public Health Seminar and CPH:2600 Introduction to Public Health Methods

Before the fifth semester begins: one-half of the semester hours required for graduation

Before the sixth semester begins: CPH:3050 Third Year Undergraduate Public Health Seminar and CPH:3600 Applied Public Health Methods

Before the seventh semester begins: CPH:3700 Methods for Program Implementation and Evaluation and at least three-quarters of the semester hours required for graduation

Before the eighth semester begins: all public health core courses, except CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and the experiential learning requirement

During the eighth semester: all remaining General Education Requirement courses, enrollment in all remaining course work in the major, including CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Public Health, B.A.

Course	Title	Hours
Academic Career		
Any Semester		
Direct Admission is available only for high school students who meet the published criteria. All other students pursue Standard Admission.		
All College of Public Health undergraduate students must successfully complete at least one of these Experiential Learning requirements: research, internship, global learning, or service learning course. ^a		
	Hours	0
First Year		
Fall		
CPH:1050	College of Public Health Direct Admit Seminar	1
CPH:1400	Fundamentals of Public Health ^{b, c}	3
GE: Values and Culture ^d		3
GE: Natural Sciences with Lab ^d		4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
	Hours	16-17
Spring		
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health ^b	3
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
GE: Natural Sciences without Lab ^d		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Elective course ^e		3
	Hours	15-16

Second Year**Fall**

CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2600	Introduction to Public Health Methods	3
Major: "choose two" course ^f		3
GE: World Languages First Level Proficiency or elective course ^g		4 - 5
GE: Quantitative or Formal Reasoning ^d		3
Hours		14-15

Spring

CPH:2400	The U.S. Health System in a Global Context	3
Major: "choose two" course ^f		3
Major: public health elective course numbered CPH:2XXX and above ^h		2 - 3
GE: World Languages Second Level Proficiency or elective course ^g		4 - 5
GE: International and Global Issues ^d		3
Hours		15-17

Third Year**Fall**

CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3100	Health Economics	3
CPH:3500	Global Public Health	3
CPH:3600	Applied Public Health Methods	3
GE: Historical Perspectives ^d		3
Elective course ^e		3
Hours		16

Spring

CPH:3400	Health, Work, and the Environment	3
CPH:3700	Methods for Program Implementation and Evaluation	3
CPH:3800	Public Health Theories and Society	3
CPH:3900	Foundations in Public Health Preparedness and Response	3
GE: Literary, Visual, and Performing Arts ^d		3
Hours		15

Fourth Year**Fall**

Major: public health elective course numbered CPH:3XXX ^h		3
Major: public health elective course numbered CPH:3XXX ^h		2 - 3
GE: Diversity and Inclusion ^d		3
Elective course ^e		3
Elective course ^e		3
Hours		14-15

Spring

CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3
Major: public health elective course numbered CPH:3XXX ^h		3
Major: public health elective course numbered CPH:3XXX ^h		3
Elective course ^e		3

Elective course ^e	3
Hours	15
Total Hours	120-126

- a Students complete the experiential learning requirement by choosing an approved option. CPH:2050 must be completed prior to enrollment in experiential learning.
- b Prerequisite for admission to the College of Public Health.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Choose from: ANTH:2100, ANTH:2164, COMM:1809, GEOG:3110, GEOG:4770, IS:2000, JMC:3116, JMC:3150, PHIL:2402, POLI:3111, SOC:1022, SOC:2810.
- g Students are required to have completed the fourth-level proficiency in a single world language or the second-level proficiency in two different world languages.
- h Students must complete 13-15 s.h. by choosing from approved CPH courses.

Career Advancement

The B.A. program provides knowledge of the community and behavioral aspects of public health for students interested in working in health education, health communication, public health program development, or public health policy in local, federal, or international governmental or nongovernmental agencies. Students will be prepared for advanced education in the social sciences, communication studies, social and community health, health policy and management, and other fields.

Public Health, B.S.

The Bachelor of Science (B.S.) degree provides students with a basic understanding of the five core public health knowledge areas: biostatistics, social and behavioral sciences, epidemiology, health policy and management, and occupational and environmental health sciences. Students will be prepared to enter the workforce or continue their education.

A public health core provides the degree with breadth in the biological, social, economic, quantitative, geographic, and educational components of health and health disparities within and across populations. Students complete a cumulative capstone experience during which they will integrate, apply, and synthesize public health knowledge. As an integral part of their education, students also will be exposed to public health professionals and agencies.

Requirements

The Bachelor of Science with a major in public health requires a minimum of 120 s.h., including at least 62 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major; in all college course work and in all UI course work; and in all college course work in public health and in all UI public health course work, including any courses administered by the College of Public Health in the Departments of Biostatistics, Community and Behavioral Health, Epidemiology, Health Management and Policy, and Occupational and Environmental Health. Students are required to earn a minimum of 30 s.h. in public health course work at the University of Iowa.

The B.S. with a major in public health requires the following course work.

College Success Requirement

All students are required to complete CSI:1600 Success at Iowa during the fall semester; students complete part one before participating in an orientation program. The course is designed to help students successfully transition to college life. The course covers information about online tools that are specific to the University, such as MyUI and Iowa Courses Online (ICON), and also discusses resources for navigating life on campus. Additional content includes financial aid literacy, strategies for making healthy behavior choices, sexual assault awareness and prevention, and the comprehensive transitional survey known as MAP-Works.

General Education Requirements

Code	Title	Hours
RHET:1030	Rhetoric	4
ENGL:1200	The Interpretation of Literature	3
World Languages		0-10
Natural Sciences		7
Quantitative or Formal Reasoning		3
Social Sciences		3
Historical Perspectives		3
Diversity and Inclusion		3
International and Global Issues		3
Literary, Visual, and Performing Arts		3
Values and Culture		3

Students may complete the world languages requirement using one of the following two options. One year of high school language study is generally equivalent to one semester of college language study.

Option One: attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college course work; or pass an achievement test or evaluation at fourth-level proficiency.

Option Two: attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college course work; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may count courses taken to fulfill General Education Requirements toward other requirements for the B.S.

Prerequisites for Admission to the College

Students who wish to enter the major in public health after declaring the public health interest through the College of Liberal Arts and Sciences must complete the following by the end of the semester in which they apply before they may enter the major:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a cumulative g.p.a. of at least 2.75 in all courses taken at the University of Iowa and in all college-level course work attempted.

Public Health Core Courses

Students must complete all of the following (27 s.h.).

Code	Title	Hours
CPH:1050	College of Public Health Direct Admit Seminar	1
CPH:1400	Fundamentals of Public Health	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3
CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2400	The U.S. Health System in a Global Context	3
CPH:2600	Introduction to Public Health Methods	3
CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3400	Health, Work, and the Environment	3
CPH:3500	Global Public Health	3

CPH:3700	Methods for Program Implementation and Evaluation	3
CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3

Requirements

Students complete the following requirements.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CPH:3600	Applied Public Health Methods (section 1)	3
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
One of these:		
CS:2110	Programming for Informatics	4
ENVS:1085	Fundamentals of Environmental Science	4
GEOG:3110	Geography of Health	3
GEOG:4150	Health and Environment: GIS Applications	3
GEOG:4770	Environmental Justice	3
IS:2000	Introduction to International Studies	3
MICR:2157	General Microbiology	3
PHIL:2402	Introduction to Ethics	3

Electives

Students complete a minimum of four College of Public Health courses from the following.

Code	Title	Hours
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2220	Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:2240	Health Disparities and Intersectionality with U.S. Latina/o Peoples	3

CPH:3200	Death at Work: Case Studies of Workplace Safety and Health	3
CPH:3210	Nutrition in Public Health	3
CPH:3220	Public Health as a Public Good: Economics and Decision Making in Public Health Systems	3
CPH:3230	Human Genetics and Public Health	3
CPH:3240	Global Health Conference	1
CPH:4200	Agriculture and the Environment	3
CPH:4210	Making a Difference: Public Health Policy and Advocacy	3
CPH:4220	Global Road Safety	3
CPH:4230	Injury and Violence Prevention	3
CPH:4250	Field Experiences in Public Health	1

Experiential Learning Requirement

Students must successfully complete at least one of these experiences from the following. Second Year Undergraduate Public Health Seminar (CPH:2050) is strongly recommended prior to enrollment in any of these courses. Contact the undergraduate program office for specific details.

Code	Title	Hours
Research		
CPH:3999	Undergraduate Research Experience in Public Health	0-3
CPH:4990	Mentored Independent Undergraduate Research in Public Health	3
Internship		
CPH:4850	Undergraduate Public Health Internship	0-3
Global Learning		
CPH:4750	Undergraduate Global Learning in Public Health	0-3
Service Learning		
CPH:3750	Undergraduate Service Learning in Public Health	0

B.S./CLAS Undergraduate Degree

Students admitted to or enrolled in the B.S. in public health program may pursue an additional degree in the College of Liberal Arts and Sciences (CLAS). Students pursuing an additional degree outside the College of Public Health are:

expected to meet all degree requirements, General Education Requirements, and GE CLAS Core requirements for both degree programs;

required to satisfy the collegiate residence requirements of both colleges;

assigned two advisors, one in each college; and

assessed tuition for the primary program of study in accordance with the rules of the Registrar's Office.

Additional considerations:

- Students may be awarded degrees in the two colleges simultaneously or separately without requiring additional course work beyond the degree requirements.
- Current students enrolled in the College of Public Health who want to add a CLAS major should use the Change of College Application found in MyUI.
- Students who wish to discontinue the additional degree program will need to file a Discontinuation of Combined Degree Program form in the collegiate office of the program of study they are dropping.

Students may change majors with either college in the college academic programs office and still remain in the additional degree program.

Combined Programs

B.S./Graduate Degree

Combined undergraduate to graduate programs provide an opportunity for students to earn both their B.S. and a master's degree in five years by beginning to earn graduate credit during their fourth year of undergraduate study.

Students in the combined programs must complete all requirements for each degree. Students apply for admission to the combined program during their third year as undergraduates and enter the program at the beginning of their fourth year.

Applicants also must apply for admission to the master's degree program and must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. For more information, visit Undergrad to Grad (U2G) on the College of Public Health website.

Public health majors intending to pursue the Undergrad to Grad (U2G) combined degree program in public health must complete 120 s.h. Up to 12 s.h. may be earned in graduate credit by the end of a student's fourth year.

Public health majors must complete all of the following requirements in addition to the 12 s.h. of graduate course work.

Public Health Major Degree Requirements

- public health core courses
- B.S. course work
- public health elective course work
- experiential learning requirement
- General Education Requirement courses

General Electives

- UI (nonmajor) course work to total 120 s.h. by end of the fourth year; this could include up to 12 s.h. of graduate credit in public health course work taken as an undergraduate student

Graduate courses taken during the fourth year do not count toward major requirements (including public health electives) for the undergraduate public health major. However, these semester hours may count as general elective credits needed to complete the 120 s.h. required for a bachelor's degree.

Honors

Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college course work, and in all UI course work.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement. Consult the College of Public Health undergraduate program office for more information.

University of Iowa Honors Program

Public health interest students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the College of Public Health. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not a requirement for applying to or graduating with honors in the public health major.

Admission

Admission to the Bachelor of Science program in public health is selective. Students who meet the minimum admission requirements are not guaranteed admission.

Students may be admitted to the College of Public Health either through direct admission or standard admission.

Direct Admission

Direct admission is designed for students applying to the university as first-year students for the fall semester. Applicants who meet the high school course requirements and present an American College Testing (ACT) composite score of 26 or higher or a combined Scholastic Aptitude Test (SAT) evidence-based reading and writing, and math SAT score of at least 1230 for tests taken after March 1, 2016 or a combined Scholastic Aptitude Test (SAT) critical reading and math SAT score of at least 1170 for tests taken prior to March 1, 2016; and a high school g.p.a. of at least 3.60 will be strongly considered for direct admission to the college. Applicants who meet course requirements and either the test score or grade-point average requirement also will be considered. Students who are denied direct admission may file an online petition for direct admission to the College of Public Health.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The scholarship application

process is competitive and is based on high school record and short essay responses.

First-year students not admitted directly to the College of Public Health may be admitted to the College of Liberal Arts and Sciences as a public health interest student.

Transfer student applications are not being accepted at this time for direct admission to the College of Public Health. Transfer students may apply to the College of Liberal Arts and Sciences public health interest designation.

Standard Admission

University of Iowa students are eligible to apply for standard admission to the College of Public Health, typically after their first year, once they complete prerequisite courses and earn the required grade-point average.

Application deadline for fall admission is February 1. Students should meet the following requirements by the end of the semester in which they apply:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a minimum g.p.a. of 2.75 in all University of Iowa course work and in all college course work.

Students who are denied standard admission may file an online appeal for denial of admission to the College of Public Health if they can provide documentation of extenuating circumstances that affected their academic performance.

Academic Plans

Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The Four-Year Graduation Plan applies only to students who are directly admitted to the College of Public Health or students who meet the prerequisites and submit an application for standard admission before the third semester begins (including public health interest students).

Before the second semester begins: CPH:1050 College of Public Health Direct Admit Seminar (for direct admits only)

Before the third semester begins: CPH:1400 Fundamentals of Public Health, CPH:1600 Public Health Science: Inquiry and Investigation in Public Health, and at least one-quarter of the semester hours required for graduation

Before the fourth semester begins: CPH:2050 Second Year Undergraduate Public Health Seminar and CPH:2600 Introduction to Public Health Methods

Before the fifth semester begins: one-half of the semester hours required for graduation

Before the sixth semester begins: CPH:3050 Third Year Undergraduate Public Health Seminar and CPH:3600 Applied Public Health Methods

Before the seventh semester begins: CPH:3700 Methods for Program Implementation and Evaluation and at least three-quarters of the semester hours required for graduation

Before the eighth semester begins: all public health core courses, except CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and the experiential learning requirement

During the eighth semester: all remaining General Education Requirement courses, enrollment in all remaining course work in the major, including CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and a sufficient number of semester hours to graduate

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

Public Health, B.S.

Course	Title	Hours
Academic Career		
Any Semester		
Direct Admission is available only for high school students who meet the published criteria. All other students pursue Standard Admission.		
All College of Public Health undergraduate students must successfully complete at least one of these Experiential Learning requirements: research, internship, global learning, or service learning course. ^a		
	Hours	0
First Year		
Fall		
CPH:1050	College of Public Health Direct Admit Seminar	1
CPH:1400	Fundamentals of Public Health ^{b, c}	3
CHEM:1070	General Chemistry I ^c	3
Elective course ^d		3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CSI:1600	Success at Iowa	2
	Hours	15-16
Spring		
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health ^b	3
CHEM:1110	Principles of Chemistry I ^{c, e}	4
GE: Values and Culture ^f		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
Elective course ^d		3
	Hours	16-17
Second Year		
Fall		
CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2600	Introduction to Public Health Methods	3
BIOL:1411	Foundations of Biology ^c	4

MATH:1850	Calculus I	4
or MATH:1460	or Calculus for the Biological Sciences	
GE: World Languages First Level Proficiency or elective course ^h		4 - 5
Hours		16-17

Spring

CPH:2400	The U.S. Health System in a Global Context	3
BIOL:1412	Diversity of Form and Function	4
CS:1210	Computer Science I: Fundamentals	3 - 4
or CS:1110	or Introduction to Computer Science	
GE: World Languages Second Level Proficiency or elective course ^h		4 - 5
GE: International and Global Issues ^f		3
Hours		17-19

Third Year**Fall**

CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3500	Global Public Health	3
CPH:3600	Applied Public Health Methods	3
GE: Historical Perspectives ^f		3
Elective course ^d		3
Hours		13

Spring

CPH:3400	Health, Work, and the Environment	3
CPH:3700	Methods for Program Implementation and Evaluation	3
Major: public health elective course numbered CPH:2XXX and above ⁱ		2 - 3
Elective course ^d		3
GE: Literary, Visual, and Performing Arts ^f		3
Hours		14-15

Fourth Year**Fall**

Major: public health elective course numbered CPH:3XXX ⁱ		3
Major: public health elective course numbered CPH:3XXX ⁱ		2 - 3
Major: "choose one" BS course ^j		3
GE: Diversity and Inclusion ^f		3
Elective course ^d		3
Hours		14-15

Spring

CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3
Major: public health elective course numbered CPH:3XXX ⁱ		3
Elective course ^d		3
Elective course ^d		3
Hours		12
Total Hours		117-124

- a Students complete the experiential learning requirement by choosing an approved option. CPH:2050 must be completed prior to enrollment in experiential learning.
- b Prerequisite for admission to the College of Public Health.
- c Fulfills a major requirement and may fulfill a GE requirement.

- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Enrollment in chemistry courses requires completion of a placement exam.
- f GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Enrollment in math courses requires completion of a placement exam.
- h Students are required to have completed the fourth-level proficiency in a single world language or the second-level proficiency in two different world languages.
- i Students must complete 10-12 s.h. by choosing from approved CPH courses.
- j Choose from: CS:2110, ENVS:1085, GEOG:3110, GEOG:4150, GEOG:4770, IS:2000, MICR:2157, PHIL:2402.

Career Advancement

The B.S. program provides knowledge of the natural sciences for students interested in working in a research setting or preparing for advanced study in programs such as biostatistics, dentistry, environmental health, epidemiology, medicine, nursing, occupational health, pharmacy, or veterinary medicine.

Public Health, Undergraduate Certificate

The undergraduate Certificate in Public Health requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. They should contact the certificate coordinator to complete a plan of study before they begin certificate course work.

The certificate program is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. It is intended primarily for individuals in public health practice, those in the workforce, and those interested in strengthening their knowledge and skills in basic public health competencies.

The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a graduate or professional degree program, except those earning an undergraduate major in public health. Students who earn a B.A. or B.S. with a major in public health may not earn the Certificate in Public Health.

The undergraduate Certificate in Public Health requires the following course work. Fundamentals of Public Health (CPH:1400) must be taken prior to or concurrent with other certificate courses.

Code	Title	Hours
Core Courses		
Both of these:		
CPH:1400	Fundamentals of Public Health	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3
Required Courses		
9 s.h. from these:		
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400	Health, Work, and the Environment	3
CPH:3500	Global Public Health	3
Elective		
3 s.h. from these:		
One of the courses not taken from the "Required Courses" list above		
Any College of Public Health course (prefix CPH) numbered 2200-2399 or 3200-3399 or 4200-4399		

For more information about the program, visit the Undergraduate Certificate in Public Health web page.

Master of Public Health, M.P.H.

The Master of Public Health (M.P.H.) is recognized as the primary professional degree in public health. The objective of Iowa's M.P.H. program is to provide education and practical training in public health to students who will be leaders in their respective communities. The program is appropriate for individuals who already have professional experience and/or training in public health as well as for those whose expertise lies outside of public health.

Students may earn the Master of Public Health (M.P.H.) as a single degree, or they may pursue one of several combined degree programs. The College of Public Health offers combined M.P.H./professional degree programs with the Carver College of Medicine and the Colleges of Law and Pharmacy. It also offers two programs in collaboration with the College of Veterinary Science at Iowa State University. See "M.P.H./D.V.M. (Iowa State University)" and descriptions of the combined degree programs under Combined Programs [p. 1736] in this section of the Catalog.

In addition, the college collaborates with undergraduate programs at the University of Iowa, Grinnell College, and Coe College to offer combined B.A. or B.S./M.P.H. programs for students; see "B.A. or B.S./M.P.H. Degrees" under Combined Programs [p. 1736] in this section of the Catalog.

The Master of Public Health program is offered by the College of Public Health; the degree is awarded by the Graduate College.

Requirements

The Master of Public Health requires 42-45 s.h. of graduate credit, depending on a student's choice of specialization. Students must choose one of five subprograms: community and behavioral health, epidemiology, occupational and environmental health, policy, quantitative methods, or practicing veterinarians.

Degree requirements include a core course in public health practice and in each of the five core disciplines of public health (epidemiology, biostatistics, environmental health, health policy and management, and social and behavioral sciences), a set of content-specific required courses and electives, three interprofessional education courses, an applied practice experience, and a capstone experience. Students in the epidemiology subprogram also must complete a bioscience course.

All M.P.H. students complete the course work listed under "Common Requirements." In addition, students complete the course work listed for their chosen subprogram.

Common Requirements

The following course work is required for all M.P.H. students. Students must earn a B-minus or higher in each core course. Students may repeat courses to achieve this standard.

Core Courses

Code	Title	Hours
All of these (18 s.h.):		
CPH:5100	Introduction to Public Health	3

BIOS:4120	Introduction to Biostatistics (students in the quantitative methods subprogram may substitute BIOS:5710)	3
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

Interprofessional Education Courses

Students are required to participate in three consecutive semesters of interprofessional education beginning in their first fall semester.

Code	Title	Hours
All of these:		
CPH:5201	Interprofessional Education and Practice for M.P.H. Students I	0
CPH:5202	Interprofessional Education and Practice for M.P.H. Students II	0
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0

Applied Practice Experience

This requirement is a fieldwork experience in which students show proficiency in applying academic principles in community settings. There are many applied practice opportunities for M.P.H. students locally, nationally, and internationally.

Before they register for and begin the applied practice experience, students choose an approved topic. A final written report with an oral presentation or a poster presentation is required.

Code	Title	Hours
This course:		
CPH:7500	M.P.H. Applied Practice Experience	1

Capstone Experience

Students are required to complete the capstone experience in their final semester.

Code	Title	Hours
This course:		
CPH:7200	M.P.H. Capstone Experience	2

Community and Behavioral Health Subprogram

The Master of Public Health with the community and behavioral health subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Community and Behavioral Health [p. 1750].

The subprogram prepares public health practitioners for a variety of positions related to community development, health program implementation, and health education. Students learn how to design, implement, and evaluate evidence-

based interventions directed toward identified public health problems in populations.

A bachelor's degree in the social and behavioral sciences is good preparation for this program, but students come from a variety of educational backgrounds. Preference is given to applicants who have professional experience.

In addition to the M.P.H. course work listed under "Common Requirements" above, the community and behavioral health subprogram requires the following courses.

Community and Behavioral Health Subprogram Core

Students earn 15 s.h. in the required subprogram core.

Code	Title	Hours
Theory		
This course:		
CBH:5220	Health Behavior and Health Education	3
Community and Society		
One of these:		
CBH:5235	Community-Based Participatory Research	3
CBH:6230	Health Equity, Disparities, and Social Justice	3
Intervention		
One of these:		
CBH:6205	Designing and Implementing Interventions	3
CBH:6220	Health Communication Campaigns	3
Methods		
Two of these:		
CBH:5305	Evaluation: Approaches and Applications	3
CBH:5310	Qualitative Research for Public Health	3
CBH:6335	Research Methods in Community and Behavioral Health	3

Community and Behavioral Health Electives

Students must take an additional 6 s.h. of elective community and behavioral health course work or, with the approval of their advisor, they can select course work in another area. In addition, once the 15 s.h. of required community and behavioral health credit is met, students may take any of the other courses as electives. The following is a list of suggested elective courses.

Code	Title	Hours
CBH:3150	Media and Health	3
CBH:4140	Feminist Activism and Global Health	3
CBH:5230	Public Health Issues in Overweight Management	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:5440	Prevention and Early Intervention of Mental Health Disorders	3

CBH:6115	Ethnographic Field Methods	3
CBH:6210	Health Communication	3
CBH:6405	Global Maternal, Newborn, and Child Health	3
CBH:6410	Special Topics	arr.
CBH:6415	Independent Study in Community and Behavioral Health	arr.
HMP:6360	Nonprofit Organizational Effectiveness I	3
URP:6253	Designing Sustainable and Healthy Cities	3
URP:6260	Transportation Policy and Planning	3
URP:6400	Sustainable Development: The Kerala Experience	3

Epidemiology Subprogram

The Master of Public Health with the epidemiology subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Epidemiology [p. 1757].

The subprogram focuses on fundamental epidemiological concepts and methods and provides training in the use of public health data and methods for disease assessment and in methods for evaluating the need and outcome of programs and interventions. Graduates of the program work in public health departments and other health care settings.

Epidemiology subprogram students are required to attend departmental seminars and journal club. They also must present one scientific poster at an international, national, regional, state, university, or departmental poster session.

In addition to the M.P.H. course work listed under "Common Requirements" above, the epidemiology subprogram requires the following courses.

Epidemiology Subprogram Core

Students take EPID:5925 Epidemiology Journal Club: Evaluating the Literature three times.

Code	Title	Hours
All of these (15 s.h.):		
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5925	Epidemiology Journal Club: Evaluating the Literature (taken three times)	0
EPID:5540	Public Health Surveillance Mechanisms, Applications, and Data	3
EPID:5580	Public Health Laboratory Techniques	1
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
Bioscience—one of these (3-4 s.h.):		
PATH:5270	Pathogenesis of Major Human Diseases	3

PATH:8133	Introduction to Human Pathology for Graduate Students	4
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Students who already have completed a course equivalent to one of the bioscience courses, PATH:5270 Pathogenesis of Major Human Diseases or PATH:8133 Introduction to Human Pathology for Graduate Students, may substitute an additional elective.

Epidemiology Electives

Additional approved elective course work must be taken to complete the 42 s.h. total required for the M.P.H. At least 3 s.h. of elective credit must be earned in courses offered by the Department of Epidemiology (prefix EPID) or in one of the following biostatistics courses.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

Occupational and Environmental Health Subprogram

The Master of Public Health with the occupational and environmental health subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Occupational and Environmental Health [p. 1778].

The subprogram provides students with a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health. Public health experience provides desirable background for this subprogram.

In addition to the M.P.H. course work listed under "Common Requirements" above, the occupational and environmental health subprogram requires the following courses.

Occupational and Environmental Health Subprogram Core

Students earn 13 s.h. in the required subprogram core.

Students take OEH:5010 Occupational and Environmental Health Seminar three times: twice for 0 s.h. and once for 1 s.h. If completing the M.P.H. in a one-year course of study, OEH:5010 is taken two times: once for 0 s.h. and once for 1 s.h.

Code	Title	Hours
All of these (4 s.h.):		
OEH:5010	Occupational and Environmental Health Seminar	0-1
OEH:5620	Occupational Health	3
Three of these (9 s.h.):		
OEH:4260	Global Water and Health	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6710	Environmental Toxicology	3

Occupational and Environmental Health Electives

Students can earn the remainder of credit for their degree in elective courses (8 s.h.) offered by a department in the College of Public Health. Courses offered by departments in other colleges at the University of Iowa can be applied toward a degree with approval of a student's advisor.

Faculty expertise in areas related to occupational and environmental health can assist students in their endeavors. Sample plans that outline how elective courses can be combined with required courses in a focused plan of study are as follows.

Code	Title	Hours
Environmental and Occupational Epidemiology		
EPID:6400	Epidemiology II: Advanced Methods (elective)	4
OEH:4260	Global Water and Health (elective)	3
OEH:5530	Interpreting Occupational and Environmental Health Research (elective)	2
OEH:6510	Environmental and Occupational Epidemiology (required course)	3
OEH:6520	Injury Epidemiology (elective)	3
Global Environmental Health		
OEH:4260	Global Water and Health (elective)	3
OEH:6710	Environmental Toxicology	3
Injury and Violence Prevention		
OEH:4510	Injury and Violence Prevention (required course)	3
OEH:4530	Global Road Safety (elective)	3
OEH:6520	Injury Epidemiology (elective)	3
OEH:6530	Epidemiology of Occupational Injuries (elective)	3-4
Occupational Health		
OEH:4310	Occupational Ergonomics: Principles (elective)	3
OEH:5410	Occupational Safety (required course)	3
OEH:6420	Methods in Exposure Science (elective)	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
Rural Health and Safety		
OEH:5410	Occupational Safety (elective)	3
OEH:6110	Rural Health and Agricultural Medicine (required course)	3
OEH:6120	Current Topics in Agriculture and Rural Health (elective)	0-1

OEH:6420	Methods in Exposure Science (elective)	3
OEH:6520	Injury Epidemiology (elective)	3

Policy Subprogram

The Master of Public Health with the policy subprogram requires 45 s.h. of graduate credit. The subprogram is offered by the Department of Health Management and Policy [p. 1767].

The subprogram offers course work and applied learning experiences that prepare students for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates of the program find positions in federal, state, and local government; professional associations; and private agencies. Varied academic backgrounds are appropriate preparation for this program, including business, liberal arts and sciences, and the health professions.

In addition to the M.P.H. course work listed under "Common Requirements" above, the policy and administration subprogram requires the following courses.

Policy Subprogram Core

Code	Title	Hours
All of these:		
HMP:5610	Health Policy	3
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6750	Seminar in Health Policy	3

Policy Electives

Code	Title	Hours
At least 12 s.h. chosen from these:		
HMP:5310	Healthcare Quality Management	2-3
HMP:5410	Health Economics I	3
HMP:5450	Health Insurance and Managed Care	3
HMP:5750	Medicare and Medicaid Policy	3
HMP:6710	Federalism and Health Policy	3
LAW:8562	Health Law	3
POLI:3100	American State Politics	3

Practicing Veterinarians Subprogram

The Master of Public Health with the practicing veterinarians subprogram requires a minimum of 42 s.h. of graduate credit. The program is presented through a collaboration between the University of Iowa College of Public Health and the College of Veterinary Medicine at Iowa State University and is offered primarily by distance learning. It enables students to prepare for new career opportunities and equips them to respond to public health challenges such as zoonotic diseases, food security and foodborne illnesses, bioterrorism, and environmental health.

Students participate in two summer institutes, one on each campus during consecutive summers (two weeks in May and June); the rest of the program is internet-based, so students

may complete requirements at times that fit their schedules. Specific courses are required each semester of the program.

In addition to the M.P.H. course work listed under "Common Requirements" above, the practicing veterinarians subprogram requires the following courses.

Practicing Veterinarians Subprogram Core

Code	Title	Hours
All of these (21 s.h.):		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	2
EPID:5200	Principles of Public Health Informatics	3
EPID:5300	Food Safety	3
EPID:5320	Exotic and Emerging Diseases of Animals	1
EPID:5470	Applied Veterinary Epidemiology/Biostatistics	3
EPID:5550	Diagnostic Microbiology for Epidemiology	3
EPID:5570	Zoonotic Diseases	3
OEH:6110	Rural Health and Agricultural Medicine	3

Quantitative Methods Subprogram

The Master of Public Health with the quantitative methods subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Biostatistics [p. 1742].

The subprogram is designed to train public health professionals who can provide leadership in the analysis of public health data and the design of studies for public health investigations. It is intended for individuals who are interested in public health and who have quantitative ability but not advanced mathematics training.

Applicants to the subprogram must meet all M.P.H. admission requirements; see Admission [p. 1738] in this section of the Catalog. They also should have a cumulative g.p.a. of at least 3.00 and should have completed the following math and computer science course work: single variable calculus and matrix algebra, satisfied by one semester of calculus equivalent to AP Calculus AB and a high school algebra course involving matrices; and elementary computer programming instruction in any commonly used modern programming language (e.g., Python, Java, C++). Individuals who are admitted to the subprogram without having met all of these requirements must satisfy unmet requirements during their first semester of enrollment in the program.

In addition to the M.P.H. course work listed under "Common Requirements" above, the quantitative methods subprogram requires the following courses.

Quantitative Methods Subprogram Core

Code	Title	Hours
All of these (8 s.h.):		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5510	Biostatistical Computing (when topic is programming with R or programming with S)	2
BIOS:6110	Applied Categorical Data Analysis	3

Students with sufficient mathematical background can substitute BIOS:5710 Biostatistical Methods I, BIOS:5720 Biostatistical Methods II, and BIOS:5730 Biostatistical Methods in Categorical Data in place of BIOS:4120 Introduction to Biostatistics, BIOS:5120 Regression Modeling and ANOVA in the Health Sciences, and BIOS:6110 Applied Categorical Data Analysis. The advanced sequence requires 2 s.h. of fewer elective credits.

Quantitative Methods Electives

Electives (13-14 s.h.) may be chosen from the following list for may include any related course approved by the student's advisor.

Code	Title	Hours
BIOL:4213	Bioinformatics	4
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7600	Advanced Biostatistics Seminar	0-3
IE:4172	Big Data Analytics	3
STAT:3100	Introduction to Mathematical Statistics I	3
STAT:3101	Introduction to Mathematical Statistics II	3
STAT:3210	Experimental Design and Analysis	3
STAT:4100	Mathematical Statistics I	3
STAT:4101	Mathematical Statistics II	3
STAT:4200	Statistical Methods and Computing	3
STAT:4520	Bayesian Statistics	3
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:6540	Applied Multivariate Analysis	3
STAT:6560	Applied Time Series Analysis	3

Combined Programs

B.A. or B.S./M.P.H. Degrees

The College of Public Health collaborates with undergraduate programs at the University of Iowa to offer combined

bachelor's degree/Master of Public Health programs for undergraduate students who would like to earn an M.P.H. degree. The combined programs permit students to count some credit toward the requirements of both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. Undergraduates can pursue a M.P.H. degree in the following subprograms: community and behavioral health, epidemiology, occupational and environmental health, policy, or quantitative methods. Undergraduate students work with their undergraduate advisor and the College of Public Health Undergrad to Grad (U2G) coordinator to determine eligibility.

In addition, the College of Public Health collaborates with Grinnell College and Coe College to offer bachelor's degrees and Master of Public Health programs for undergraduate students who would like to earn an M.P.H. degree.

Undergraduate students must apply to each of the programs. Students should consult with their undergraduate major advisor and their College of Public Health U2G coordinator. For more information, visit Undergrad to Grad (U2G) on the Master of Public Health website.

M.P.H./J.D.

The combined Master of Public Health/Juris Doctor requires a minimum of 30 s.h. of graduate credit in addition to the requirements for the J.D. degree. A total of 12 s.h. from the J.D. degree will count toward the 42 s.h. required to earn the M.P.H. degree. The program helps students develop special expertise in public health legal issues. It is designed to train qualified students for leadership roles in both the public and private sectors. Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

The combined M.P.H./J.D. requires the following course work.

These courses count toward both degrees.

Code	Title	Hours
LAW:8467	Family Law	3
LAW:8562	Health Law	3
LAW:8751	Nonprofit Organizational Effectiveness I	3
LAW:8752	Nonprofit Organizational Effectiveness II	3

M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 1732] in this section of the Catalog.

M.P.H. Electives

Students earn 9 s.h. in elective courses chosen from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, health policy, or occupational and environmental health. Students choose electives in consultation with their advisors in the College of Law and the College of Public Health.

J.D. Requirements

Students in the combined M.P.H./J.D. program must complete the curriculum of the J.D. program; see Juris Doctor [p. 1518]

(College of Law) in the Catalog. Students must be enrolled in the College of Law to take College of Law courses.

M.P.H./M.D.

The combined Master of Public Health/Doctor of Medicine requires a minimum of 30 s.h. of graduate credit in addition to the requirements for the M.D. degree. A total of 12 s.h. from the M.D. degree will count toward the 42 s.h. required to earn the M.P.H. degree. Students who complete the program enjoy expanded career opportunities and are well prepared to apply the principles of medicine and public health in their work. Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined program.

The combined M.P.H./M.D. requires the following course work.

All of the following courses count toward the M.D. degree; 12 s.h. from these count toward the M.P.H. degree.

Code	Title	Hours
MED:8121	Clinical and Professional Skills I	3
MED:8122	Medicine and Society I	3
MED:8132	Medicine and Society II	4
MED:8222	Medicine and Society III	4

M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 1732] in this section of the Catalog.

M.P.H. Electives

Students earn 9 s.h. in elective courses chosen from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, health communication, health policy, occupational and environmental health. Students choose electives in consultation with their advisors in the Carver College of Medicine and the College of Public Health.

M.D. Requirements

Students in the combined M.P.H./M.D. program must complete the curriculum of the M.D. program; see Doctor of Medicine [p. 1556] (Carver College of Medicine) in the Catalog.

M.P.H./Pharm.D.

The combined Master of Public Health/Doctor of Pharmacy requires 42 s.h. of graduate credit in addition to the requirements of the Pharm.D. degree. The program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety.

Graduates of the program may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

The combined M.P.H./Pharm.D. requires the following course work.

All of the following courses count toward the Pharm.D. degree; 12 s.h. from these count toward the M.P.H. degree.

Code	Title	Hours
PHAR:8250	Applications of Pharmacy Practice I	1
PHAR:8263	Integrated Pharmacotherapy: Infectious Diseases	4
PHAR:8265	Applications of Pharmacy Practice II	1
PHAR:8374	Applications of Pharmacy Practice III	1
PHAR:8375	Advanced Topics in Health Services	2
PHAR:8377	Integrated Pharmacotherapy: Capstone	4
PHAR:8378	Pharmacy Law and Ethics	2

M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 1732] in this section of the Catalog.

M.P.H. Electives

Students select electives totaling 9 s.h. from one of the following public health areas: biostatistics, community and behavioral health, epidemiology, policy, or occupational and environmental health. Electives are chosen in consultation with the student's advisors in the Colleges of Pharmacy and Public Health.

Pharm.D. Requirements

Students in the combined M.P.H./Pharm.D. program must complete the curriculum of the Pharm.D. program; see Doctor of Pharmacy [p. 1705] (College of Pharmacy) in the Catalog. Students must be enrolled in the College of Pharmacy in order to take College of Pharmacy courses.

M.P.H./D.V.M. (Iowa State University)

The Master of Public Health/Doctor of Veterinary Medicine is offered by the University of Iowa College of Public Health and the College of Veterinary Medicine at Iowa State University. It requires a minimum of 30 s.h. in addition to the requirements for the D.V.M. degree (see College of Veterinary Medicine in the Iowa State University catalog). A total of 12 s.h. from the D.V.M. degree will count toward the 42 s.h. required to earn the M.P.H. degree. The program prepares students for work as state veterinarians, as college and university faculty members, in local and state departments of public health, in the Public Health Service Commissioned Corps, in state agricultural departments, and for public health positions in the military.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the M.P.H./D.V.M. degree program. For

M.P.H. admission requirements, see Admission [p. 1738] in this section of the Catalog.

The M.P.H./D.V.M. requires the following course work.

M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 1732] in this section of the Catalog.

M.P.H. Electives

Code	Title	Hours
Students must earn at least 9 s.h. from the following courses.		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	2-3
EPID:5200	Principles of Public Health Informatics	3
EPID:5300	Food Safety	3
EPID:5470	Applied Veterinary Epidemiology/Biostatistics	3
EPID:5550	Diagnostic Microbiology for Epidemiology (offered by distance education)	3
EPID:5570	Zoonotic Diseases	3
OEH:6110	Rural Health and Agricultural Medicine	3

Admission

Applicants to the M.P.H. program must apply through the Schools of Public Health Application Service (SOPHAS) and then set up a University of Iowa account and pay the UI supplemental fee. Applicants must submit scores on the Graduate Record Exam (GRE) General Test, Law School Admission Test (LSAT), Dental Admission Test (DAT), Medical School Admission Test (MCAT), Veterinary College Admission Test (VCAT), Graduate Management Admission Test (GMAT), or another professional placement exam; scores must be at or above the median scores for test takers applying to similar programs. For detailed application information, visit Prospective Graduate Students on the Master of Public Health website.

Applicants to the M.P.H. program must have successfully completed one semester each of college algebra and biology.

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses. Applicants who score below 81 are not considered for admission.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students may enter the M.P.H. program in fall and summer. Application deadline for fall entrance to the M.P.H. program is April 15; application deadline for summer entrance is April 1.

Application deadline for the M.P.H. for practicing veterinarians is March 1.

Application deadline for Undergrad to Grad (U2G) is February 1.

Students may enter the M.P.H. combined programs in fall, spring, and summer. Contact the individual combined programs for deadline information.

Financial Support

A limited number of tuition scholarship awards are available each year for M.P.H. students. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Career Advancement

For more information about careers in public health, visit This is Public Health online.

Public Health, Graduate Certificate

The graduate Certificate in Public Health requires 18 s.h. of credit. Students must complete the certificate's required course work within five years of entering the program and must maintain a g.p.a. of at least 2.75 in work for the certificate. All certificate courses are offered online at least once a year, and all courses are offered on campus. Students who are only enrolled in the Certificate in Public Health program may not register for courses other than those required for the certificate.

The certificate program is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. It is intended primarily for individuals in public health practice, those in the workforce, and those interested in strengthening their knowledge and skills in basic public health competencies.

The graduate Certificate in Public Health requires the following course work.

Code	Title	Hours
All of these:		
CPH:5100	Introduction to Public Health	3
BIOS:4120	Introduction to Biostatistics	3
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

Applicants to the certificate program must hold a bachelor's degree and must have a cumulative g.p.a. of at least 2.75. They must submit official transcript(s), a statement of purpose, two reference letters, a résumé, and an online application.

For more information about the program and how to apply, visit the Graduate Certificate in Public Health web page. The Certificate in Public Health is conferred by the Graduate College.

Agricultural Safety and Health

Head, Department of Occupational and Environmental Health

- Peter S. Thorne

Director

- Diane Rohlman (Occupational and Environmental Health)

Graduate certificate: agricultural safety and health

Website: <https://www.public-health.uiowa.edu/certificate-ash/>

The certificate program in agricultural safety and health trains students to detect safety and illness hazards, and treat and prevent farm-related illnesses and injuries. The program is available for students in related health science, environmental science, or occupational health and safety programs who want to supplement other training with agricultural health information.

The certificate may enhance employment opportunities in health care delivery, government, and the private sector.

The Certificate in Agricultural Safety and Health is administered by the Department of Occupational and Environmental Health [p. 1778]. The Graduate College grants the certificate.

Programs

Graduate Program of Study Certificate

- Certificate in Agricultural Safety and Health [p. 1741]

Agricultural Safety and Health, Graduate Certificate

The graduate Certificate in Agricultural Safety and Health is accredited by the Council on Education for Public Health. It requires 12 s.h. of graduate credit.

The Certificate in Agricultural Safety and Health requires the following course work.

Code	Title	Hours
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health (taken two times for 1 s.h. each)	2
OEH:7020	Independent Study in Occupational and Environmental Health	1
Total Hours		12

Admission

Applicants to the certificate program should hold a bachelor's degree from an accredited university with a g.p.a. of at least 2.50, or they should have equivalent experience and education. Application materials must include the program's application form, a résumé, and a letter of interest explaining the applicant's current position and education objectives.

For more information, visit the Graduate Certificate in Agricultural Safety and Health web page.

Biostatistics

Head

- Joseph E. Cavanaugh

Graduate degrees: M.S. in biostatistics; Ph.D. in biostatistics
Graduate certificate: biostatistics

Faculty: <https://www.public-health.uiowa.edu/biostatistics-faculty-list/>

Website: <https://www.public-health.uiowa.edu/biostat/>

The Department of Biostatistics prepares students for professional and academic careers in biostatistics. Graduates find positions in pharmaceutical, health care, and research companies and institutions; in universities and government agencies; and as consultants. The department also provides training for non-biostatistics students.

Biostatistics faculty members work closely with both clinical and basic science investigators on the University of Iowa health sciences campus in the design and analysis of research projects. The department has research expertise representing a broad array of methodological areas of statistics and biostatistics, including clinical trials, computational statistics, Bayesian modeling and inference, high-dimensional data analysis, statistical genetics and genomics, bioinformatics, informatics, statistical and machine learning, spatial and spatio-temporal modeling, time series analysis, survival data analysis, longitudinal data analysis, network analysis, causal inference, comparative effectiveness studies, model selection, epidemic modeling, and syndromic surveillance. Many of these areas represent current, cutting-edge areas of disciplinary focus in a rapidly evolving field.

In addition to the M.S. and the Ph.D. degrees in biostatistics, the department offers a subprogram for the Master of Public Health (M.P.H.) degree in quantitative methods. See "M.P.H. Subprogram" below.

M.P.H. Subprogram

The Department of Biostatistics offers the quantitative methods subprogram for the Master of Public Health degree. The subprogram is designed to train public health professionals for leadership in the analysis of public health data and the design of studies for public health investigations. See the Master of Public Health [p. 1732] in the Catalog.

Programs

Graduate Programs of Study

Majors

- Quantitative methods subprogram for the Master of Public Health [p. 1732] degree
- Master of Science in Biostatistics [p. 1745]
- Doctor of Philosophy in Biostatistics [p. 1747]

Certificate

- Certificate in Biostatistics [p. 1749]

Facilities

Department of Biostatistics resources and activities include three centers. The Biostatistics Consulting Center provides opportunities for students to gain valuable experience working

with faculty and staff in the health sciences at the University of Iowa. The Clinical Trials Statistical and Data Management Center serves the statistical design, data management, and analysis needs of a variety of multicenter clinical trials, and among those are Clinical Islet Transplantation (CIT) Consortium, Network of Excellence in Neuroscience Clinical Trials (NeuroNEXT), and the Parkinson's Progression Markers Initiative (PPMI). The Center for Public Health Statistics facilitates the collection, statistical analyses, and dissemination of health data in support of the University's research, teaching, and service missions and in partnership with the Iowa Department of Public Health.

Courses

Biostatistics Courses

BIOS:4110 General Biostatistics 3 s.h.

Biostatistics and biostatistical computation; biostatistical aspects of health-related problems; clinical trials; statistical issues in big data problems; disease modeling; disease mapping; genetics and epidemiology; brief introduction to survival and longitudinal analyses.

BIOS:4120 Introduction to Biostatistics 3 s.h.

Application of statistical techniques to biological data including descriptive statistics, probability and distributions, sampling distributions, nonparametric methods, hypothesis tests, confidence intervals, analysis of categorical data, and simple linear regression; designed for non-biostatistics majors and M.P.H. students. Requirements: college algebra or ALEKS score of 65% or higher.

BIOS:4710 Biostatistical Methods Laboratory 1 s.h.

Computational aspects of one-sample and two-sample problems; analysis of frequency data, linear regression, and correlation analysis; examples using these computational methods in public health. Offered fall semesters. Prerequisites: STAT:3200 and STAT:2010.

BIOS:5120 Regression Modeling and ANOVA in the Health Sciences 3 s.h.

Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs, and an introduction to mixed models; designed for non-biostatistics majors. Offered spring semesters and summer sessions. Prerequisites: BIOS:4120. Same as IGPI:5120, STAT:5610.

BIOS:5310 Research Data Management 3 s.h.

Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as IGPI:5310, STAT:5810.

BIOS:5510 Biostatistical Computing 2 s.h.

Introduction to computer programming using SAS and R statistical software packages; programming language syntax, constructs, procedures, and techniques for data management, data analysis, and statistical programming commonly encountered in biostatistics; designed for first-year biostatistics majors. Offered fall semesters. Corequisites: BIOS:5710. Same as IGPI:5510.

BIOS:5710 Biostatistical Methods I 4 s.h.

Probability distributions, moments, estimation, parametric and nonparametric inference for one-sample and two-sample problems, analysis of frequency data; emphasis on use of computers; designed for first-year biostatistics majors. Offered fall semesters. Requirements: two semesters of calculus. Same as IGPI:5710.

BIOS:5720 Biostatistical Methods II 4 s.h.

Continuation of BIOS:5710; multi-factor ANOVA (analysis of variance), multiple comparisons, orthogonal contrasts, linear regression and correlation, regression diagnostics and remedial measures, model selection, and mixed models; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5710. Requirements: one semester of linear algebra. Same as IGPI:5720.

BIOS:5730 Biostatistical Methods in Categorical Data 3 s.h.

Estimation of proportions, rates, risks, relative risks, and odds ratios; Mantel-Haenszel method; logistic regression (including ordinal logistic regression and multi-category nominal logistic regression); Poisson regression and negative binomial regression; methods for correlated or clustered data (conditional logistic regression, generalized estimating equations, and mixed effects models); special topics include an introduction to generalized linear models and likelihood-based inferential techniques in this framework; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5510 and BIOS:5710. Corequisites: BIOS:5720. Same as IGPI:5730.

BIOS:6110 Applied Categorical Data Analysis 3 s.h.

Analysis of proportions, risk measures, and measures of association; Mantel-Haenszel method; logistic regression for binary responses and for matched data; logistic regression for multi-category responses; analysis of count data (Poisson regression and negative binomial regression); analysis of clustered data (generalized estimating equations and generalized linear mixed effects model); special topics include the application of propensity score methods; designed for non-biostatistics majors. Offered fall semesters. Prerequisites: BIOS:5120. Same as IGPI:6110.

BIOS:6210 Applied Survival Analysis 3 s.h.

Nonparametric, parametric, and semi-parametric methods for time-to-event data; types of censoring; Kaplan-Meier estimation; Cox proportional hazards models, including methods for assessing adequacy of the proportional hazards assumption; time varying covariates; sample size calculations for comparison of two or more groups; focus on analysis of real data sets and examples using statistical software. Offered spring semesters. Prerequisites: BIOS:5120 or BIOS:5720. Same as IGPI:6210.

BIOS:6310 Introductory Longitudinal Data Analysis 3 s.h.

Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as IGPI:6310, STAT:6550.

BIOS:6420 Survey Design and Analysis 3 s.h.

Methodological issues regarding design, sampling approach, implementation, analysis, and interpretation of surveys and questionnaires in public health research. Offered spring semesters of even years. Prerequisites: EPID:4400 and BIOS:5120. Same as EPID:6420.

BIOS:6610 Statistical Methods in Clinical Trials 3 s.h.

Survey of statistical methods commonly used in clinical trials; primary focus on methodologic perspective for the design, conduct, analysis, and interpretation of all phases of clinical trials; logistical and operational aspects of conducting multisite clinical trials; designed for biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5720. Requirements: familiarity with SAS and R programming. Same as IGPI:6610.

BIOS:6650 Causal Inference 3 s.h.

Concepts of causal inference, counterfactuals, confounding, causal graphs, internal/external validity, heterogeneity of treatment effect; methods covered include propensity score matching (optimal pair, multiple control and full matching; near-exact, fine-balance, and risk set matching) and stratification; covariate balance checks; sensitivity analysis; inverse probability of treatment weighted estimation; doubly robust estimators; mediation analysis; marginal structural models. Offered fall semesters of odd years. Prerequisites: BIOS:5720 and BIOS:5730 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as IGPI:6650.

BIOS:6720 Statistical Machine Learning for Biomedical and Public Health Data 3 s.h.

Statistical machine learning techniques for analysis of biomedical and public health data; methodology and application of unsupervised learning, supervised learning for regression and classification, ensemble learning, model assessment, feature selection, and high-dimensional inference. Prerequisites: BIOS:5510 and BIOS:5720 and (STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Requirements: BIOS:5510 with topic of programming with R.

BIOS:6810 Bayesian Methods and Design 3 s.h.

Theory and application of Bayesian methods in biomedical research; foundations of Bayesian statistics including decision theory, study design, model development, inference and implementation of computational algorithms; designed for biostatistics majors. Offered spring semesters of odd years. Prerequisites: BIOS:5510 and BIOS:5720 and BIOS:5730 and STAT:4100 and STAT:4101.

BIOS:7110 Theory of Biostatistics I 4 s.h.

Intermediate-level treatment of the theoretical foundation of mathematical statistics including conditional distributions, models, prediction, sufficiency, exponential families, methods of estimation and performance of estimators, uniform minimum variance unbiasedness, information inequalities, likelihood theory, confidence intervals, asymptotic theory and its applications; designed for biostatistics majors. Offered fall semesters. Prerequisites: (BIOS:5720 and STAT:5100 and STAT:5101) or (STAT:4100 and STAT:4101).

BIOS:7120 Theory of Biostatistics II 4 s.h.

Asymptotic likelihood theory for estimation and hypothesis testing with and without nuisance parameters; generalized linear models; numerical optimization; model and data deficiencies, (e.g., misspecified models, missing data, robust variance estimation); alternative likelihoods (e.g., profile, conditional, marginal, pseudo, partial, quasi likelihoods); EM algorithm; topics may include bootstrap, rank-based methods, propensity scores, double-robust estimators, generalized linear mixed models and numerical quadrature methods; designed for biostatistics majors. Offered spring semesters. Prerequisites: BIOS:7110.

BIOS:7210 Survival Data Analysis 3 s.h.

Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as IGPI:7210, STAT:7570.

BIOS:7230 Advanced Clinical Trials 3 s.h.

Modules that address advanced topics and issues encountered when conducting a clinical trial; discussions of recent publications and FDA guidance documents dealing with current topics in clinical trials. Prerequisites: (STAT:4101 or STAT:5101) and BIOS:6610. Requirements: familiarity with SAS and R programming.

BIOS:7240 High-Dimensional Data Analysis 3 s.h.

Analysis of high-dimensional data with emphasis on use of penalized regression models such as lasso, elastic net, minimax concave penalty (MCP), smoothly clipped absolute deviation (SCAD), and group lasso; large-scale hypothesis testing and false discovery rate estimation; inference for penalized likelihoods. Prerequisites: (STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101) and BIOS:5510 and BIOS:5720. Requirements: BIOS:5510 with section subtitle of programming with R.

BIOS:7270 Scholarly Integrity in Biostatistics 1 s.h.

Responsible conduct of research training; emphasis on issues of particular relevance to biostatisticians including authorship, communication, student/mentor relationships, plagiarism, fabrication and falsification of data, bias, Type I/II errors, reproducible research, data confidentiality and security, conflicts of interest, and human/animal subjects. Requirements: graduate standing in biostatistics.

BIOS:7310 Longitudinal Data Analysis 3 s.h.

Statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; includes ANOVA based methods, hierarchical linear models, linear mixed models, error structures, generalized estimating equations, and generalized linear mixed models; may include Bayesian approaches; designed for biostatistics and statistics majors. Offered spring semesters of odd years. Prerequisites: (BIOS:5720 and STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Same as IGPI:7310.

BIOS:7330 Advanced Biostatistical Computing 3 s.h.

Advanced topics in biostatistical computing and large or complicated data/models; matrix decomposition, optimization, Bayesian computing, parallel programming, working with campus high performance computing (HPC) resources; topics are explored in R, including package development and efficient R code. Prerequisites: MATH:2700 and BIOS:5510 and STAT:4101. Requirements: BIOS:5510 with section subtitle of programming with R.

BIOS:7410 Analysis of Categorical Data 3 s.h.

Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: (BIOS:5720 or STAT:5200) and (STAT:5101 or STAT:4101). Same as STAT:7510.

BIOS:7500 Preceptorship in Biostatistics arr.

Work experience using knowledge and skill acquired in classroom; arranged in conjunction with ongoing departmental or collegiate activities or with governmental agencies or private industry; preparation of prospectus and presentation of research results in a department seminar.

BIOS:7600 Advanced Biostatistics Seminar 0-3 s.h.

Current topics; supervised experience in reading and interpreting biostatistical literature. Same as IGPI:7600.

BIOS:7604 Scholarly Integrity in Biostatistics for Postdocs 0 s.h.

Responsible conduct of research training; emphasis on issues of particular relevance to biostatisticians and statisticians including authorship, communication, student/mentor relationships, plagiarism, fabrication and falsification of data, bias, Type I/II errors, reproducible research, data confidentiality and security, conflicts of interest, human/animal subjects. Requirements: postdoctoral research scholar/fellow standing in biostatistics or statistics.

BIOS:7700 Problems/Special Topics in Biostatistics arr.

Didactic material in biostatistics; may include tutorials, seminars, faculty-directed independent work (e.g. literature search, project, short research project).

BIOS:7800 Independent Study in Biostatistics arr.

In-depth pursuit of an area of special interest in biostatistics requiring substantial creativity and independence.

BIOS:7850 Research in Biostatistics arr.

Research that may lead to a dissertation.

BIOS:7900 Thesis/Dissertation arr.

Biostatistics, M.S.

Requirements

The Master of Science program in biostatistics requires a minimum of 38 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

The program provides training in the design of experiments and in analysis of data related to biomedical or public health problems. It emphasizes mathematical, statistical, and computer methods for dealing with quantitative information and provides opportunities for students to gain statistical consulting experience with a variety of problems.

M.S. students are required to complete an in-depth preceptorship under the direction of a departmental faculty member and a final comprehensive-style examination.

The M.S. with a major in biostatistics requires the following course work.

Core Courses

Code	Title	Hours
All of these:		
BIOS:5510	Biostatistical Computing (taken twice for 2 s.h. each; topics should be programming with R and programming with SAS)	4
BIOS:5710 & BIOS:5720	Biostatistical Methods I-II	8
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7500	Preceptorship in Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
One of these sequences:		
STAT:4100-STAT:4101	Mathematical Statistics I-II	6
STAT:5100-STAT:5101	Statistical Inference I-II (preferred for students who intend to earn a Ph.D.)	6
Public Health Requirement		
This course:		
CPH:6100	Essentials of Public Health	2
Responsible Conduct of Research Training		
This course:		
BIOS:7270	Scholarly Integrity in Biostatistics	1

Electives

Students complete a minimum of 5-6 s.h. of electives with at least 3 s.h. in quantitative course work (statistics or biostatistics). It is recommended that students consider a biology/public health course as the other elective, particularly for those who have not had prior exposure to these areas. Electives must be approved by the advisor and the director of graduate studies.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310/STAT:6550	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3
BIOS:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7110	Theory of Biostatistics I	4
BIOS:7120	Theory of Biostatistics II	4
BIOS:7210/STAT:7570	Survival Data Analysis	3
BIOS:7230	Advanced Clinical Trials	3
BIOS:7240	High-Dimensional Data Analysis	3
BIOS:7310	Longitudinal Data Analysis	3
BIOS:7330	Advanced Biostatistical Computing	3
BIOS:7410/STAT:7510	Analysis of Categorical Data	3
BIOS:7600	Advanced Biostatistics Seminar (topics include high-dimensional data analysis, statistical methods in bioinformatics, model selection, spatial modeling, statistical computing)	1-3
BIOS:7700	Problems/Special Topics in Biostatistics	1
BIOL:4213	Bioinformatics	4
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CS:5110	Introduction to Informatics	3
ECE:5220	Computational Genomics	3
GENE:7191	Human Molecular Genetics	3
HMP:4000	Introduction to the U.S. Health Care System	3
IE:4172	Big Data Analytics	3
OEH:4240	Global Environmental Health	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4
STAT:4520	Bayesian Statistics	3
STAT:6540	Applied Multivariate Analysis	3
STAT:6560	Applied Time Series Analysis	3
STAT:7200	Linear Models	4
STAT:7400	Computer Intensive Statistics	3
STAT:7520	Bayesian Analysis	3

Admission

Applicants to the M.S. program in biostatistics must apply through the Schools of Public Health Application Service (SOPHAS). After the SOPHAS application is verified, the applicant pays a supplemental Graduate College admission fee to the University of Iowa Office of Admissions. For detailed

application information, visit Requirements and How to Apply to Biostatistics on the Department of Biostatistics website.

The biostatistics faculty considers several factors when evaluating applications for admission, including Graduate Record Examination (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests.

All applicants must hold a bachelor's degree, have a cumulative g.p.a. of at least 3.00, and have taken the Graduate Record Examination (GRE) General Test. Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All biostatistics applicants are required to have strong written and oral communication skills.

All applicants must be competent in at least one computer programming language. They also must have mathematical sciences training in methods and techniques of single variable and multivariable differential and integral calculus, and in linear algebra. Previous course work or experience in statistical methods or data analysis is preferred.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students may enter in the fall; the priority application deadline is December 1.

Financial Support

A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition scholarship. They also provide valuable on-the-job training experience.

For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Career Advancement

Graduates find career opportunities in many areas, including pharmaceuticals, health care, research companies and institutions, consulting firms, universities, and government agencies.

Biostatistics, Ph.D.

Requirements

The Doctor of Philosophy program in biostatistics requires a minimum of 79 s.h. of graduate credit, including credit from a master's degree. Students must maintain a g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of course work may be dismissed from the program.

All students must successfully complete a comprehensive examination and a dissertation. The research topic and content, which vary depending on the program of study, must be approved by a student's dissertation committee. Other degree requirements include approved electives chosen from Department of Biostatistics and other University of Iowa courses.

The Ph.D. with a major in biostatistics requires the following work.

Master of Science Background

Ph.D. students must take the following courses required for the Master of Science in biostatistics. Students who have completed equivalent course work at other institutions may request waivers and/or transfers of credit. Students who earned a Master of Science in biostatistics at the University of Iowa automatically receive credit for these courses.

Code	Title	Hours
One of these sequences:		
STAT:4100- STAT:4101	Mathematical Statistics I-II	6
STAT:5100- STAT:5101	Statistical Inference I-II	6
All of these:		
BIOS:5510	Biostatistical Computing (taken twice for 2 s.h. each; topics should be programming with R and programming with SAS)	4
BIOS:5710 & BIOS:5720	Biostatistical Methods I-II	8
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7500	Preceptorship in Biostatistics	3
EPID:4400	Epidemiology I: Principles	3

Public Health Requirement

This course:

CPH:6100	Essentials of Public Health	2
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Responsible Conduct of Research Training

This course:

BIOS:7270	Scholarly Integrity in Biostatistics	1
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Core Courses

Code	Title	Hours
All of these:		
BIOS:7110	Theory of Biostatistics I	4
BIOS:7120	Theory of Biostatistics II	4

BIOS:7210/ STAT:7570	Survival Data Analysis	3
BIOS:7310	Longitudinal Data Analysis	3
BIOS:7410/ STAT:7510	Analysis of Categorical Data	3
STAT:7200	Linear Models	4

Electives

With approval of their advisor, students choose 12-19 s.h. of courses according to their interest in biostatistics, statistics, genetics, computing, public health, or in other areas. No more than 5 s.h. in nonquantitative courses (e.g., epidemiology, environmental health) may count toward the electives requirement. Courses required for the M.S. degree that are not listed above also may be used to satisfy the electives requirement, although BIOS:7800 Independent Study in Biostatistics does not generally count as an elective. At least 6 s.h. of elective course work must be taken with grades awarded.

Students may take the following courses.

Code	Title	Hours
BIOS:6420	Survey Design and Analysis	3
BIOS:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7230	Advanced Clinical Trials	3
BIOS:7240	High-Dimensional Data Analysis	3
BIOS:7330	Advanced Biostatistical Computing	3
BIOS:7600	Advanced Biostatistics Seminar (topics include high-dimensional data analysis, statistical methods in bioinformatics, model selection, spatial modeling, statistical computing)	1-3
BIOS:7700	Problems/Special Topics in Biostatistics	arr.
BIOL:4213	Bioinformatics	4
IE:4172	Big Data Analytics	3
STAT:4520	Bayesian Statistics	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6540	Applied Multivariate Analysis	3
STAT:6560	Applied Time Series Analysis	3
STAT:7100	Advanced Inference I	3
STAT:7101	Advanced Inference II	3
STAT:7400	Computer Intensive Statistics	3
STAT:7520	Bayesian Analysis	3

Dissertation

Students must enroll in the following dissertation course for at least two semesters in residence.

Code	Title	Hours
BIOS:7900	Thesis/Dissertation	6-13

Admission

Applicants to the Ph.D. program in biostatistics must apply through the Schools of Public Health Application Service (SOPHAS). After the SOPHAS application is verified, the applicant pays a supplemental Graduate College admission fee to the University of Iowa Office of Admissions. For detailed application information, visit [Requirements and How to Apply to Biostatistics](#) on the Department of Biostatistics website.

The biostatistics faculty considers several factors when evaluating applications for admission, including Graduate Record Examination (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests.

All applicants must hold a bachelor's degree, have a cumulative g.p.a. of at least 3.00, and have taken the Graduate Record Examination (GRE) General Test. Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All biostatistics applicants are required to have strong written and oral communication skills.

Completion of an M.S. program in statistics or biostatistics generally is required for admission to the Ph.D. program.

Applicants must meet the admission requirements of the Graduate College; see the [Manual of Rules and Regulations of the Graduate College](#).

Ph.D. application deadlines are posted on the Department of Biostatistics website, visit [Requirements and How to Apply to Biostatistics](#).

Financial Support

A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition scholarship. They also provide valuable on-the-job training experience.

For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Career Advancement

The program prepares students for professional and academic careers in biostatistics, especially for positions that emphasize developing and applying statistical methodology to solve important biological and public health problems.

Biostatistics, Graduate Certificate

The graduate Certificate in Biostatistics requires a minimum of 15 s.h. of graduate credit. Students must earn a grade of at least B-minus in each certificate course and must maintain a cumulative g.p.a. of at least 3.00 in order to earn the certificate. The certificate is designed for students who would like to add a formal biostatistics emphasis to their graduate programs.

The program is open to students enrolled in a University of Iowa graduate degree program outside the Department of Biostatistics. It is also open to individuals who hold graduate degrees in science disciplines or professional degrees in the health sciences and are admitted to the Graduate College as nondegree students.

Enrollment is limited; applicants who have completed at least one of the certificate's required courses and whose research will be advanced by biostatistics training are given priority for admission. Visit the Certificate in Biostatistics web page for an application form.

The certificate requires two core courses (6 s.h.) and three electives (9 s.h.). Students should work with an advisor to plan their course work carefully, since some certificate courses have prerequisites, require permission for enrollment, or are not offered every year. They must complete at least 6 s.h. of the required course work after being admitted to the certificate program, and they may count a maximum of 9 s.h. of certificate credit toward a degree or another certificate earned at the University. At least 6 s.h. of the certificate plan of study must be exclusively applied to the certificate.

The Certificate in Biostatistics requires the following course work.

Core Courses

Code	Title	Hours
Both of these:		
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3

Electives

Code	Title	Hours
Three of these (total of 9 s.h.):		
BIOS:5310	Research Data Management	3
BIOS:6110	Applied Categorical Data Analysis	3
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3

Other courses may be approved as electives by the Department of Biostatistics director of graduate studies. Contact the Department of Biostatistics for more information.

Community and Behavioral Health

Interim Head

- Rema Afifi

Graduate degrees: M.S. in community and behavioral health; Ph.D. in community and behavioral health

Faculty: <https://www.public-health.uiowa.edu/cbh-faculty-list/>

Website: <https://www.public-health.uiowa.edu/cbh/>

The Department of Community and Behavioral Health examines the relationship between human behavior and community health and focuses on creating effective strategies for change. Community and behavioral health students learn how to design, implement, and evaluate interventions directed toward identified public health problems in communities. They learn how public and institutional policy, the media, and community organizations can promote healthy behavior and positive change.

Department faculty members come from a variety of disciplines within the social and health sciences, drawn together by an interest in health behavior and promoting healthy communities.

In addition to the M.S. and Ph.D. degrees in community and behavioral health, the department offers a subprogram for the Master of Public Health (M.P.H.) degree. see "M.P.H. Subprogram" below.

M.P.H. Subprogram

The Department of Community and Behavioral Health offers a subprogram for the Master of Public Health degree.

The M.P.H. subprogram in community and behavioral health prepares public health practitioners for a variety of positions in community development, health program implementation, and health education.

For detailed information about the M.P.H. degree, see the Master of Public Health [p. 1732] in the Catalog.

Programs

Graduate Programs of Study

Majors

- Community and behavioral health subprogram for the Master of Public Health [p. 1732] degree)
- Master of Science in Community and Behavioral Health [p. 1752]
- Doctor of Philosophy in Community and Behavioral Health [p. 1753]

Facilities

The department houses two centers. The Prevention Research Center for Rural Health focuses on improving the health of rural Iowans. The National American Indian and Alaska Native Addiction Technology Transfer Center disseminates culturally legitimate evidence-based practice in substance abuse and behavioral health, and provides technical assistance, training, and systems change assistance to urban as well as tribal providers across the country.

Graduate students may have opportunities to work with ongoing research projects in the centers.

Courses

Community and Behavioral Health Courses

CBH:3102 Medical Anthropology 3 s.h.

Major theoretical, methodological approaches; international health and development; biomedicine as a cultural system; ethnomedicine; anthropology and AIDS, human reproduction, epidemiology, ethnopsychiatry. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3102, GHS:3102.

CBH:3150 Media and Health 3 s.h.

Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as GHS:3150, JMC:3150.

CBH:4105 Introduction to Health Promotion and Disease Prevention 3 s.h.

Basic concepts, strategies, and methods of health promotion and disease prevention; health promotion in the context of public health, theories and principles that underpin health promotion; overview of policy formation and health promotion planning, implementation, evaluation.

CBH:4140 Feminist Activism and Global Health 3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101. Same as ANTH:4140, GHS:4140, GWSS:4140.

CBH:5220 Health Behavior and Health Education 3 s.h.

Common theories of health behavior and health education and their application to varied public health problems and settings.

CBH:5230 Public Health Issues in Overweight Management 3 s.h.

Overview of overweight and obesity from a public health perspective, including epidemiology, measurement issues, and intervention approaches at individual, community, and policy levels. Prerequisites: CPH:5100 or CBH:4105.

CBH:5235 Community-Based Participatory Research 3 s.h.

How community-based participatory research (CBPR) has emerged as a critical approach to conduct research and produce scholarship; opportunities, challenges, needed skills, and methods by which researchers and community members partner to conduct research that leads to community well-being and health; students share their experiences, explore, and learn through case studies, guest lectures, and interactive activities; application of research methods through a CBPR approach.

CBH:5305 Evaluation: Approaches and Applications**3 s.h.**

Program evaluation methods for use in public health and related educational and social service programs; methods, approaches, and planning strategies for conducting program evaluations; role and function of evaluation within program life cycle; basics of formative, process, outcome, and cost evaluation; development of evaluation questions with appropriate data sources, data collection methods, and analytic techniques; creation of a logic model to guide an evaluation plan and explain role of logic model in the process of evaluation. Prerequisites: CBH:5220 and BIOS:4120 and EPID:4400. Requirements: enrollment in College of Public Health.

CBH:5310 Qualitative Research for Public Health**3 s.h.**

Introduction to methods and theories of qualitative research that facilitate description and explanation of social phenomena related to health behavior, illness, prevention, and treatment in the public health domain.

CBH:5420 Communicating with the Community**3 s.h.**

Communication skills for research and practice settings, taught from a cultural perspective with reference to gender, age, ethnicity; individual and constructive interviewing, public speaking, conducting focus groups.

CBH:5435 Substance Abuse Prevention and Early Intervention**3 s.h.**

Prevalence and characteristics of several substance use disorders and the impact of such disorders on the individual, the community, and public health workers; how prevalence of substance use disorders varies among different ethnic and cultural groups, between men and women, across the life span, and through different socio-economic levels; how outcomes of substance abuse disorders vary at both the individual and community level as a function of these factors.

CBH:5440 Prevention and Early Intervention of Mental Health Disorders**3 s.h.**

Prevalence and characteristics of mental health disorders; differences between ethnicity and culture, gender, age, and socioeconomic background; primary and secondary prevention; assessment and tertiary treatment approaches to mental health disorders.

CBH:6115 Ethnographic Field Methods**3 s.h.**

Basic data-gathering techniques for field research in sociocultural anthropology. Same as ANTH:6115.

CBH:6205 Designing and Implementing Interventions**3 s.h.**

Theoretical foundations, phases, and skills necessary to plan, design, and implement a public health intervention program; techniques and strategies for designing and implementing public health interventions; emphasis on community engagement; evidence-based, culturally and contextually situated methods and skills to plan, design, and implement public health intervention program; analysis of case studies, individual and small group work on assignments and development of a data-driven program. Prerequisites: CBH:5220. Requirements: admission to College of Public Health.

CBH:6210 Health Communication**3 s.h.**

Theories, concepts, research associated with health communication; interpersonal and mass communication approaches. Same as COMM:6210.

CBH:6220 Health Communication Campaigns**3 s.h.**

Intervention design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Same as COMM:6220.

CBH:6230 Health Equity, Disparities, and Social Justice**3 s.h.**

Introduction to the concept of health equity and an overview of U.S. health disparities; students gain a better understanding of research and interventions through readings, lectures, reflection papers, in-class exercises, and research assignments. Same as EPID:6075.

CBH:6335 Research Methods in Community and Behavioral Health**3 s.h.**

Overview of quantitative research methods relevant to community and behavioral health; topics include major elements of behavioral and social science research, critical evaluation of research, and application of research methods in public health practice; opportunities for students to build skills for evaluation of research and application of quantitative research methods.

CBH:6405 Global Maternal, Newborn, and Child Health**3 s.h.**

Overview of global demographic trends in maternal, newborn, and child health; focus on low- and middle-income countries as well as programs, interventions, and policies that have successfully improved the health of women and children around the globe.

CBH:6410 Special Topics**arr.**

Didactic material in community and behavioral health that may include tutorial, seminar, or faculty-directed independent work (e.g., literature search, project, short research project).

CBH:6415 Independent Study in Community and Behavioral Health**arr.**

Pursuit of an interest in community and behavioral health requiring substantial creativity and independence.

CBH:7100 Community and Behavioral Health Doctoral Seminar**1 s.h.**

Introduction to the Department of Community and Behavioral Health; essential skills for success in academia, individual faculty member's work, and doctoral program requirements; for incoming Ph.D. students.

CBH:7300 Advanced Behavioral Theories**3 s.h.**

Seminar on behavioral theory in public health; builds on student's previous training in theory with an emphasis on applications to guide research and thereby ensuring skills necessary to function as an independent scientist; examination of general principles of behavioral theory and several behavioral theories at different ecological levels; current state of theory development (i.e., gaps, future directions for research); emphasis on critical analysis and application of theory; students gain a better understanding of the role of behavioral theory in population health research. Prerequisites: CBH:5220. Requirements: doctoral standing.

CBH:7505 CBH Thesis/Dissertation**arr.**

Work on M.S. thesis or Ph.D. dissertation in community and behavioral health, with thesis/dissertation advisor.

Community and Behavioral Health, M.S.

Requirements

The department is not admitting students to the M.S. in community and behavioral health degree program at this time.

The Master of Science program in community and behavioral health requires at least 35 s.h. of graduate credit, including a thesis.

During the first semester, M.S. students work with their academic advisor to develop a plan of study that satisfies their interests and professional goals as well as the program's requirements. Students are required to attend departmental seminars and to complete all courses required for the degree.

College of Public Health Core

Students must complete 9-11 s.h. from the following.

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health (course requirement waived for students with a M.P.H.)	2
EPID:4400	Epidemiology I: Principles	3

Behavioral and Social Sciences Core

Students must complete 9 s.h. from the following.

Code	Title	Hours
CBH:3102	Medical Anthropology	3
CBH:5220	Health Behavior and Health Education	3
CBH:5420	Communicating with the Community	3
CBH:6205	Designing and Implementing Interventions	3
CBH:6210	Health Communication	3
CBH:6220	Health Communication Campaigns	3

Research Methods Core

Students must complete 6 s.h. from the following.

Code	Title	Hours
CBH:5305	Evaluation: Approaches and Applications	3
CBH:5310	Qualitative Research for Public Health	3
CBH:6335	Research Methods in Community and Behavioral Health	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3

PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

Content Area Electives

Students must complete 5 s.h. in content area electives. Below is a list of suggested courses; students should select courses in consultation with their advisor.

Code	Title	Hours
CBH:4140	Feminist Activism and Global Health	3
CBH:5420	Communicating with the Community	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:6405	Global Maternal, Newborn, and Child Health	3
CBH:6415	Independent Study in Community and Behavioral Health	arr.
CPH:5100	Introduction to Public Health	3
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5410	Health Economics I	3
HMP:6710	Federalism and Health Policy	3
OEH:4240	Global Environmental Health	3

Thesis

Students must complete 6 s.h. in the following.

Code	Title	Hours
CBH:7505	CBH Thesis/Dissertation	6

Financial Support

Several forms of financial support are available, including scholarships and awards, student loans, and graduate assistantships.

Graduate assistantships provide a stipend and entitle students to the resident rate of tuition and reduced health insurance costs. Research assistantships are competitive and are awarded according to department need and student merit.

Scholarships and fellowships are available through federal agencies, such as the Centers for Disease Control and the National Institutes of Health, and from private foundations.

Career Advancement

The program prepares students for research and professional positions in community and behavioral health or for Ph.D. study in community and behavioral health.

Community and Behavioral Health, Ph.D.

Graduates of the Doctor of Philosophy program in community and behavioral health will be able to:

- demonstrate extensive knowledge of and contribute to social and behavioral science theories related to public health;
- identify knowledge gaps, synthesize relevant information, and formulate focused research questions to address these gaps;
- critically evaluate social and behavioral science research design, methodology, and analysis related to public health;
- contribute to public health knowledge by designing and implementing research that incorporates knowledge of pertinent cultural, social, behavioral, and biological factors using quantitative and qualitative methods;
- demonstrate professional skills that include scientific writing, oral communication, grant writing, interdisciplinary collaboration, teaching, and service;
- communicate research findings effectively to various audiences such as researchers, policy makers, and community; and
- demonstrate extensive knowledge in designing and implementing community-based interventions and research.

Requirements

The Ph.D. program in community and behavioral health requires at least 75 s.h. of graduate credit, including approved credit earned from a master's degree.

Students must successfully complete a qualifying exam, a comprehensive exam, and a dissertation. The research topic must be approved by a student's dissertation committee.

During the first semester, students work with their academic advisor to develop a plan of study that satisfies their interests and professional goals as well as the program's requirements. Students are required to attend departmental seminars and to complete all courses required for the degree.

College of Public Health Core

Students must complete the following (12 s.h.).

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CBH:7100	Community and Behavioral Health Doctoral Seminar	1
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
EPID:4400	Epidemiology I: Principles	3

Behavioral and Social Sciences Core

Students must complete the following (21 s.h.).

Code	Title	Hours
CBH:5220	Health Behavior and Health Education	3
CBH:5235	Community-Based Participatory Research	3
CBH:5420	Communicating with the Community	3
CBH:6205	Designing and Implementing Interventions	3
CBH:6210	Health Communication	3
CBH:6220	Health Communication Campaigns	3
CBH:6230	Health Equity, Disparities, and Social Justice	3

Research Methods Core

Students must complete 15 s.h. from the following.

Code	Title	Hours
CBH:5305	Evaluation: Approaches and Applications	3
CBH:5310	Qualitative Research for Public Health	3
CBH:6115	Ethnographic Field Methods	3
CBH:6335	Research Methods in Community and Behavioral Health	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:6110	Applied Categorical Data Analysis	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3
SOC:5160	Research Design and Methods	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3
SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

Content Area Electives

Students must complete 15 s.h. of elective course work in consultation with their advisor. The following is a list of suggested course work; however, other courses may be approved with consent of the advisor.

Code	Title	Hours
CBH:4140	Feminist Activism and Global Health	3
CBH:5230	Public Health Issues in Overweight Management	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:5440	Prevention and Early Intervention of Mental Health Disorders	3

CBH:6405	Global Maternal, Newborn, and Child Health	3
CBH:6410	Special Topics	arr.
CBH:6415	Independent Study in Community and Behavioral Health	arr.
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
GEOG:4150	Health and Environment: GIS Applications	3
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:7940	Primary Data and Mixed Methods	3
HMP:7950	Design Issues in Health Service Research	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3
PSY:6560	Stereotyping, Prejudice, and Discrimination	3

Dissertation

Students must complete 12 s.h. in the following.

Code	Title	Hours
CBH:7505	CBH Thesis/Dissertation	12

Admission

Ph.D. applicants must apply through the Schools of Public Health Application Service (SOPHAS). Applications must include academic transcripts, Graduate Record Exam (GRE) General Test scores, three letters of recommendation, statement of purpose, and a writing sample. For detailed application information, visit *How to Apply to Community and Behavioral Health* on the Department of Community and Behavioral Health website.

The community and behavioral health admission committee considers several factors when evaluating applications for admission, including scores on the GRE, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

Applicants must have a graduate g.p.a. of at least 3.40 and have earned a graduate degree from an accredited college or university in a related public health, social science, or clinical health field. Applicants who do not hold a graduate degree should apply to a master's program prior to application for the Ph.D. program. Preference is given to applicants with Graduate Record Exam (GRE) General Test verbal scores of at least 154, quantitative scores of at least 150, and analytical writing scores of at least 4.0 (GRE scores must be less than five years old). Ph.D. program applicants also must submit their master's thesis, or if no thesis is available, a sample of their scholarly writing.

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-

speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses if they are admitted. Applicants who score below 81 are not considered for admission.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students begin the program in the fall. The application deadline is January 15.

Financial Support

Several forms of financial support are available, including scholarships and awards, student loans, and graduate assistantships.

Graduate assistantships provide a stipend and entitle students to the resident rate of tuition and reduced health insurance costs. Research assistantships are competitive and are awarded according to department need and student merit.

Scholarships and fellowships are available through federal agencies, such as the Centers for Disease Control and the National Institutes of Health, and from private foundations.

Career Advancement

The program prepares individuals for academic, research, and policy-making work in the social and behavioral health sciences. This academic specialty offers many career opportunities in academic and research institutions.

Emerging Infectious Disease Epidemiology

Head, Department of Epidemiology

- Elizabeth A. Chrischilles

Graduate certificate: emerging infectious disease epidemiology

Website: <https://www.public-health.uiowa.edu/certificate-in-emerging-infectious-disease-epidemiology/>

Emerging infectious diseases increasingly are recognized as global and regional issues. Some infectious diseases are controlled effectively with the help of modern technology. But new diseases—such as SARS, West Nile, and avian influenza virus infections—appear frequently, and older ones, including malaria, tuberculosis, and bacterial pneumonia, are now appearing in forms that are resistant to drug treatments. All of them have the potential to seriously affect human and animal health as well as economies locally and worldwide. They pose novel and unceasing challenges for professionals in health care, government, and private agencies.

The Certificate in Emerging Infectious Disease Epidemiology is administered by the Department of Epidemiology [p. 1757]. The Graduate College grants the certificate.

Programs

Graduate Program of Study Certificate

- Certificate in Emerging Infectious Disease Epidemiology

Emerging Infectious Disease Epidemiology, Graduate Certificate

The graduate Certificate in Emerging Infectious Disease Epidemiology requires 12-13 s.h. of graduate credit. Students must complete the certificate's required course work within five years of entering the program and must maintain a g.p.a. of at least 2.75 in work toward the certificate. Three of the required courses must be completed on campus: EPID:5570 Zoonotic Diseases, EPID:5580 Public Health Laboratory Techniques, and EPID:5590 Applied Infectious Disease Epidemiology or EPID:6550 Epidemiology of Infectious Diseases. The remaining courses may be completed on campus or by distance education.

At this time, applications are only being accepted from current University of Iowa degree-seeking graduate students.

The certificate program provides basic information and training related to infectious diseases. It is designed for a broad range of individuals, including graduate students, international public health professionals, laboratory professionals, physicians, nurses, veterinarians, and medical technologists.

The Certificate in Emerging Infectious Disease Epidemiology requires the following course work.

Code	Title	Hours
Both of these:		
EPID:5570	Zoonotic Diseases	3
EPID:5580	Public Health Laboratory Techniques	1
One of these:		
EPID:5590	Applied Infectious Disease Epidemiology	2
EPID:6550	Epidemiology of Infectious Diseases	3
Two of these:		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5550	Diagnostic Microbiology for Epidemiology	3
OEH:4240	Global Environmental Health	3

Applicants to the certificate program must hold a baccalaureate degree from an accredited college or university and must have a g.p.a. of at least 2.75 (or international equivalent). For more information about the program and how to apply, visit the Certificate in Emerging Infectious Disease Epidemiology web page.

Epidemiology

Head

- Elizabeth A. Chrischilles

Graduate degrees: M.S. in clinical investigation; M.S. in epidemiology; Ph.D. in epidemiology

Faculty: <https://www.public-health.uiowa.edu/epi-faculty-list/>

Website: <https://www.public-health.uiowa.edu/epi/>

The Department of Epidemiology focuses on surveillance for disease, risk factors for disease in the general population, behavioral factors in disease, use and outcome of health interventions and care, and the establishment and evaluation of disease control measures in the community. Students are guided by faculty members whose research interests include epidemiology of communication disorders, pharmacoepidemiology, cancer epidemiology, infectious disease epidemiology, adverse reproductive outcome epidemiology, anatomic pathology, genetics, cardiovascular disease, nutrition, smoking cessation, epidemiology of reproduction, dental epidemiology, clinical epidemiology, neuroepidemiology, meta-analysis, intervention trials, international health, and effects of aging.

In addition to its graduate degrees, the department offers the epidemiology subprogram for the Master of Public Health (M.P.H.); see the Master of Public Health [p. 1732] in the Catalog. The subprogram focuses on fundamental concepts and methods, and provides training in the use of data and methods for disease assessment and for evaluation of programs and interventions. It also participates in a combined degree program with the Department of Biology (College of Liberal Arts and Sciences); see "B.A./M.P.H. (Epidemiology Subprogram) or M.S. in Epidemiology" under Combined Programs [p. 154] in the B.A. in biology section of the Catalog.

Certificates

Emerging Infectious Disease Epidemiology

The Department of Epidemiology offers the graduate Certificate in Emerging Infectious Disease Epidemiology. The certificate program provides basic information and training related to infectious diseases. It is designed for a broad range of individuals, including graduate students, international public health professionals, laboratory professionals, physicians, nurses, veterinarians, and medical technologists. To learn more, see the Certificate in Emerging Infectious Disease Epidemiology [p. 1756] in the Catalog.

Translational and Clinical Investigation

The Department of Epidemiology and the Institute for Clinical and Translational Science offer the graduate certificate program in translational and clinical investigation; see the Certificate in Translational and Clinical Investigation [p. 1788] in the Catalog.

Programs

Graduate Programs of Study

Majors

- Epidemiology subprogram for the Master of Public Health [p. 1732] degree

- Master of Science in Clinical Investigation [p. 1761]
- Master of Science in Epidemiology [p. 1763]
- Doctor of Philosophy in Epidemiology [p. 1765]

Facilities and Resources

The State Health Registries of Iowa, which encompasses the Iowa Cancer Registry and the Iowa Registry for Congenital and Inherited Disorders, works in cooperation with the Iowa Department of Public Health to collect medical data on Iowans. The Iowa Cancer Registry is one of 18 registries nationwide that report data to the National Cancer Institute.

The Preventive Intervention Center conducts population-based intervention trials to prevent occurrence and recurrence of disease and to promote wellness, with a focus on the elderly. It also specializes in research promoting prevention of cardiovascular disease and provides an interdisciplinary approach to risk factor interventions. The Health Effectiveness Research Center is a collaborative research enterprise with the College of Pharmacy that studies whether particular health care treatments or services are over- or underutilized. The Center for Emerging Infectious Diseases employs epidemiological methods, laboratory technologies, and clinical evaluations to achieve a better understanding of emerging infectious diseases. The Nutrition Center provides expertise in nutrition and dietary assessment, dietary interventions, and nutrition lifestyle change strategies.

Courses

Epidemiology Courses

EPID:3099 Evidence-Based Public Health Methods 3 s.h.

How to choose, conduct, and evaluate evidence-based programs and policies in public health; finding and using scientific evidence, implementing and evaluating interventions that produce new evidence. Offered summer sessions. Requirements: Certificate in Public Health enrollment.

EPID:4314 Field Experiences in Public Health 1 s.h.

Direct involvement in actions being taken at local community level; topics include environmental health, infectious diseases, chronic diseases, and pediatric health; practical examples and hands-on experiences during site visits for topic-specific field investigations. Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411. Requirements: biology or microbiology course work. Same as CPH:4250.

EPID:4400 Epidemiology I: Principles 3 s.h.

Epidemiological concepts and methods; design of descriptive and analytic studies, such as aggregate, case series, cross-sectional, case-control, cohort studies, clinical trials; application of epidemiology to public health practice; communication and dissemination of epidemiological findings.

EPID:4450 Public Health Data 2 s.h.

Concepts and methods of obtaining and using public health data in community settings; how public health data are used for epidemiologic investigations and prevention programs. Corequisites: EPID:4400.

EPID:4510 Injury and Violence Prevention 3 s.h.

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as CPH:4230, OEH:4510.

EPID:4990 Practicing Evidence-Based Public Health 3 s.h.

How epidemiologic and other scientific studies underlie public health practice; relationship between evidence and action; controversies at interface of science and policy.

EPID:5200 Principles of Public Health Informatics 3 s.h.

Systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics. Same as IGPI:5220.

EPID:5214 Meta-Analysis of Epidemiologic Studies 3 s.h.

Methods for quantitative pooling of analytic study associations (cohort and case-control) between exposure and a dichotomous outcome; literature searches, data abstraction, test of homogeneity, publication bias and consideration of adjusted risk ratios (effects of confounding). Prerequisites: BIOS:5120 and EPID:4400.

EPID:5241 Statistical Methods in Epidemiology 4 s.h.

Overview of methods to analyze data from epidemiologic investigations; estimation of relative measures of risk, attributable risk, stratified analysis; model-fitting approaches using linear, logistic, and Poisson regression analysis; confounding and effect modification; analysis of epidemiologic data sets.

EPID:5300 Food Safety 3 s.h.

Current issues and concepts of food safety in the United States, from plant to table; foodborne illness from microbial agents, food toxins, adulterants; disease investigation, risk analysis, risk mitigation, prevention.

EPID:5320 Exotic and Emerging Diseases of Animals 1 s.h.

Major exotic and emerging animal diseases; veterinarian's role in recognizing and diagnosing such diseases; how outbreaks affect economies and veterinary medicine; public health concerns; responding agencies and their roles in control and eradication.

EPID:5470 Applied Veterinary Epidemiology/Biostatistics 3 s.h.

Epidemiology and biostatistics applied to veterinary public health; outbreak investigations, surveillance, analyzing and evaluating diagnostic tests, translation methodology, risk assessment, data analysis software programs. Prerequisites: EPID:4400.

EPID:5500 Introduction to Clinical Epidemiology 3 s.h.

Epidemiologic applications and methods used in clinical settings to evaluate clinical medicine and other health profession disciplines, including health measurement, health outcome determination, diagnostic process, risk assessment and communication, prognosis, study design, patient surveys, clinical trials, decision analysis and meta-analysis, health services research. Corequisites: EPID:4400, if not taken as a prerequisite.

EPID:5540 Public Health Surveillance Mechanisms, Applications, and Data 3 s.h.

Introduction to fundamentals of public health surveillance with emphasis on cancer registration; use of resulting surveillance-based databases and information systems available to public health practitioners and researchers. Prerequisites: EPID:4400.

EPID:5550 Diagnostic Microbiology for Epidemiology 3 s.h.

Introduction to microbiological culture, antigen detection, immunological and molecular amplification laboratory techniques for bacteria, viruses, parasites, fungi. Prerequisites: MICR:2157 or MICR:3112 or MICR:3164.

EPID:5560 Introduction to Molecular Epidemiology 3 s.h.

Introduction to basic techniques of molecular biology (DNA, RNA, protein techniques) and their use in epidemiological research (e.g., diagnosis of disease, biomarker discovery and validation). Corequisites: EPID:4400, if not taken as a prerequisite.

EPID:5570 Zoonotic Diseases 3 s.h.

Introduction to the epidemiology and control of zoonotic diseases; zoonoses endemic to the midwestern United States. Prerequisites: EPID:5550 or EPID:6550 or MICR:2157 or MICR:3112 or MICR:3164.

EPID:5580 Public Health Laboratory Techniques 1 s.h.

Common laboratory techniques in emerging infectious respiratory disease research and epidemiologic surveillance laboratories; emphasis on techniques for culturing, characterization, and serological surveillance of exposure to influenza viruses. Offered spring semesters. Requirements: completion of online Basic Biological Safety and Blood-Borne Pathogens courses; completed certificates must be brought to class.

EPID:5590 Applied Infectious Disease Epidemiology 2 s.h.

Introduction to infectious disease surveillance, outbreak investigations, interventions, biodefense, emerging infectious diseases, subject recruitment, mathematical modeling, and analytic approaches pertaining to infectious disease prevention and control; emphasis on practical knowledge and how to apply basic infectious disease epidemiology to real-life scenarios and research projects.

EPID:5600 Introduction to Epidemiology Data Management and Analysis 3 s.h.

Organization, collection, management, and analysis of epidemiological data using computer programs. Corequisites: EPID:4400, if not taken as a prerequisite.

EPID:5610 Intermediate Epidemiology Data Analysis with SAS and R 3 s.h.

Basic principles of data analysis and collaborative research; SAS fundamentals; data manipulation and interpretation techniques.

EPID:5630 Seminar in Clinical and Translational Research 1 s.h.

Presentation of ongoing clinical research projects, grant applications, and methodological articles, with emphasis on works in progress.

EPID:5900 Problems and Special Topics in Epidemiology arr.

Didactic material in epidemiology; may include tutorial, seminar, faculty-directed independent work (e.g. literature search, project, short research project); topics may include comparative effectiveness and patient-centered outcomes, neuroepidemiology, and epidemiology of aging.

EPID:5925 Epidemiology Journal Club: Evaluating the Literature 0-1 s.h.

Critical evaluation of primary epidemiologic methods and research papers; informative, challenging, and current topics from scientific literature. Requirements: epidemiology M.S., M.P.H., or Ph.D. standing.

- EPID:5950 Preceptorship in Epidemiology** arr.
Quantitative research-oriented project performed with a preceptor; preparation of prospectus, presentation of research results in a publication-quality report and a scientific poster session.
- EPID:6000 Independent Study in Epidemiology** arr.
In-depth pursuit of an area of special interest in epidemiology requiring substantial creativity and independence.
- EPID:6050 Research in Epidemiology** arr.
Research that may lead to a dissertation.
- EPID:6070 Social Epidemiology** 3 s.h.
Introduction with global focus and emphasis on methodological issues, including definition/measurement of social constructs, appropriate research designs, analytic approaches. Prerequisites: EPID:4400.
- EPID:6075 Health Equity, Disparities, and Social Justice** 3 s.h.
Introduction to the concept of health equity and an overview of U.S. health disparities; students gain a better understanding of research and interventions through readings, lectures, reflection papers, in-class exercises, and research assignments. Same as CBH:6230.
- EPID:6100 Writing a Grant Proposal** 3 s.h.
Small group projects to develop grant proposals using epidemiological study designs; presentation and defense of proposals before faculty site visitors.
- EPID:6110 Grant Writing for Clinical Investigators** arr.
Development of skills for writing effective, scientifically sound applications for external research grants; for students who have completed the literature review section for their topic. Prerequisites: EPID:4400.
- EPID:6150 Writing for Medical Journals** 1 s.h.
Skill development in writing medical journal articles for publication.
- EPID:6200 Environmental and Occupational Epidemiology** 3 s.h.
Overview of methods to interpret and perform environmental and occupational epidemiologic studies with focus on exposure assessment; valuable insights into identifying regional, national, global environmental, and occupational health-related issues. Prerequisites: EPID:4400. Same as OEH:6510.
- EPID:6250 Genetics and Epidemiology** 3 s.h.
Basic human molecular genetics and population genetics principles; methods of integrating genetic principles into epidemiological studies; advancing genomic technologies, hot topics in genetics research. Prerequisites: EPID:4400.
- EPID:6330 Global Nutrition Policy** 1,3 s.h.
Concepts and methods used in setting public health nutrition policy; evidence-based aspects of nutrition policy formation in public health settings; evaluation of nutritional public health policy implementation and ways of changing policy in China, Korea, Micronesia, Hawaii, Italy, and the United States.
- EPID:6350 Nutritional Epidemiology** 2 s.h.
Application of epidemiology study designs to nutrition variables and chronic disease; analysis of nutrition epidemiology studies; research protocol design. Recommendations: a basic nutrition course.
- EPID:6360 Nutrition Intervention in Clinical Trials Research** 2 s.h.
Nutrition interventions in clinical trials; disease related to nutrition variables; research that links effects of diet on chronic diseases. Recommendations: a basic nutrition course.
- EPID:6370 Nutrition Intervention in Research Lab** 3 s.h.
Development, demonstration of group counseling skills in ongoing nutrition research projects at the University of Iowa. Corequisites: EPID:6360, if not taken as a prerequisite.
- EPID:6400 Epidemiology II: Advanced Methods** 4 s.h.
Epidemiologic study design and analysis; bias, confounding, effect modification; case-control studies; cohort studies; field methods; measurement principles; exposure and disease classification; acute and chronic disease examples. Prerequisites: EPID:4400 and EPID:5600.
- EPID:6420 Survey Design and Analysis** 3 s.h.
Methodological issues regarding design, sampling approach, implementation, analysis, and interpretation of surveys and questionnaires in public health research. Offered spring semesters of even years. Prerequisites: EPID:4400 and BIOS:5120. Same as BIOS:6420.
- EPID:6510 Injury Epidemiology** 3 s.h.
How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: EPID:4400. Same as OEH:6520.
- EPID:6530 Epidemiology of Occupational Injuries** 3-4 s.h.
Epidemiological literature on occupational injuries and their prevention; focus on research methods. Offered spring semesters of even years. Prerequisites: EPID:4400. Same as OEH:6530.
- EPID:6550 Epidemiology of Infectious Diseases** 3 s.h.
Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Prerequisites: EPID:4400. Same as GHS:6550.
- EPID:6560 Hospital Epidemiology** 2 s.h.
Health care-associated infections; surveillance, investigative methods, resistant organisms, molecular epidemiology; methods for preventing spread of pathogens, including isolation precautions; environmental issues, construction, sterilization; interactive exercises. Prerequisites: EPID:4400.
- EPID:6570 Infectious Causes of Chronic Disease** 3 s.h.
Evidence linking various infectious agents with the development of different types of chronic disease. Corequisites: EPID:4400, if not taken as a prerequisite.
- EPID:6600 Epidemiology of Chronic Diseases** 3 s.h.
Chronic disease epidemiology; survey of leading chronic diseases, including measurement of disease, lifestyle, nutrition, occupation, family history. Prerequisites: EPID:4400.
- EPID:6620 Neuroepidemiology** 2 s.h.
Basic epidemiologic concepts of neurologic disease; concepts, methods, examples of neuroepidemiology; varied diseases, methods. Prerequisites: EPID:4400 and EPID:5600.
- EPID:6640 Epidemiology of Maternal and Infant Health** 2 s.h.
Overview of maternal and infant epidemiologic and methodologic issues; prevalence and trends; risk factors; data sources, including limitations and availability; relevant measurement issues; directions for future research. Prerequisites: EPID:4400.

EPID:6650 Cardiovascular Disease Epidemiology 3 s.h.

Natural history of atherosclerotic disease in humans and risk factors affecting its development; atherosclerotic disease by age, sex, and in varied populations worldwide; recent guidelines and clinical trials to delay onset, reduce incidence, improve outcome of cardiovascular disease. Prerequisites: EPID:4400.

EPID:6670 Psychiatric Epidemiology 3 s.h.

Population-based studies of psychiatric disorders and associated etiologic tools; diagnostic criteria used in psychiatric research, common structured interviews and rating scales; recent research relevant to common psychiatric disorders; experience writing a research idea using NIH PHS grant form. Recommendations: EPID:6400 or two years of resident training in psychiatry. Same as PSYC:8267.

EPID:6700 Cancer Epidemiology and Control 3 s.h.

Incidence, mortality, survival; risk factors for major cancer sites; comprehensive cancer control; introduction to SEER*Stat and its application. Prerequisites: EPID:4400 and PATH:8133.

EPID:6900 Design of Intervention and Clinical Trials 3 s.h.

Methodologic introduction to rationale and design of clinical trials; basics of clinical trial design, variety of designs, and examples from clinical trials. Prerequisites: EPID:4400.

EPID:6910 Pharmacoepidemiology and Comparative Effectiveness Research 3 s.h.

Drug approval process, methods for identification and attribution of adverse drug events, current understanding of the epidemiology of adverse drug events; study designs, data sources for pharmacoepidemiology, pharmacoeconomics. Prerequisites: EPID:4400.

EPID:6920 Applied Administrative Data Analysis 2 s.h.

Concepts and methods for analysis of administrative health insurance claims data; focus on understanding the types and sources of data, useful resources for classifying data, and applying SAS programming skills and common analytic approaches to studies using such data. Prerequisites: EPID:5610 or BIOS:5310 or BIOS:5510. Requirements: EPID:5610 or BIOS:5310 or BIOS:5510 or SAS programming experience; and (concurrent or prior enrollment in BIOS:5120 and BIOS:5730) or (EPID:5241 and EPID:5610) or prior equivalent biostatistical course work or experience.

EPID:6950 Clinical Research Ethics 2 s.h.

Ethical and regulatory aspects of clinical research; historical background, current regulations, Institutional Review Board requirements related to human subjects protection issues. Requirements: K30 training grant or enrollment in degree program with clinical research project.

EPID:7000 Thesis/Dissertation arr.**EPID:7200 Teaching in Epidemiology 3 s.h.**

Teaching methods in epidemiology; guided practicum experience in teaching epidemiology, in preparation for academic careers. Prerequisites: EPID:4400 and EPID:5600 and EPID:6400.

EPID:7400 Epidemiology III: Theories 3 s.h.

How epidemiology fits into the wider context of scientific inquiry. Prerequisites: EPID:4400 and BIOS:6110 and EPID:6400.

Clinical Investigation, M.S.

Requirements

The Master of Science program in clinical investigation requires 37 s.h. of graduate credit. In addition to completing the program's required course work, students must write a thesis in the form of a manuscript, or a grant proposal for a National Institutes of Health (NIH) career award or its equivalent, with oral defense. Graduate students must maintain a g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of course work may be dismissed from the program.

The program, which is offered in collaboration with the University's Institute for Clinical and Translational Science, is designed for clinicians interested in pursuing careers in clinical research. It includes in-depth training in biostatistics, epidemiology, research ethics, and academic survival skills as well as didactic training applicable to clinical research careers. Graduates of the program are able to critically evaluate clinical literature, write competitive grant proposals, design and conduct clinical research projects, work effectively with other researchers and support staff, and disseminate research results through manuscripts and presentations.

Prerequisites

The M.S. program requires at least 6 s.h. of prerequisite course work in the disciplines of pathology, physiology, and/or pharmacology. Students accepted into the degree program who have not completed at least 6 s.h. from those disciplines may meet the requirement while they are enrolled.

The M.S. with a major in clinical investigation requires the following course work.

Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:6000	Independent Study in Epidemiology	2
EPID:6150	Writing for Medical Journals	1
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6950	Clinical Research Ethics	2
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2

CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall and spring semesters for 0 s.h. and 1 s.h. respectively)	1
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Total Hours	28
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Electives

Students must earn a minimum of 9 s.h. in elective course work, which must include at least 6 s.h. in a research interest area. The following elective courses are recommended.

Code	Title	Hours
EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:6100	Writing a Grant Proposal	3
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

Research Interest Areas

Community Studies

Code	Title	Hours
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
EPLS:5165	Introduction to Program and Project Evaluation	3

Epidemiology

Code	Title	Hours
EPID:5560	Introduction to Molecular Epidemiology	3
EPID:5570	Zoonotic Diseases	3
EPID:6250	Genetics and Epidemiology	3
EPID:6510	Injury Epidemiology	3
EPID:6530	Epidemiology of Occupational Injuries	3
EPID:6550	Epidemiology of Infectious Diseases	3
EPID:6560	Hospital Epidemiology	2
EPID:6600	Epidemiology of Chronic Diseases	3
EPID:6640	Epidemiology of Maternal and Infant Health	2
EPID:6650	Cardiovascular Disease Epidemiology	3
EPID:6670	Psychiatric Epidemiology	3
EPID:6700	Cancer Epidemiology and Control	3
DPH:6004	Principles of Oral Epidemiology	3
GEOG:3110	Geography of Health	3

Health Services Epidemiology

Code	Title	Hours
EPID:4990	Practicing Evidence-Based Public Health	3
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3
EPID:6920	Applied Administrative Data Analysis	2
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7600	Advanced Biostatistics Seminar	3
CBH:6205	Designing and Implementing Interventions	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PHAR:7100	Translational Research and Clinical Drug Development	3

Informatics

Code	Title	Hours
EPID:4450	Public Health Data	2
EPID:5200	Principles of Public Health Informatics	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
HMP:5315	Health Information Systems	3
HMP:5370	Health Informatics I	3

Nutrition Science

Code	Title	Hours
EPID:6330	Global Nutrition Policy	3
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6370	Nutrition Intervention in Research Lab	3

Outcomes and Health Services Research

Code	Title	Hours
HMP:5410	Health Economics I	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3

Pharmacy Science

Code	Title	Hours
PHAR:5310	Pharmaceutical Socioeconomics Seminar	1
PHAR:5350	Introduction to Research Methods	3

PHAR:6305	Foundation Literature in Pharmaceutical Socioeconomics	3
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Statistical Methods

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology web page.

Applicants must hold a doctoral-level degree in a clinical discipline (e.g., M.D., D.O., D.D.S., Ph.D., Pharm.D., D.V.M.) or be enrolled in the Medical Scientist Training Program [p. 1574] (Carver College of Medicine). They must hold a baccalaureate degree with a cumulative g.p.a. of at least 3.00; foreign-trained applicants must have an outstanding doctoral training record evidenced by research publications.

Test of English as a Foreign Language (TOEFL) scores are required for international students except permanent residents or those who have earned a degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand. The recommended minimum score is 100.

Applicants are considered based on their credentials, prior training, and research training plans. Applicants with deficiencies in one area may be admitted if all other components of their application are strong. Individuals must have a sponsoring department.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Application deadlines for fall admission are June 1 for U.S. citizens, April 15 for international applicants. For summer admission, the deadline is April 1; for spring admission, December 1.

Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

Epidemiology, M.S.

Requirements

The Master of Science program in epidemiology requires at least 39 s.h. of graduate credit and is offered with or without thesis. Students who choose to complete the degree without thesis are required to pass a comprehensive examination. All students must maintain a g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of course work may be dismissed from the program.

Students are required to attend 80 percent of all Department of Epidemiology seminar meetings and journal club meetings for three semesters. They must present one scientific poster at the departmental level before they may graduate, and the department recommends that they present at the international, national, regional, state, or University level before graduating.

The Master of Science with a major in epidemiology requires the following course work.

Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:5925	Epidemiology Journal Club: Evaluating the Literature	0
EPID:6400	Epidemiology II: Advanced Methods	4
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall semester for 0 s.h. and in the spring semester for 1 s.h.)	1
One of these:		
PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4
One of these:		
EPID:6550	Epidemiology of Infectious Diseases	3
EPID:6600	Epidemiology of Chronic Diseases	3

One of these:		
EPID:5950	Preceptorship in Epidemiology (for nonthesis students)	3
EPID:7000	Thesis/Dissertation (for thesis students; may be taken twice)	3

Electives

Students must earn a minimum of 5 s.h. in elective course work from Department of Epidemiology courses (prefix EPID) and 2 s.h. in additional graduate course work pertinent to a student's educational goals and background (the additional 2 s.h. may be earned in an epidemiology course or in another graduate course, with the advisor's approval). The following courses are recommended.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
CBH:5220	Health Behavior and Health Education	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

Students may need additional elective course work in order to complete the minimum 39 s.h. required for the degree.

Undergraduate Degree/M.S.

The Undergrad to Grad Program provides an opportunity for University of Iowa students interested in health science to earn both their undergraduate and a M.S. degree in epidemiology in five years. Undergraduate students apply to the program by February 1 of their junior year.

For additional information, visit M.S. in Epidemiology-Undergrad to Grad on the College of Public Health website.

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology web page.

The epidemiology faculty considers several factors when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point average, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

All applicants must hold a baccalaureate degree and have a cumulative g.p.a. of at least 3.00. Undergraduate preparation must include two semesters of biological sciences and mathematics through algebra. Course work in statistics is highly recommended.

Applicants must have taken the Graduate Record Examination (GRE) General Test, the Medical College Admission Test (MCAT), or the Dental Admission Test (DAT), scoring above the 50th percentile, within four years before applying to the epidemiology program. The department prefers recent test

scores, particularly for applicants who completed educational programs and/or courses after taking one of these tests.

Those whose first language is not English and who do not hold a baccalaureate degree or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses. Applicants who score below 81 are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All applicants and students are required to have strong written and oral communication skills.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Application deadlines for fall admission are June 1 for U.S. citizens, April 15 for international applicants.

Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

Career Advancement

The program prepares graduate students for professional careers in which specialized knowledge of epidemiological methods and analytic techniques are essential. Graduates find employment in local, state, and federal health agencies; academic institutions; and private enterprise, such as hospitals, pharmaceutical and device companies, insurance companies, and foundations.

Epidemiology, Ph.D.

Requirements

The Doctor of Philosophy program in epidemiology requires a minimum of 78 s.h. of graduate credit. Graduate students in epidemiology must maintain a g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of course work may be dismissed from the program.

All doctoral students must successfully complete a qualifying examination, a comprehensive examination, a dissertation prospectus, and a dissertation. The research topic and content, which vary depending on the program of study, must be approved by a student's dissertation committee. Other degree requirements include approved electives chosen from Department of Epidemiology courses (prefix EPID) and other University of Iowa courses.

Students are required to attend 80 percent of all Department of Epidemiology seminar meetings and journal club meetings for five semesters; attendance during a student's enrollment in the M.S. program does not count toward this requirement. Students also must present a departmental seminar on their dissertation research and an oral presentation or scientific poster presentation at the international, national, regional, state, or University level before they may graduate.

The Doctor of Philosophy with a major in epidemiology requires the following course work.

Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Students earn 41-43 s.h. in the required core, as follows.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:5925	Epidemiology Journal Club: Evaluating the Literature	0
EPID:6050	Research in Epidemiology	3
EPID:6100	Writing a Grant Proposal	3
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:7400	Epidemiology III: Theories	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2

CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall semester for 0 s.h. and in the spring semester for 1 s.h.)	1
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One of these:

BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

One of these:

PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4

One of these:

HHP:3500	Human Physiology	3
MPB:5153	Graduate Physiology	4

Electives

Students must earn 24-28 s.h. of elective course work, of which at least 3 s.h. must be from Department of Epidemiology courses (prefix EPID) and outside their interest area.

With their advisor, students develop a plan of study that ensures substantive knowledge in a specific area in order to generate important original research. The department has many areas of research strength and several recommended plans of study.

Dissertation

All doctoral students must successfully complete a Ph.D. thesis.

Code	Title	Hours
EPID:7000	Thesis/Dissertation	10-18

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology web page.

The epidemiology faculty considers several factors when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point average, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

All applicants must hold a baccalaureate degree (an M.S. or M.P.H. usually is required) and must have a cumulative g.p.a. of at least 3.00. Courses in the biological, physical, and mathematical sciences provide important background; one semester of calculus, one semester of statistics or biostatistics, and two semesters of biological sciences are highly recommended. Computing skills also are desirable.

Applicants must have taken the Graduate Record Examination (GRE) General Test, the Medical College Admission Test (MCAT), or the Dental Admission Test (DAT), scoring above

the 50th percentile, within four years before applying to the epidemiology program. The department prefers recent test scores, particularly for applicants who completed educational programs and/or courses after taking one of these tests.

Those whose first language is not English and who do not hold a baccalaureate degree or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses. Applicants who score below 81 are not considered for admission. In place of TOEFL scores, the department accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0.

All applicants and students are required to have strong written and oral communication skills.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

The application deadline for fall admission is April 1.

Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Scholarships for incoming students are available; for information, visit the Department of Epidemiology website.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

Career Advancement

The program prepares graduate students for careers as scientists, teachers, and practitioners of epidemiologic methods. Employment opportunities exist in academic institutions; local, state, and federal health agencies; and in private enterprises.

Health Management and Policy

Head

- Keith Mueller

Graduate degrees: M.H.A.; M.S. in health policy; Ph.D. in health services and policy

Faculty: <https://www.public-health.uiowa.edu/hmp-faculty-list/>

Website: <https://www.public-health.uiowa.edu/hmp/>

The Department of Health Management and Policy educates health care professionals for leadership roles in an increasingly complex and dynamic health care system. Graduates hold key executive, academic, research, government, and consulting positions in all areas of health management and policy, both in the United States and abroad.

The department offers the M.H.A. in a traditional program track and an executive track. It also collaborates with the Tippie College of Business and the College of Law to provide combined M.H.A./graduate and professional degree programs. In addition, the M.S. in health policy, the policy subprogram for the Master of Public Health (M.P.H.), the Ph.D. in health services and policy, and the graduate Certificate in Healthcare Management [p. 1777] are offered.

The department's degree programs rank among the foremost in the field. The M.H.A. is accredited by the Commission on Accreditation of Healthcare Management Education. The Ph.D. program, established in 1950, was the nation's first doctoral program in health care management.

M.P.H. Subprogram

The subprogram prepares individuals for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates find positions in federal, state, and local government as well as in professional associations and private agencies. See the Master of Public Health [p. 1732] in the Catalog.

Alumni Relations

An active alumni association with more than 1,000 members supports the M.H.A. program in a number of ways including scholarships, consultation on curriculum, continuing education, research, and fund development. Alumni serve as visiting faculty, consultants, mentors, and preceptors for summer internships, residencies, and fellowships. The alumni association also provides a network for graduates entering the profession.

Graduates maintain their Iowa connection and learn about news of their classmates, the department, and faculty members and students through the website and social media.

Samuel Levey Healthcare Leadership Symposium

The Department of Health Management and Policy and its alumni association jointly sponsor the annual Samuel Levey Healthcare Leadership Symposium, which is now held in the spring. Renowned speakers from across the country present a variety of symposium topics. Health care leaders, alumni, educators, students, and friends of the department attend the

symposium, which offers students a high quality educational experience in addition to the opportunity to network with faculty and alumni.

Programs

Graduate Programs of Study

Majors

- Master of Health Administration [p. 1770]
- Master of Science in Health Policy [p. 1772]
- Doctor of Philosophy in Health Services and Policy [p. 1773]

Facilities

The Center for Health Policy and Research, the research arm of the Department of Health Management and Policy, is a University-wide interdisciplinary research facility. Faculty members from the Carver College of Medicine, the Tippie College of Business, and the Colleges of Dentistry, Liberal Arts and Sciences, Nursing, Pharmacy, and Public Health serve as investigators in a variety of studies at the center. Graduate students assist with ongoing research projects.

Primary project funding for the center comes from the National Institutes of Health, the State of Iowa, the Agency for Healthcare Research and Quality, and the Patient-Centered Outcomes Research Initiative, as well as from foundations and private organizations.

The center also sponsors educational activities and promotes collaboration among health organizations through frequent exchanges with professional and provider associations, policy and planning groups, insurance organizations, health delivery institutions, and other members of the health services research community.

Courses

Health Management and Policy Courses

HMP:3055 International Development: India Winterim 2-3 s.h.

Exploration of issues in India through varied disciplinary lenses. Winter session.

HMP:4000 Introduction to the U.S. Health Care System 3 s.h.

The U.S. health care system; socioeconomic, political, and environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy, concepts, terminology.

HMP:5000 Professional Development Seminar 0-1 s.h.

Development of critical foundational management skills: business writing, personal presentation, teamwork, providing feedback, self-assessment, engaging other professionals, and organizational ethics.

HMP:5001 Interprofessional Health Care Administration I 3 s.h.

Concepts and methods related to developing and leading interprofessional teams; emphasis on roles and responsibilities in health care teams, communication, and conflict management; team development.

HMP:5002 Interprofessional Health Care Administration II 3 s.h.

Concepts and methods related to developing and leading interprofessional teams with an emphasis on values and ethics, including human resources concepts and skills, and building an organizational culture that supports interprofessional collaborative practice. Prerequisites: HMP:5001.

HMP:5005 Introduction to Healthcare Organization and Policy 3 s.h.

Organization of U.S. healthcare system, health policies that shape its development; historical, socioeconomic, political, environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy concepts, and terminology, including health determinants, access to care, system integration, policy development, federalism.

HMP:5200 Healthcare Management 3 s.h.

Application of basic management principles such as leadership, goal setting, decision making, and human resource management to healthcare organizations.

HMP:5230 Managerial Epidemiology 1 s.h.

Relationship between health care needs and utilization; emphasis on epidemiological concepts related to presence of disease and health care needs in a community; approaches to forecasting need and utilization of services.

HMP:5291 Performance Improvement in Healthcare 1-3 s.h.

General lean and six sigma principles; application to healthcare solutions; examples from University of Iowa Hospitals and Clinics, other institutions.

HMP:5310 Healthcare Quality Management 2-3 s.h.

Fundamentals of patient safety, quality improvement techniques, performance measurement approaches, and analytical tools including data collection methodologies used by managers in healthcare and public health settings.

HMP:5315 Health Information Systems 2-3 s.h.

Conceptual, practical aspects of analysis, development, and use of computer-based information systems; emphasis on application to the health sciences environment.

HMP:5320 Analytics for Healthcare Management 3 s.h.

Introduction to analytical techniques for making business decisions with emphasis on health care; using Excel and associated tools in practical problem solving; probability and statistical concepts and applications in strategic settings.

HMP:5342 Lean Six Sigma in Health Care 2-3 s.h.

Managerial approach combining Six Sigma methods and tools with lean manufacturing enterprise philosophy; eliminating waste of physical resources, time, effort, and talent while assuring quality in production and organizational processes; provides basic understanding of Six Sigma and Lean and DMAIC process (Six Sigma structure); application of basic tools to reduce waste while augmenting satisfaction among health care customers.

HMP:5350 Hospital Organization and Management 2-3 s.h.

Role of hospitals, governance, organizational structure, medical staff organization, departmental operations. Prerequisites: HMP:5005 and HMP:5200.

HMP:5370 Health Informatics I 3 s.h.

Technological tools that support health care administration, management, and decision making. Same as IE:5860, IGPI:5200, MED:5300, SLIS:5900.

HMP:5402 Corporate Financial Reporting arr.

Introduction to accounting concepts, principles, and analyses; contemporary financial reporting practices with emphasis on preparation, analysis, and use of financial statement information for management decisions; fundamentals of accounting measurement and disclosure.

HMP:5410 Health Economics I 3 s.h.

Microeconomic principles applied to health care, health insurance, information and uncertainty, models of physician and hospital behavior, theory of the firm, market structure, regulation, competitive reform, managed care.

HMP:5450 Health Insurance and Managed Care 3 s.h.

History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: HMP:5005. Corequisites: PHAR:6330 or HMP:5410. Same as GHS:5455.

HMP:5610 Health Policy 1-3 s.h.

Policy process, policies and programs that shape provision of health care in the United States; health policies such as Medicare, Medicaid, Older Americans Act.

HMP:5611 Contemporary Issues in Health Policy 0-1 s.h.

Current content, ethical perspectives, empirical research, and professional development in health policy; evaluation of health policy issues from a variety of theoretical perspectives; students assist with identification and recruitment of individual experts. Prerequisites: HMP:5610 and HMP:5650.

HMP:5650 Health Policy Analysis 3 s.h.

Introduction to analysis of contemporary health policy issues; frameworks for conducting analysis of health policy process and content; qualitative and quantitative methods for policy analysis; how to present policy-relevant information effectively. Prerequisites: HMP:5005.

HMP:5750 Medicare and Medicaid Policy 3 s.h.

Health policies most pertinent to Americans over age of 65. Same as ASP:5750.

HMP:5810 M.H.A. Internship arr.**HMP:6055 Topics in Health Administration** 1-3 s.h.

Topics related to contemporary problems that concern health care students, administrators.

HMP:6110 Strategic Planning and Marketing 3-4 s.h.

Strategy in health care including role of mission, vision, values, environmental analysis, strategic alternatives, organizational design, and evaluation of strategic decisions. Prerequisites: HMP:5200.

HMP:6150 M.H.A. Integrative Capstone 2-3 s.h.

Integration and application of theories, concepts, principles; case studies. Prerequisites: HMP:5200 and HMP:6110.

HMP:6255 History and Health Policy in the U.S. arr.

Books, articles, other readings on history of the medical and nursing professions, evolution of the hospital and other key sectors of the health economy; health policy issues and their implications.

HMP:6310 Human Resources Management in Healthcare 1-3 s.h.

Overview of human resource management theories and practices for health care organizations; strategic human resource management, equal employment, staffing, training and development, appraisal, compensation. Prerequisites: HMP:5200.

- HMP:6315 Healthcare Ethics** 1-2 s.h.
Biomedical and organization ethics in the contemporary healthcare environment; ethical concepts and principles, ethical issues that confront executive, clinical, and governance leaders in context of complex health organizations.
- HMP:6350 Medical Practice Administration** 3 s.h.
Survey of medical practice culture, operations, governance, financials, role(s) in health care system, and future. Prerequisites: HMP:5005 and HMP:5200.
- HMP:6355 Leadership of Healthcare Organizations** 2-3 s.h.
Management and leadership concepts and their application in healthcare organizations. Prerequisites: HMP:5200.
- HMP:6360 Nonprofit Organizational Effectiveness I** 3 s.h.
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as LAW:8751, MGMT:9150, RELS:6070, SPST:6010, SSW:6247, URP:6278.
- HMP:6365 Nonprofit Organizational Effectiveness II** 3 s.h.
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for LAW:8752—LAW:8751; for HMP:6365—HMP:6360 or MGMT:9150. Same as LAW:8752, MGMT:9160, RELS:6075, SPST:6020, SSW:6248, URP:6279.
- HMP:6410 Healthcare Financial Management** 3 s.h.
Issues in working capital management, capital financing, cost analysis and rate setting, budgeting, reimbursement, managed care contracting and health reform initiatives; emphasis on use of information from accounting, financial management systems.
- HMP:6610 Legal Aspects of Healthcare** 3 s.h.
Statutory and common law frameworks applicable to healthcare system; court decisions that illustrate applications of general legal doctrines in hospital and health settings.
- HMP:6710 Federalism and Health Policy** 3 s.h.
How American government's organization shapes development and implementation of health policy, programs, services.
- HMP:6750 Seminar in Health Policy** 2-3 s.h.
Contemporary health policy issues; theoretical and applied perspectives; social justice and health care for vulnerable populations (e.g., mental health, nursing homes); readings, discussion. Prerequisites: HMP:5610.
- HMP:6850 Independent Study and Research** arr.
Supervised tutorial.
- HMP:6855 Administrative Practicum** 2-3 s.h.
Experience with operational and planning matters in a health care setting. Requirements: second-year standing and g.p.a. of at least 3.00 for two consecutive semesters.
- HMP:6860 Administrative Residency/Fellowship** arr.
- HMP:7250 Organizational Behavior and Theory in Health Care** 3 s.h.
Key concepts of organizational behavior and organizational theory and their application to health care organizations and health services; perspectives from theoretical writings and empirical studies. Requirements: Ph.D. standing and knowledge of human services organizations.
- HMP:7550 Cost Effectiveness and Decision Analysis** 3 s.h.
Methods of cost-effectiveness analysis and decision analysis; applications to resource allocation decisions in public health and medicine.
- HMP:7910 Seminar in Contemporary Health Issues** 0 s.h.
Review of relevant literature on methodological substantive issues in health care, presentations by researchers on health services and policy research.
- HMP:7920 Ph.D. Guided Research** 1-3 s.h.
Experience with empirical research, guided by a faculty mentor; structured and supervised research activities.
- HMP:7930 Ph.D. Independent Research** 1-3 s.h.
Experience in empirical research through one or more substantive research experiences, with faculty mentor; authorship or coauthorship of at least one manuscript suitable for publication in peer review journal. Requirements: Ph.D. in health services and policy and satisfactory completion of Ph.D. preliminary exams.
- HMP:7940 Primary Data and Mixed Methods** 3 s.h.
Overview of research design and methods used to address health services research questions; collection of primary data and use of qualitative and mixed methods approaches.
- HMP:7950 Design Issues in Health Service Research** 3 s.h.
Design and causal inference reliability and validity in measurement; rules of evidence; research design for randomized-control trials, observational studies, meta-analysis.
- HMP:7960 Analytic Issues in Health Services Research I** 3 s.h.
Analytic tools used in health services research; focus on applications in nonexperimental research settings, such as analyses using administrative claims data or preexisting public use data sets.
- HMP:7965 Analytic Issues in Health Services Research II** 3 s.h.
Continuation of HMP:7960; advanced applications, including panel data and qualitative response models. Prerequisites: HMP:7960. Same as PHAR:7331.
- HMP:7970 Seminar in Instruction and Professional Development** 1-3 s.h.
Opportunity for Ph.D. students to develop research and teaching skills through presentations, readings, and workshops on professional development topics. Requirements: satisfactory completion of Ph.D. preliminary exams.
- HMP:7990 Thesis/Dissertation** arr.
Research for preparation of dissertation; seminar presentation.

Master of Health Administration, M.H.A.

Requirements

The Master of Health Administration (M.H.A.) requires 60 s.h. of graduate credit earned in two academic years of full-time study. Transfer credit and course waivers may be accepted, but all students are expected to complete a minimum of 54 s.h. at the University of Iowa during their course of study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

The program prepares students for a wide variety of positions in health care management. It is designed to provide a comprehensive understanding of issues encountered by health care delivery organizations, and strong business skills. Graduates are well prepared to advance to senior executive roles in a variety of health care organizations.

Students work with their advisors to create a plan of study that incorporates required and elective course work that supports their career goals in areas such as operations management, managed care, or financial management. Required courses in management, economics, law, managerial finance, and financial accounting focus on health care applications. Students also may take course work in other University of Iowa departments and programs, such as business, urban and regional planning, and aging and longevity studies.

During the first year, students are introduced to the social, political, economic, and financial environments of health care organizations. The concepts, tools, and techniques necessary for effective management also are presented. During the second year, courses focus on in-depth health care applications of management concepts that integrate prior course work and develop skills in areas relating to students' special interests and career objectives.

The Master of Health Administration requires the following course work.

Core Courses

Code	Title	Hours
All of these (51 s.h.):		
HMP:5000	Professional Development Seminar (taken four times for 1 s.h. each)	4
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5200	Healthcare Management	3
HMP:5230	Managerial Epidemiology	1
HMP:5291	Performance Improvement in Healthcare	2
HMP:5310	Healthcare Quality Management	2
HMP:5315	Health Information Systems	2
HMP:5320	Analytics for Healthcare Management	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5810	M.H.A. Internship	1

HMP:6110	Strategic Planning and Marketing	3
HMP:6150	M.H.A. Integrative Capstone	3
HMP:6310	Human Resources Management in Healthcare	1
HMP:6315	Healthcare Ethics	1
HMP:6355	Leadership of Healthcare Organizations	2
HMP:6410	Healthcare Financial Management	3
HMP:6610	Legal Aspects of Healthcare	3
CPH:6100	Essentials of Public Health	2
MBA:8140	Corporate Financial Reporting	3
MBA:8180	Managerial Finance	3

Electives

Students choose 9 s.h. of elective course work; they may count a maximum of 6 s.h. of elective credit earned outside the Department of Health Management and Policy toward the M.H.A. degree.

Summer Internships, Fellowships, Residencies

The department facilitates placement of M.H.A. students in required summer internships between the first and second years of study. Internships offer opportunities for practical experience interacting with executives in a health care setting. Internships are full-time positions that usually last 10-12 weeks. Students normally receive a salary or stipend, and in some cases, assistance with living arrangements.

Most M.H.A. students complement their academic training with a postgraduate fellowship or residency. Such experiences provide opportunities to observe, develop, and demonstrate management skills and to develop connections with colleagues. The department takes an active role in helping students identify and secure fellowship and residency positions.

Executive M.H.A. Subprogram

The executive Master of Health Administration subprogram (EMHA) requires 45 s.h. of graduate credit and typically is completed in two years. The plan of study is designed for working professionals who wish to advance their knowledge and skills in order to become effective health care administrators. The EMHA objectives are to:

- provide working professionals with advanced knowledge and skills in health care management;
- position experienced professionals to become effective health care administrators; and
- meet the need for leadership in transforming health care financing and delivery in dynamic environments.

The EMHA's curricular emphases are basic administrative skills, administrative skills specific to health care, population health administration, and interprofessional health care administration.

Students complete three courses each fall and spring semester and one course in each of two summer sessions. Courses are taught face-to-face on Iowa City and Des Moines campuses by combinations of expert executives and faculty. Instruction is case- and team-focused.

The Master of Health Administration (executive M.H.A. subprogram) requires the following course work.

Code	Title	Hours
HMP:5001	Interprofessional Health Care Administration I	3
HMP:5002	Interprofessional Health Care Administration II	3
HMP:5200	Healthcare Management	3
HMP:5230	Managerial Epidemiology	1
HMP:5310	Healthcare Quality Management	2
HMP:5315	Health Information Systems	2
HMP:5320	Analytics for Healthcare Management	3
HMP:5342	Lean Six Sigma in Health Care	3
HMP:5402	Corporate Financial Reporting	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:6110	Strategic Planning and Marketing	3
HMP:6150	M.H.A. Integrative Capstone	2
HMP:6355	Leadership of Healthcare Organizations	3
HMP:6410	Healthcare Financial Management	3
HMP:6610	Legal Aspects of Healthcare	3
CPH:6100	Essentials of Public Health	2
Total Hours		45

For more information, visit the Executive M.H.A. page on the College of Public Health website.

Combined Programs

Students interested in combining an M.H.A. with a master's or professional degree in another field should discuss their plans with both academic units and indicate their interest when they apply to the M.H.A. program.

M.H.A./J.D.

The combined Master of Health Administration with a law subprogram/Juris Doctor requires 123 s.h. of postbaccalaureate credit. The program allows students to gain training in both health care management and law. Students typically complete the program in four years; they enroll only in law courses during the first year.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor [p. 1518] (College of Law) in the Catalog.

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS) or the Health Administration, Management & Policy Centralized Application Service (HAMPCAS). All applicants also must submit the supplemental University of Iowa application fee. For detailed application

information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students begin the program in fall semester. Personal interviews are required before admission; the admissions committee conducts Skype interviews with applicants unable to visit campus.

Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health services research and management projects. Graduate research assistants work 10 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

Health Policy, M.S.

Requirements

The Master of Science program in health policy requires 48 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. They learn how to quickly identify, evaluate, and formulate policies, and conduct quantitative and qualitative health policy research. These skills are developed through a combination of course work and applied learning opportunities, including special lectures and conferences.

The M.S. with a major in health policy requires the following course work.

Core Courses

Code	Title	Hours
All of these (39 s.h.):		
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6710	Federalism and Health Policy	3
HMP:6750	Seminar in Health Policy	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7950	Design Issues in Health Service Research	3
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken twice.; once for 0 s.h. and once for 1 s.h.)	1
EPID:4400	Epidemiology I: Principles	3

Electives

Students choose 6 s.h. of elective course work.

Thesis

Students complete 3 s.h. of thesis work in the following course.

Code	Title	Hours
HMP:7990	Thesis/Dissertation	3

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS). All applicants also must submit the supplemental University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students begin the program in fall semester. Campus visits are encouraged.

Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health policy research and management projects. Graduate research assistants work 10 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

Career Advancement

Graduates will have acquired the subject matter expertise and methodological skills sought by academic institutions, government agencies, and private and nonprofit organizations engaged in health policy analysis, development, and implementation. Additionally, graduates will be prepared to pursue doctoral studies in health policy, health services research, and other closely related fields.

Health Services and Policy, Ph.D.

Requirements

The Doctor of Philosophy program in health services and policy requires a minimum of 75 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.25 to earn the degree. Those who enter with a master's degree can apply to use transfer credit toward their doctorate degree with approval of the health services and policy program.

The Ph.D. program is oriented toward applied, interdisciplinary research and scholarly inquiry. Students develop mastery of theories and research methodologies necessary to study the complex American health system. They work closely with faculty mentors on research projects and develop research design and methodology skills through course work and an apprenticeship model of training.

Individual plans of study allow students to prepare for specific careers, and small class size encourages frequent student-faculty interaction, including participation in research projects as well as scholarly publications.

The Ph.D. program has three focus areas: health economics, health management and organization, or health policy. Students work with a faculty advisor and a mentorship team of faculty members from their focus area; the advisor and mentorship team participate in initial planning with a student during orientation and in annual professional development reviews. Students conduct required independent study and thesis research in their focus area; their comprehensive exam and dissertation committees include faculty members from their focus area.

Focus Areas

The health economics focus area provides students with in-depth training in economic theory and its applications to health and health care. Students in this area acquire advanced theoretical knowledge and state-of-the-art analytical and econometric skills that enable them to build careers as health economists in academic departments, research organizations, and health care industries. The health economics focus area provides comprehensive course work covering all main areas in health and health care economics, including demand for health and health care, economic determinants and consequences of health behaviors, health insurance, economic organization of health care markets, impact of government policy and regulation, econometric methods, and economic evaluation methods.

The health management and organization focus area prepares students to conduct research on organizational, strategic, and operational issues that confront health institutions and systems. Emphasis is placed on health care applications of theories, concepts, and models from the fields of organizational theory (macro), organizational behavior (micro), strategic management, and operations management. Students in this area may conduct research on topics such as effectiveness of health care organizations; improving the organization and management of health delivery processes; measuring performance and productivity of health care organizations; examining the relative influence of mission, culture, and financial incentives in hospitals and health organizations; and management of professional groups.

Graduates of the health management and organization focus area should find employment in academic and research organizations, integrated delivery systems, and governmental units that are interested in the impact of organizational structures and managerial practices on performance.

The health policy focus area prepares students to undertake health services and policy research aimed at improving care and management of illness and disability and enhancing individual and community health outcomes. Students develop the skills necessary to conduct health services and policy research. They take courses in the basic disciplines that contribute to the fields of public and social policy (e.g., law, political science, public affairs) and courses that focus on the structure and organization of health policy making in the United States. They study the formation and implementation of health policies; the effect of health policies on the organization, financing, and delivery of health services; the effect of health policies on access to, use of, and costs of health services; and approaches to improve access and effectiveness of care for vulnerable populations. Students who complete the health policy focus area are prepared for employment in academic research institutions, policy organizations, and governmental agencies and departments.

The Ph.D. with a major in health services and policy requires the following.

Course Work

Students take course work in core content areas covering health care systems, health economics, health management and organizations, and health policy and courses in research design and statistical analysis. Credit may be awarded for guided and independent research project work. Students may waive specific courses, depending on their background. For more detailed information about Ph.D. and focus area curricula, visit the Ph.D. in Health Services and Policy on the Department of Health Management and Policy website.

Core Courses

Code	Title	Hours
All of these:		
HMP:5450	Health Insurance and Managed Care	3
HMP:7910	Seminar in Contemporary Health Issues (taken for eight semesters)	0
HMP:7970	Seminar in Instruction and Professional Development	1-3
CPH:6100	Essentials of Public Health	2
EPID:4400	Epidemiology I: Principles	3

Foundation Courses in Focus Areas

Code	Title	Hours
All of these:		
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5750	Medicare and Medicaid Policy	3
HMP:7250	Organizational Behavior and Theory in Health Care	3

HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7930	Ph.D. Independent Research	3

Design and Analysis Courses

Code	Title	Hours
All of these:		
HMP:7940	Primary Data and Mixed Methods	3
HMP:7950	Design Issues in Health Service Research	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3
HMP:7990	Thesis/Dissertation	8-15
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:7270	Principles of Scholarly Integrity: Public Health (must be taken twice; in the first semester for 0 s.h., in the second semester for 1 s.h.)	0-1

Advanced Focus Area Courses

Health Economics

Code	Title	Hours
At least three of these:		
ECON:4140	Labor Economics	3
ECON:5100	Microeconomics I	3
ECON:6310	Industrial Organization	3
ECON:6900	Contemporary Topics in Economics	3

Health Management and Organization

Code	Title	Hours
At least three of these:		
MGMT:7330	Staffing Organizations (Ph.D.)	3
MGMT:7340	Group Processes (Ph.D.)	3
MGMT:7350	Leadership (Ph.D.)	3
MGMT:7360	Motivation and Attitudes (Ph.D.)	3
SOC:6610	Complex Organizations	3

Health Policy

Code	Title	Hours
Both of these:		
HMP:5650	Health Policy Analysis	3
HMP:6750	Seminar in Health Policy	3
At least one of these:		
HMP:6710	Federalism and Health Policy	3
POLI:5100	American Politics	4
POLI:7202	Public Opinion and Electoral Behavior	4
SOC:6810	Social Stratification	3

Electives

Students take elective course work so that they are exposed to other areas or to gain greater depth within their area of focus.

Examinations

Students must pass a preliminary examination that tests mastery of core material covered during the first year in the department, including American health systems, health services research methods, and foundation courses in their focus area.

Students take the comprehensive examination at or near the end of their formal course work. The comprehensive exam focuses on a student's specific area of research and theoretical interest.

Dissertation

Doctoral candidates prepare dissertations based on original research that tests, extends, or applies concepts or principles to a health care problem related to their chosen focus area. Students may complete a traditional dissertation or a dissertation based on three publishable papers.

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS). All applicants also must submit the supplement University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College.

Students begin the program in fall semester. Personal interviews are required before admission; the admissions committee conducts Skype interview with applicants.

Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health services research and management projects. Graduate research assistants work 10-20 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

Career Advancement

The program prepares students for careers in health services research, education, and policy leadership in universities, government agencies, and health organizations.

Healthcare Management

Head, Department of Health Management and Policy

- Keith Mueller

Director

- Ian Montgomery (Health Management and Policy)

Graduate certificate: healthcare management

Website: <https://www.public-health.uiowa.edu/healthcare-management-certificate/>

The certificate program in healthcare management provides foundational business and leadership skills to physicians, nurses, and other clinicians, and managers. The Certificate in Healthcare Management is administered by the Department of Health Management and Policy [p. 1767]. The Graduate College grants the certificate.

Programs

Graduate Program of Study Certificate

- Certificate in Healthcare Management [p. 1777]

Healthcare Management, Graduate Certificate

The graduate Certificate in Healthcare Management requires a minimum of 15 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 in order to earn the certificate. The required courses provide foundational business and leadership skills to physicians, nurses, other clinicians, and managers.

Students complete five health care courses from the Master of Health Administration (M.H.A.) curriculum over a period of 15 months. Courses are offered in five-week blocks at University of Iowa campuses in Iowa City and Des Moines. Enrollment is limited to 10 students.

The Certificate in Healthcare Management requires the following course work.

Code	Title	Hours
HMP:5200	Healthcare Management	3
HMP:5402	Corporate Financial Reporting	3
HMP:5610	Health Policy	3
HMP:6355	Leadership of Healthcare Organizations	3
HMP:6410	Healthcare Financial Management	3

For more information, visit the Graduate Certificate in Healthcare Management web page.

Occupational and Environmental Health

Head

- Peter S. Thorne

Graduate degrees: M.S. in occupational and environmental health; Ph.D. in occupational and environmental health

Faculty: <https://www.public-health.uiowa.edu/oeh-faculty-list/>

Website: <https://www.public-health.uiowa.edu/oeh/>

The Department of Occupational and Environmental Health focuses on assessment of risk factors in the physical environment and their relationship to disease—particularly health problems of agricultural and industrial workers. Students are guided by faculty members whose research interests include rural health care delivery, agricultural health, environmental health, occupational medicine, occupational lung disease, mammalian toxicology, inhalation toxicology, ergonomics, indoor air quality, occupational injury, injury epidemiology, injury prevention programs, aerosol physics, air and water quality, environmental chemistry, analytical toxicology, and environmental health in developing countries.

In addition to the M.S. and Ph.D. degrees in occupational and environmental health, the department offers a subprogram for the Master of Public Health (M.P.H.) degree in occupational and environmental health. The subprogram provides students with a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health. Students have the option of selecting focused course work in the following areas: global environmental health, occupational health, rural health and safety, injury and violence prevention, and environmental and occupational epidemiology. For more information, see the Master of Public Health [p. 1732] in the Catalog.

The department also offers the College of Public Health's graduate Certificate in Agricultural Safety and Health; see Agricultural Safety and Health [p. 1740] in the Catalog.

Individuals who are not enrolled in one of the department's degree programs but wish to take courses offered by the department may apply for professional improvement status.

Residency Program

In cooperation with University of Iowa Hospitals and Clinics, the department offers residency training in occupational medicine for physicians seeking specialty training in occupational medicine. For information contact the director of the Occupational Medicine Residency Program.

Programs

Graduate Programs of Study

Majors

- Occupational and environmental health subprogram for the Master of Public Health [p. 1732] degree
- Master of Science in Occupational and Environmental Health [p. 1781]
- Doctor of Philosophy in Occupational and Environmental Health [p. 1784]

Facilities

The Department of Occupational and Environmental Health is housed in the College of Public Health Building, on the University's health sciences campus, and at the Institute for Rural and Environmental Health, at the University of Iowa Research Park. College of Public Health-based laboratory facilities give researchers and students access to cutting-edge technologies for the study of occupational and environmental health.

Pulmonary Toxicology Facility

The Pulmonary Toxicology Facility provides a full array of inhalation toxicology, aerosol science, and bioaerosol assay services. A primary focus of the facility is the study of toxicants found in the agricultural environment and related exposure situations. The facility is particularly well-equipped for studying organic dusts and bioaerosols.

Industrial Hygiene Laboratory

The Industrial Hygiene Laboratory provides expertise and equipment for exposure assessment in occupational settings. The laboratory offers a range of sample collection capabilities and an extensive inventory of sampling equipment. Field and laboratory services are available through laboratory support exposure-response studies and control technology development studies in a variety of occupational arenas, including agriculture, construction, and indoor environments (home and office).

A computer laboratory is available for student use, and a library collection is located at the Institute for Rural and Environmental Health.

Heartland Center for Occupational Health and Safety

The Heartland Center for Occupational Health and Safety, one of 18 education and research centers funded by the National Institute of Occupational Safety and Health, provides training, education, and outreach. Its program areas are industrial hygiene, occupational medicine, ergonomics, agricultural safety and health, occupational injury prevention, occupational epidemiology, and continuing education.

Courses

Occupational and Environmental Health Courses

OEHS:4240 Global Environmental Health 3 s.h.

Environmental health comprised of aspects of human health determined by interactions with physical, chemical, biological, and social factors in global environment; worldview and survey; focus on issues most relevant today; sustainability; air, water, and soil pollution and remediation; occupational health; injury prevention; food safety and security; risk assessment; environmental health policy.

OEHS:4260 Global Water and Health 3 s.h.

Overview of global water and health; microbial and toxicant identification, water-related adverse health effects, risk assessment, approaches to reduce water-related disease, distal water-related influences (e.g., global warming), and historic cases. Same as GHS:4260.

OEH:4310 Occupational Ergonomics: Principles 3 s.h.

Fundamentals of ergonomics in context of occupational safety and health practice; topics include work-related musculoskeletal disorders (MSDs), physical risk factors for MSDs, basic occupational biomechanics, office ergonomics and sedentary work, work organization, and task design; emphasis on exposure assessment, with particular attention to methods used commonly in the field; laboratory exercises are used to reinforce key concepts, and students work in teams on an applied project with an area employer.

OEH:4510 Injury and Violence Prevention 3 s.h.

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as CPH:4230, EPID:4510.

OEH:4530 Global Road Safety 3 s.h.

Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as CPH:4220, GHS:4530.

OEH:4540 Statistics for Experimenters 3 s.h.

Application of statistical techniques to evaluate data derived from experimental samples designs; use of spreadsheets, statistical software; design and analysis of experiments; regression analysis; model building; practical applications. Same as CEE:4187.

OEH:4920 Solid and Hazardous Wastes 3 s.h.

Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: for CEE:4158—CEE:2150, for OEH:4920—OEH:4240. Same as CEE:4158.

OEH:5010 Occupational and Environmental Health Seminar 0-1 s.h.

Contemporary topics in occupational health, agricultural and comparative medicine, environmental health.

OEH:5410 Occupational Safety 3 s.h.

Principles and practices of occupational safety; applications in industrial and other occupational settings; interactions with other disciplines.

OEH:5530 Interpreting Occupational and Environmental Health Research 2 s.h.

Tools necessary for making critical assessment of published scientific research reports from a methodological perspective; examples from recently published research studies in occupational and environmental health. Corequisites: EPID:4400.

OEH:5620 Occupational Health 3 s.h.

Principles, practice of occupational medicine, fundamentals of industrial hygiene and safety, occupational health management, ergonomics, occupational health nursing. Offered fall semesters.

OEH:6110 Rural Health and Agricultural Medicine 3 s.h.

Clinical orientation of specific health problems of rural residents, agricultural workers; rural health care delivery, socioeconomic issues in agriculture and their effects on health and safety of the agricultural population; occupational health problems, environmental health hazards in rural areas. Requirements: enrollment in College of Public Health or health sciences.

OEH:6120 Current Topics in Agriculture and Rural Health 0-1 s.h.

Issues that affect the health of agricultural populations, such as agro-terrorism, antibiotic resistance, genetically modified organisms; current scientific literature.

OEH:6130 Agricultural Safety and Health: Practice, Research Methods, and Policy 3 s.h.

Comprehensive overview of regional, national, and global agricultural production and associated public health hazards; solutions to identified hazards. Corequisites: OEH:6110, if not taken as a prerequisite.

OEH:6310 Occupational Ergonomics: Applications 3 s.h.

Advanced course in occupational ergonomics, with emphasis on laboratory measurement and field-based assessment of physical risk factors for work-related musculoskeletal disorders; laboratory exercises build skills in use of surface electromyography to assess muscular load; electrogoniometry, inertial sensors, and optical motion capture to assess human motion; accelerometers to assess whole-body and hand-arm vibration; instruction in data collection methods and digital signal processing; students complete a field-based measurement project in collaboration with an area employer. Prerequisites: OEH:4310 or IE:3450 or BME:5640.

OEH:6420 Methods in Exposure Science 3 s.h.

Principles, with emphasis on recognition of chemical health hazards, physical health hazards at work. Corequisites: OEH:5620, if not taken as a prerequisite.

OEH:6430 Assessing Physical Agent Hazards 3 s.h.

Basic principles of recognizing and evaluating hazards presented by physical agents in occupational environments. Prerequisites: OEH:6420.

OEH:6431 Assessing Noise Hazards 1 s.h.

Scientific methods to measure noise, assess human noise exposure, and implement technology to control noise exposure.

OEH:6432 Assessing Nonionizing Hazards 1 s.h.

Scientific methods to measure nonionizing, assess human nonionizing exposure, and implement technology to control nonionizing exposure.

OEH:6433 Assessing Ionizing Radiation Hazards 1 s.h.

Scientific methods to measure ionizing radiation, assess human ionizing radiation exposure, and implement technology to control ionizing radiation exposure.

OEH:6440 Control of Occupational Hazards 3 s.h.

Physical science concepts applied to control of occupational hazards ranging from dusts to mists to vapors; strategies, management issues, personal protective equipment, implementation skills; in-depth instruction on local exhaust ventilation system design.

OEH:6450 Aerosol Technology 3 s.h.

Particle statistics and physics of aerosols, including inertia, diffusion, nucleation, evaporation, condensation, optics, electrical properties; relationship to fields such as agriculture, nanotechnology, environmental and occupational health, atmospheric chemistry, drug delivery.

OEH:6460 Quantitative Exposure Assessment: Study Design and Evaluation 3 s.h.

Principles of designing occupational and environmental exposure assessment studies, analyzing exposure data, and conducting exposure-response evaluations. Prerequisites: OEH:4540.

OE:6510 Environmental and Occupational Epidemiology 3 s.h.

Overview of methods to interpret and perform environmental and occupational epidemiologic studies with focus on exposure assessment; valuable insights into identifying regional, national, global environmental, and occupational health-related issues. Prerequisites: EPID:4400. Same as EPID:6200.

OE:6520 Injury Epidemiology 3 s.h.

How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: EPID:4400. Same as EPID:6510.

OE:6530 Epidemiology of Occupational Injuries 3-4 s.h.

Epidemiological literature on occupational injuries and their prevention; focus on research methods. Offered spring semesters of even years. Prerequisites: EPID:4400. Same as EPID:6530.

OE:6610 Advanced Topics in Occupational Medicine 2 s.h.

Skills and knowledge for evaluating and treating patients with work-related illness.

OE:6710 Environmental Toxicology 3 s.h.

Sources, routes of absorption, effects of environmental toxicants affecting man; pathophysiology of toxicant actions, including those of air and water pollutants, metals, pesticides, solvents, food toxicants, chemicals. Requirements: college chemistry and biology.

OE:6720 Advanced Toxicology 4 s.h.

Hepatic metabolism and toxification mechanisms, pulmonary and immunotoxicology, nervous system poisons and their mechanisms of action, general and molecular concepts of chemical carcinogenesis. Prerequisites: OE:6710.

OE:7000 Thesis/Dissertation arr.**OE:7010 Problems in Occupational and Environmental Health arr.**

Didactic material in occupational and environmental health; may include tutorial, seminar, faculty-directed independent work (e.g., literature search, project, short research project).

OE:7020 Independent Study in Occupational and Environmental Health arr.

In-depth pursuit of an area in occupational and environmental health requiring substantial creativity and independence.

OE:7040 Preceptorship in Occupational and Environmental Health arr.

Work experience using knowledge and skills acquired in the classroom; arranged in conjunction with departmental or collegiate activities or with governmental agencies or private industry.

OE:7050 Occupational and Environmental Health Internship 0,3 s.h.

Comprehensive and integrated application of knowledge acquired in a workplace setting; structured approach to demonstrate skills and knowledge obtained through a workplace experience. Corequisites: OE:5620 or OE:4240, if not taken as a prerequisite.

OE:8610 Occupational Medicine 2,4 s.h.

In-depth study of an area in occupational and environmental medicine, with clinical experience in an outpatient community setting. Requirements: M.D. enrollment.

Occupational and Environmental Health, M.S.

An M.S. degree in occupational and environmental health is offered with optional subprograms in:

- agricultural safety and health
- industrial hygiene

Requirements

The Master of Science program in occupational and environmental health requires a minimum of 38 s.h. of graduate credit. It is offered with two optional subprograms: agricultural safety and health, and industrial hygiene. The M.S. with agricultural safety and health subprogram requires a minimum of 42 s.h. of graduate credit; the M.S. with industrial hygiene subprogram requires a minimum of 43 s.h. of graduate credit.

M.S. Without Subprogram

The Master of Science with a major in occupational and environmental health without a subprogram requires a minimum of 38 s.h. and includes the following course work.

Core Courses

Code	Title	Hours
All of these (23 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
OEH:6710	Environmental Toxicology	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4

Electives

Credit earned in elective course work and the thesis completes the 38 s.h. required for the degree. Students work with their advisor to select electives appropriate for their professional goals.

Thesis

A thesis is required. Students may earn a maximum of 6 s.h. for the thesis. Additional thesis credit may be allowed for students who earn more than 38 s.h.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

M.S. with Agricultural Safety and Health Subprogram

The program prepares students for careers in education, health care, insurance, and agribusiness as specialists in agricultural safety and health.

The Master of Science with a major in occupational and environmental health with an agricultural safety and health subprogram requires a minimum of 42 s.h. and includes the following course work.

Core Courses

Code	Title	Hours
All of these (29 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:4540	Statistics for Experimenters	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health (taken three times for 1 s.h. each)	3
OEH:6710	Environmental Toxicology	3
OEH:7040	Preceptorship in Occupational and Environmental Health	1
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3

Electives

Students should complete at least 9 s.h. of electives; it is recommended that students work with their advisor to identify appropriate areas of emphasis (e.g., industrial hygiene, injury prevention, environmental health, or communication).

Recommended Elective Courses

This is a recommended list of elective course work; however, any occupational and environmental health course (prefix OEH) may be taken as an elective.

Code	Title	Hours
OEH:4260	Global Water and Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:6310	Occupational Ergonomics: Applications	3
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1

OEH:6440	Control of Occupational Hazards	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
OEH:6720	Advanced Toxicology	4
CPH:4200	Agriculture and the Environment	3

Approved Elective Courses From Other Departments

Courses not on this list may be used as elective credit with advisor approval.

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6220	Health Communication Campaigns	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
IE:3400	Human Factors	3

Thesis

A thesis is required. Students may earn a maximum of 5 s.h. for the thesis.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

M.S. with Industrial Hygiene Subprogram

The program prepares students for careers in industrial hygiene as well as the broad field of occupational and environmental health. Career opportunities are available in health and safety departments of industries; in consulting firms; in academic institutions; and in local, state, and federal public health agencies.

Students choose the thesis or nonthesis option. Those that select the thesis option conduct a research experiment and write a thesis. Those that select the nonthesis option complete an internship.

The Master of Science with a major in occupational and environmental health with an industrial hygiene subprogram requires a minimum of 43 s.h. and includes the following course work.

Required Courses

All M.S. students take the following courses.

Code	Title	Hours
All of these (22 s.h.):		
OEH:4540	Statistics for Experimenters	3

OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
OEH:6420	Methods in Exposure Science	3
OEH:6440	Control of Occupational Hazards	3
OEH:6710	Environmental Toxicology	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3

Electives

All M.S. students select electives from the following.

Code	Title	Hours
At least 12 s.h. from these:		
OEH:4240	Global Environmental Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6450	Aerosol Technology	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
Assessing noise hazards course (consult advisor)		1
Assessing non-ionizing radiation hazards course (consult advisor)		1
Assessing ionizing radiation hazards course (consult advisor)		1

Thesis Option

Thesis

Completion and acceptance of a thesis is optional. Students may earn a maximum of 6 s.h. for the thesis. Additional semester hours may be approved for students who will earn more than 43 s.h. for the major.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

Electives

Thesis option students complete additional elective course work to earn at least 43 s.h. required for the major. Students meet with their advisor to select courses most appropriate to their professional goals.

Nonthesis Option

Internship

Nonthesis option students complete the internship and take OEH:7050. Students take the course once in their first spring semester for 0 s.h. and in their second spring semester for 3 s.h. after completing a minimum of 150 internship hours.

Code	Title	Hours
OEH:7050	Occupational and Environmental Health Internship	0,3

Electives

Nonthesis option students complete additional elective course work to earn at least 43 s.h. required for the major. Students meet with their advisor to select courses most appropriate to their professional goals.

Combined Programs

M.S./M.A. or M.S. in Urban and Regional Planning

The combined Master of Science in occupational and environmental health/Master of Arts or Master of Science in urban and regional planning program requires 65 s.h. of graduate credit. For information about the graduate programs in urban and regional planning, see the M.A. in urban and regional planning [p. 1496] or the M.S. in urban and regional planning [p. 1499] (Graduate College) in the Catalog.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must apply for admission to the Graduate College through the University of Iowa Office of Admissions. For detailed application information and admission requirements, visit the How to Apply to Occupational and Environmental Health web page.

The occupational and environmental health faculty takes several factors into consideration when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Student with deficiencies in one area may be admitted if all other components of their application are very strong.

M.S. applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.00. Applicants must have taken the Graduate Record Exam (GRE) General Test; a verbal score of at least 151 and a quantitative score of at least 153 are recommended. For applicants who have not taken the GRE, the department considers scores from other standardized tests, such as the Medical College Admission Test (MCAT).

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited university in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses. Applicants who score below 81 are not considered for admission.

Undergraduate preparation for applicants must include course work in mathematics, biology, chemistry, and either physical sciences or engineering, depending on the applicant's chosen specialty area.

Students may enter in the fall. February 1 is the priority application deadline for consideration for financial support; May 1 is the final application deadline.

Financial Support

Several graduate student awards, including tuition and stipend support, are available for individuals interested in agricultural safety and health, or industrial hygiene.

Full-time graduate students in good academic standing are eligible for a stipend and tuition support. All recipients must be U.S. citizens or permanent residents.

Occupational and Environmental Health, Ph.D.

A Ph.D. degree in occupational and environmental health is offered with optional subprograms in:

- agricultural safety and health
- industrial hygiene

Requirements

The Doctor of Philosophy program in occupational and environmental health requires 72 s.h. of graduate credit. All students must complete a dissertation. The program is offered with two optional subprograms: agricultural safety and health, and industrial hygiene.

Ph.D. Without Subprogram

The Doctor of Philosophy with a major in occupational and environmental health without a subprogram requires the following work.

Core Courses

Code	Title	Hours
All of these (23 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4

Required Courses

Code	Title	Hours
At least 9 s.h. from these:		
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6130	Agricultural Safety and Health: Practice, Research Methods, and Policy	3
OEH:6310	Occupational Ergonomics: Applications	3
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Hazards	1

OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6450	Aerosol Technology	3
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
OEH:6710	Environmental Toxicology	3
OEH:6720	Advanced Toxicology	4
BIOS:6110	Applied Categorical Data Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
STAT:6516	Design of Experiments	4

Electives

Students must earn a minimum of 24 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisor to select courses appropriate for their professional goals.

Research Credit

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All students must complete a dissertation.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.
OEH:7020	Independent Study in Occupational and Environmental Health	arr.

Ph.D. with Agricultural Safety and Health Subprogram

The program prepares students for academic, research, and policy-making careers in occupational and environmental health, with specialty in agricultural safety and health.

The Doctor of Philosophy with a major in occupational and environmental health with an agricultural safety and health subprogram requires the following work.

Core Courses

Code	Title	Hours
All of these (37 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health (taken three times for 1 s.h. each)	3

OEH:6130	Agricultural Safety and Health: Practice, Research Methods, and Policy	3
OEH:7040	Preceptorship in Occupational and Environmental Health	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
EPID:5570	Zoonotic Diseases	3
One of these:		
OEH:4540	Statistics for Experimenters	3
BIOS:4120	Introduction to Biostatistics	3

Electives

Students should complete at least 15 s.h. of electives; it is recommended that students work with their advisor to identify appropriate areas of emphasis (e.g., industrial hygiene, injury prevention, environmental health, or communication).

Recommended Elective Courses

This is a recommended list of elective course work; however, any occupational and environmental health course (prefix OEH) may be taken as an elective.

Code	Title	Hours
OEH:4260	Global Water and Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:5530	Interpreting Occupational and Environmental Health Research	2
OEH:6310	Occupational Ergonomics: Applications	3
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6440	Control of Occupational Hazards	3
OEH:6450	Aerosol Technology	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
OEH:6530	Epidemiology of Occupational Injuries	3
OEH:6710	Environmental Toxicology	3
CPH:4200	Agriculture and the Environment	3

Approved Elective Courses From Other Departments

Courses not on this list may be used as elective credit with advisor approval.

Code	Title	Hours
BME:5640	Ergonomics of Occupational Injuries	3
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:5310	Qualitative Research for Public Health	3
CBH:6220	Health Communication Campaigns	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
IE:3400	Human Factors	3

Research Credit

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All students must complete a dissertation.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.
OEH:7020	Independent Study in Occupational and Environmental Health	arr.

Ph.D. with Industrial Hygiene Subprogram

The program provides students with specialized knowledge in industrial hygiene in addition to their expertise in the broad field of occupational and environmental health.

The Doctor of Philosophy with a major in occupational and environmental health with an industrial hygiene subprogram requires the following work.

Core Courses

Code	Title	Hours
All of these (43 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1

OEH:6440	Control of Occupational Hazards	3
OEH:6450	Aerosol Technology	3
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation	3
OEH:6710	Environmental Toxicology	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
One of these:		
OEH:4540	Statistics for Experimenters	3
BIOS:4120	Introduction to Biostatistics	3

Required Courses

Code	Title	Hours
At least 9 s.h. from these:		
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6130	Agricultural Safety and Health: Practice, Research Methods, and Policy	3
OEH:6310	Occupational Ergonomics: Applications	3
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
OEH:6720	Advanced Toxicology	4
BIOS:6110	Applied Categorical Data Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
STAT:6516	Design of Experiments	4

Electives

Students must earn at least 12 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisor to select courses appropriate for their professional goals.

Research Credit

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All students must complete a dissertation.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.
OEH:7020	Independent Study in Occupational and Environmental Health	arr.

Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must apply for admission to the Graduate College through the University of

Iowa Office of Admissions. For detailed application information and admission requirements, visit the How to Apply to Occupational and Environmental Health web page.

The occupational and environmental health faculty takes several factors into consideration when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

Ph.D. applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.25. Applicants must have taken the Graduate Record Exam (GRE) General Test; a verbal score of at least 151 and a quantitative score of at least 153 are recommended. For applicants who have not taken the GRE, the department considers scores from other standardized tests, such as the Medical College Admission Test (MCAT).

Applicants whose first language is not English and who do not hold a baccalaureate or more advanced degree from an accredited institution in the United States, United Kingdom, Ireland, Canada (excluding French Quebec), English-speaking Africa, Australia, or New Zealand must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants who score 81-99 (internet-based) are required to take English fluency courses. Applicants who score below 81 are not considered for admission.

Completion of a master's program before beginning Ph.D. study is recommended.

Students may enter in the fall. February 1 is the priority application deadline for consideration for financial support; May 1 is the final application deadline.

Financial Support

Several graduate student awards, including tuition and stipend support, are available for individuals interested in the following research areas: agricultural safety and health, ergonomics, industrial hygiene, occupational epidemiology, and occupational injury prevention.

Full-time graduate students in good academic standing are eligible for a stipend and tuition support. All recipients must be U.S. citizens or permanent residents.

Postdoctoral Positions

The College of Public Health's Environmental Health Sciences Training Program offers postdoctoral positions in environmental health/toxicology. Appointments are made for two years with the possibility of an additional year. Applicants must be U.S. citizens or permanent residents.

Career Advancement

The program prepares students for professional and academic careers in environmental and occupational health.

Translational and Clinical Investigation

Head, Department of Epidemiology

- Elizabeth A. Chrischilles

Graduate certificate: translational and clinical investigation

Website: <https://www.public-health.uiowa.edu/certificate-in-translational-and-clinical-investigation/>

The Department of Epidemiology [p. 1757] and the Institute for Clinical and Translational Science (ICTS) offer the Certificate in Translational and Clinical Investigation for clinicians who seek advanced training in clinical methodology and applied patient-oriented research skills.

Programs

Graduate Program of Study

Certificate

- Certificate in Translational and Clinical Investigation [p. 1788]

Translational and Clinical Investigation, Graduate Certificate

The graduate Certificate in Translational and Clinical Investigation requires 17 s.h. of graduate credit and may be completed in one year. Certificate requirements include didactic course work, clinical research preceptorships, and clinical research seminar participation.

The certificate program is open to individuals who hold a doctoral-level degree in a clinical discipline (e.g., M.D., D.O., D.D.S., Ph.D., Pharm.D., D.V.M.), are practicing academic clinicians, and are admitted as graduate students to the College of Public Health or are enrolled in a basic or health science doctoral program at the University of Iowa. Other admission requirements are similar to those for the M.S. program in epidemiology.

The Certificate in Translational and Clinical Investigation requires the following work.

Required Courses

Code	Title	Hours
All of these:		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:6950	Clinical Research Ethics	2

Electives

Code	Title	Hours
6 s.h. from these:		
BIOS:6210/ IGPI:6210	Applied Survival Analysis	3
BIOS:6310/ IGPI:6310/ STAT:6550	Introductory Longitudinal Data Analysis	3
BIOS:6610/ IGPI:6610	Statistical Methods in Clinical Trials	3
BIOS:7600/ IGPI:7600	Advanced Biostatistics Seminar	0-3
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
DPH:6004	Principles of Oral Epidemiology	0-3
EPID:4450	Public Health Data	2
EPID:4990	Practicing Evidence-Based Public Health	3
EPID:5200/ IGPI:5220	Principles of Public Health Informatics	3
EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:5560	Introduction to Molecular Epidemiology	3

EPID:5570	Zoonotic Diseases	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6100	Writing a Grant Proposal	3
EPID:6250	Genetics and Epidemiology	3
EPID:6330	Global Nutrition Policy	1,3
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6370	Nutrition Intervention in Research Lab	3
EPID:6510/ OEH:6520	Injury Epidemiology	3
EPID:6530/ OEH:6530	Epidemiology of Occupational Injuries	3-4
EPID:6550/ GHS:6550	Epidemiology of Infectious Diseases	3
EPID:6560	Hospital Epidemiology	2
EPID:6600	Epidemiology of Chronic Diseases	3
EPID:6640	Epidemiology of Maternal and Infant Health	2
EPID:6650	Cardiovascular Disease Epidemiology	3
EPID:6670/ PSYC:8267	Psychiatric Epidemiology	3
EPID:6700	Cancer Epidemiology and Control	3
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3
EPLS:5165/ PSQF:5165	Introduction to Program and Project Evaluation	3
GEOG:3110/ GHS:3111	Geography of Health	3
HMP:5315	Health Information Systems	2-3
HMP:5370/ IE:5860/IGPI:5200/ MED:5300/ SLIS:5900	Health Informatics I	3
HMP:5410	Health Economics I	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965/ PHAR:7331	Analytic Issues in Health Services Research II	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PHAR:5310	Pharmaceutical Socioeconomics Seminar	1-2
PHAR:5350	Introduction to Research Methods	3
PHAR:6305	Foundation Literature in Pharmaceutical Socioeconomics	arr.
PHAR:7100	Translational Research and Clinical Drug Development	3

University College

Dean

- Tanya M. Uden-Holman

Associate Deans

- Andrew Beckett, Anne W. Zalenski

Website: <https://uc.uiowa.edu>

University College (UC) is home to a wide range of programs for University of Iowa students and precollege students. An overview of the many programs that are housed in University College is provided below.

Undergraduate Degrees

Two online degree programs, the Bachelor of Applied Studies (B.A.S.) [p. 1794] and the Bachelor of Liberal Studies (B.L.S.) [p. 1797], are offered through University College. Both programs enable students to complete a bachelor's degree through Distance and Online Education [p. 1818]. The B.A.S., designed for graduates of community college technical programs, provides alternatives to traditional academic majors, permitting students to plan their own emphasis areas in consultation with their advisors. The B.L.S. is a general undergraduate degree program without a traditional academic major; students work with their advisors to plan study programs that meet their individual objectives.

Undergraduate Certificates, Training, and Course Work

The college offers undergraduate certificates in Clinical and Translational Science [p. 1812], Leadership Studies [p. 1824], Nonprofit Management [p. 1837], and Sustainability [p. 1857]. University College also is home to many undergraduate research opportunities in the science, technology, engineering, and mathematics (STEM) fields as well as in microbiology and medical scientist training.

An affiliated program, Lifetime Leisure Skills [p. 1830]—offers a broad range of sports and fitness activities, while the Reserve Officer Training Corps programs, Aerospace Studies (Air Force ROTC) [p. 1791] and Military Science (Army ROTC) [p. 1833] prepare undergraduate students for commissions as officers. In addition, there are major college-level programs such as the **University of Iowa** Honors Program, Study Abroad, [p. 1840] and Career Center Programs [p. 1808].

Students from the University of Iowa, Iowa State University, and the University of Northern Iowa may take courses at Iowa Lakeside Laboratory [p. 1822].

University College offers courses in several K-12 programs as well: the Belin-Blank Center for Gifted Education [p. 1805], the Center for Diversity and Enrichment [p. 1811], Biomedical and Health Sciences [p. 1807], the Secondary Student Training Program [p. 1839], and University of Iowa Upward Bound [p. 1868].

Student Success and Outreach

Associate Dean: Andrew Beckett

Many University College programs serve the entire undergraduate population (particularly first-year students) and are designed to smooth entering students' transition to college life. Students begin their connection to the University

College when they take their first online course, CSI:1600 Success at Iowa, at around the same time they attend Orientation. When they arrive on campus, they experience campus life for the first time with the OnIowa! program.

Other programs that promote success include Excelling@Iowa, Tutor Iowa, and the Academic Resource Center (ARC). These direct service programs support students when they need support in their college career.

Academic Support and Retention

Director: Mirra L. Anson

Website: <https://uc.uiowa.edu/student-success/arc>

On Iowa

Website: <https://oniowa.uiowa.edu/>

Orientation

Director: Tina M. Arthur

Website: <https://newstudents.uiowa.edu/orientation>

Success@Iowa

Coordinator: Angela Lamb

Website: <https://newstudents.uiowa.edu/success-iowa-online-course>

Distance and Online Education

Associate Dean: Anne W. Zalenski

Website: <https://distance.uiowa.edu>

Distance and Online Education [p. 1818] combines leading-edge technology and support with nationally recognized faculty to provide the best educational experience possible—online and on location. In partnership with University of Iowa colleges and departments, online and on location course work provides degree and certificate opportunities for students looking to complete their degree from a highly ranked public institution. Courses offered through University College are taught by University of Iowa faculty and staff members.

Center for Conferences

Director: Kelly Flinn

Website: <https://centerforconferences.uiowa.edu>

The Center for Conferences (UICC) is the University's principal agency for initiating, coordinating, conducting, and supporting noncredit continuing education programs. It also serves as the University of Iowa's general continuing education unit (CEU) provider.

UICC coordinates national and international conferences for University faculty, departments, colleges, administrative units, academic societies, professional associations, and other groups sponsored by the University. Services include initial planning, site location, budget development, supervision of all logistical details, income and expense management, payment processing, and online conference registration.

The Center for Conferences uses facilities on the University of Iowa campus as well as those located in Iowa City and Coralville, throughout Iowa and nationwide. For more information, visit the Center for Conferences website.

Iowa Summer Writing Festival

Director: Amy Margolis

Website: <https://iowasummerwritingfestival.org>

The Iowa Summer Writing Festival is a noncredit creative writing program for adults. The festival brings some 1,300 writers to the University of Iowa campus each summer to participate in weeklong, two-week, and weekend workshops across the genres. Writers at all levels are welcome.

Participants choose from more than 140 workshops in novel writing, short fiction, gothic fiction, poetry, memoirs, essays, playwriting, screenwriting, travel writing, humor, writing for children, and more. Festival classes are conducted as workshops, where the primary texts are participants' own creative work.

Weeklong workshops meet for three hours each day, Monday through Friday, and include individual student/instructor conferences. Weeklong sessions feature a daily lecture series on aspects of literary craft, as well as evening readings and other events. Weekend sessions meet for eight hours over two days. Visit the Iowa Summer Writing Festival website for information about workshops, schedules, and registration. Program information for the coming summer is posted in mid-January.

Programs

College-Level Degree Programs

- Bachelor of Applied Studies [p. 1794]
- Bachelor of Liberal Studies [p. 1797]

College-Level Certificate Programs

- Clinical and Translational Science [p. 1812]
- Leadership Studies [p. 1824]
- Nonprofit Management [p. 1837]
- Sustainability [p. 1857]

Other College-Level Programs

- Aerospace Studies (Air Force ROTC) [p. 1791]
- Career Center Programs [p. 1808]
- College Success Initiatives [p. 1815]
- Intercollegiate Athletic Participation [p. 1820]
- Iowa Biosciences Academy [p. 1821]
- Iowa Lakeside Laboratory [p. 1822]
- Lifetime Leisure Skills [p. 1830]
- Military Science (Army ROTC) [p. 1833]
- Study Abroad [p. 1840]
- Undergraduate Research Experiences [p. 1861]
- University Libraries [p. 1862]
- University of Iowa Honors Program [p. 1863]

Precollege Programs

- Belin-Blank Center for Gifted Education [p. 1805]
- Biomedical and Health Sciences [p. 1807]
- Center for Diversity and Enrichment [p. 1811]
- Secondary Student Training Program [p. 1839]
- University of Iowa Upward Bound [p. 1868]

Aerospace Studies (Air Force ROTC)

Director

- Lt. Col. Nicole L. Capozzi

Undergraduate minor: aerospace studies

Faculty: <https://uiowa.edu/afrotc/people>

Website: <https://uiowa.edu/afrotc/>

The Aerospace Studies Program administers the Air Force Reserve Officer Training Corps (AFROTC) at the University of Iowa. AFROTC prepares highly qualified undergraduate students for commissions as officers in the United States Air Force.

While AFROTC is structured primarily for students pursuing active-duty Air Force commissions, any undergraduate or graduate student may take aerospace studies courses for academic credit, with the exception of the leadership laboratories. The amount of credit that may be applied toward a degree varies from college to college at the University. The College of Liberal Arts and Sciences, for example, accepts a maximum of 20 s.h. of aerospace studies credit. Additionally, any undergraduate student may apply the courses toward the minor in aerospace studies.

In order to receive a commission, AFROTC cadets must satisfactorily complete all University of Iowa degree requirements as well as courses specified by the U.S. Air Force.

Undergraduate and Graduate Programs

AFROTC offers programs lasting two, three, or four years. Joining early gives students the opportunity to try AFROTC without obligation. It also can give them an advantage in the scholarship selection process.

The AFROTC program's three main components are the general military course (GMC), the professional officer course (POC), and the Field Training (FT) program.

General Military Course

The general military course (GMC) consists of one AFROTC course (1 s.h.) and a leadership laboratory taken each semester for two years. Any student who meets AFROTC qualifications and is in good academic standing is eligible to participate in the GMC. Students normally apply for the GMC up to the time they earn 60 s.h. Students who have earned more than 60 s.h. may enroll in the GMC if they are willing to extend their academic plan by a semester or more.

Professional Officer Course

The professional officer course (POC) consists of one AFROTC course (3 s.h.) and a leadership laboratory taken each semester for two years. Students accepted into the POC make a commitment to serve a minimum of four years as U.S. Air Force officers. To enter the POC, students must be selected to attend and must successfully complete field training. Students generally take the POC during their last 60 s.h.

Field Training

All POC applicants must successfully complete Field Training (FT) at a U.S. Air Force base. Selection to attend FT is

competitive; if selected to attend, students experience an intensive, three-week program generally completed the summer after the sophomore year. It provides a first-hand look at the active duty Air Force and develops military leadership and discipline. Students participate in junior officer education, marksmanship, hand-to-hand combat training, physical fitness training, and expeditionary skills training in a simulated environment. After completing FT, cadets are ready to return to school and assume leadership positions in the AFROTC program.

Activities

Students have the option to compete for acceptance to a variety of optional AFROTC summer training programs. If selected, a student may return to Field Training as a cadet training assistant (CTA), travel to another country for a cultural immersion program, or compete for other Air Force immersion programs as available. The Air Force provides transportation, meals, lodging, and a daily expense allowance for all summer programs.

The AFROTC cadet corps also sponsors community service projects, intramural athletics, and social events, including formal and informal dinners.

Educational Delay

Cadets may request an educational delay to postpone entry to active duty until after completion of an advanced degree or professional training program. Selection for an educational delay is highly competitive.

Financial Aid

Merit scholarships are available on a competitive basis for two and three years of study. They provide varying awards for tuition and fees, a stipend for books, and a monthly tax-free subsistence allowance. Applicants are selected based on objective and subjective factors. Students should apply to the director of the Aerospace Studies Program.

Nonscholarship cadets in the professional officer course receive some financial assistance. Junior-level cadets receive a \$450 tax-free subsistence allowance per month and senior-level cadets receive a \$500 tax-free subsistence allowance per month.

All uniforms and required AFROTC textbooks are furnished free of charge.

Programs

Undergraduate Program of Study Minor

- Minor in Aerospace Studies [p. 1793]

Courses

Aerospace Studies Courses

AERO:1100 Foundations of the U.S. Air Force I 1 s.h.

Introduction to U.S. Air Force: military customs and courtesies, basic oral and written communication techniques, careers available to Air Force officers. Requirements: first-year or sophomore standing.

AERO:1150 AFROTC Leadership Laboratory (LLAB) AS 100-FA 1 s.h.

A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered fall semesters. Corequisites: AERO:1100. Requirements: first-year or sophomore standing.

AERO:1200 Foundations of the U.S. Air Force II 1 s.h.

Continuation of AERO:1100; leadership theory and practice, team building, diversity in the work force. Requirements: first-year or sophomore standing.

AERO:1250 AFROTC Leadership Laboratory (LLAB) AS 100-SP 1 s.h.

A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered spring semesters. Corequisites: AERO:1200. Requirements: first-year or sophomore standing.

AERO:2100 Evolution of USAF Air and Space Power I 1 s.h.

Air power from Civil War hot air balloons through World War II; emphasis on developments in U.S. Air Force.

AERO:2150 AFROTC Leadership Laboratory (LLAB) AS 200-FA 1 s.h.

See AERO:1150. Offered fall semesters. Corequisites: AERO:2100.

AERO:2200 Evolution of USAF Air and Space Power II 1 s.h.

Continuation of AERO:2100; air power from post-World War II to present; emphasis on developments in U.S. Air Force.

AERO:2250 AFROTC Leadership Laboratory (LLAB) AS 200-SP 1 s.h.

See AERO:1150. Offered spring semesters. Corequisites: AERO:2200.

AERO:2500 Readings in Contemporary Military Issues 1-4 s.h.

Independent research on the U.S. Air Force; historical topics, current missions, future technologies, comparisons to other nations.

AERO:3100 Air Force Leadership Studies I 3 s.h.

Emphasis on management, leadership, communication skills required of an Air Force officer. Requirements: junior or higher standing.

AERO:3150 AFROTC Leadership Laboratory (LLAB) AS 300-FA 1 s.h.

See AERO:1150. Offered fall semesters. Corequisites: AERO:3100.

AERO:3200 Air Force Leadership Studies II 3 s.h.

Continuation of AERO:3100; leadership topics in counseling, accountability, ethics. Requirements: junior or higher standing.

AERO:3250 AFROTC Leadership Laboratory (LLAB) AS 300-SP 1 s.h.

See AERO:1150. Offered spring semesters. Corequisites: AERO:3200.

AERO:4100 National Security Affairs and Active Duty Preparation I 3 s.h.

America's evolving national security policy; structure of national security agencies, development of national security strategies; global regions and their historical and current importance to U.S. security policies. Requirements: junior or higher standing.

AERO:4150 AFROTC Leadership Laboratory (LLAB) AS 400-FA 1 s.h.

See AERO:1150. Offered fall semesters. Corequisites: AERO:4100.

AERO:4200 National Security Affairs and Active Duty Preparation II 3 s.h.

Continuation of AERO:4100; Department of Defense structure, missions, and responsibilities, with emphasis on role of the U.S. Air Force; Air Force standards; preparation for active duty as Air Force junior officers. Requirements: junior or higher standing.

AERO:4250 AFROTC Leadership Laboratory (LLAB) AS 400-SP 1 s.h.

See AERO:1150. Offered spring semesters. Corequisites: AERO:4200.

Aerospace Studies, Minor

The undergraduate minor in aerospace studies requires a minimum of 16 s.h. in aerospace studies program courses. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. In order to count transfer course work taken at other institutions toward the minor, students must have approval from the director of the Aerospace Studies Program.

The minor in aerospace studies requires the following course work.

Code	Title	Hours
AERO:1100	Foundations of the U.S. Air Force I	1
AERO:1200	Foundations of the U.S. Air Force II	1
AERO:2100	Evolution of USAF Air and Space Power I	1
AERO:2200	Evolution of USAF Air and Space Power II	1
AERO:3100	Air Force Leadership Studies I	3
AERO:3200	Air Force Leadership Studies II	3
AERO:4100	National Security Affairs and Active Duty Preparation I	3
AERO:4200	National Security Affairs and Active Duty Preparation II	3
Total Hours		16

Bachelor of Applied Studies

Associate Dean

- Anne W. Zalenski

Undergraduate major: Bachelor of Applied Studies (B.A.S.)

Website: <https://basbls.uc.uiowa.edu/degrees/bas>

The Bachelor of Applied Studies (B.A.S.) is designed for graduates of community colleges who wish to complete a bachelor's degree by distance education. The degree may be completed completely online or through a combination of on-site and online course work. Students may earn credit toward the degree with a selection of several types of courses, including semester-based online courses, extension courses at sites throughout Iowa, and regular session on-campus courses.

The B.A.S. is a general undergraduate degree without a traditional academic major. Students can design an individual program or select from four optional emphasis areas: creative writing, human relations, justice studies, and political science. B.A.S. students may complete multiple emphasis areas and earn undergraduate certificates offered by the University of Iowa. They may not earn minors or enroll in a second college at the University of Iowa while completing the B.A.S. degree.

Working with their academic advisors, B.A.S. students may plan programs designed to advance their careers, begin new careers, or prepare for graduate or professional study. Students who have specific career goals or advanced degree programs in mind should determine what educational background they will need in order to achieve their goals, and they should include appropriate course work in their B.A.S. programs.

Applicants to the B.A.S. program must hold an associate degree; see Admission [p. 1796] in this section of the Catalog for more detailed admission requirements.

The B.A.S. is awarded by University College [p. 1789] and is administered by Distance and Online Education [p. 1818].

Programs

Undergraduate Program of Study Major

- Bachelor of Applied Studies [p. 1795]

Bachelor of Applied Studies, B.A.S.

Requirements

The Bachelor of Applied Studies requires a minimum of 120 s.h. and is intended to be completed entirely by distance education. Students must earn at least 30 s.h. of credit toward the degree in University of Iowa courses after admission to the B.A.S. program. They must earn at least 60 s.h. of the minimum 120 s.h. at four-year colleges, including 45 s.h. in upper-level courses. Students must maintain a cumulative g.p.a. of 2.00 or higher in all course work attempted, all course work taken at the University of Iowa, all course work taken after admission to the Bachelor of Applied Studies program, and all upper-level course work.

University of Iowa upper-level courses are numbered between 3000 and 4999. Some courses numbered below 3000 may be considered upper level for the B.A.S.; for details, see Course Numbers on the Bachelor of Applied Studies website.

Students also must complete the following core requirements and a set of distribution areas; see BAS Core Requirements and Distribution Areas on the Bachelor of Applied Studies website for more information.

Core Requirements

Rhetoric course work equivalent to composition II and speech

Quantitative or formal reasoning—3 s.h.

Social sciences—3 s.h.

Values, society, and diversity—3 s.h.

Business/management—6 s.h.

Distribution Areas

Students must complete 12 s.h. in three of the following five distribution areas (total of 36 s.h.). In each distribution area, 6 of the required 12 s.h. must be earned in upper-level courses.

Communication and arts (e.g., journalism, communication studies, creative writing, art, music)

Humanities (e.g., literature, history, philosophy, religion)

Natural sciences and mathematics (e.g., mathematics, biology, statistics, computer science)

Professional fields (e.g., business, education, nursing, social work, aging and longevity studies)

Social sciences (e.g., sociology, psychology, economics, political science, anthropology)

All University College policies regarding grading, course drops, withdrawals, academic standards, and so forth apply to B.A.S. students. For more information, see Taking University College Courses on the University College website.

Optional Emphasis Area

Students may include an emphasis area in their B.A.S. program.

Creative Writing Emphasis Area

The creative writing emphasis area requires 18 s.h. It provides students with an understanding of the multiple facets of written communication. The emphasis area requires the following course work.

Code	Title	Hours
All of these:		
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CW:2100	Creative Writing	3
CW:4897	Novel Writing	3
At least three of these:		
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3005/ INTD:3005	Professional and Creative Business Communication	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
THTR:2301	Playwriting I	3
THTR:3301	Playwriting II	3
WRIT:1500	Writing Commons: A Community of Writers	2

For additional details about the emphasis area and related careers, see Creative Writing Emphasis Area on the Bachelor of Applied Studies website.

Human Relations Emphasis Area

The human relations emphasis area requires 18 s.h. It focuses on human development, personality theory, interpersonal and group communication, multiculturalism, professional ethics, and the development of helping skills. The emphasis area requires the following course work.

Code	Title	Hours
All of these:		
RCE:4194	Interpersonal Effectiveness	3
RCE:4197	Citizenship in a Multicultural Society	3
RCE:4199	Counseling for Related Professions	3
At least three of these:		
EDTL:3114	Parent-Child Relationships	3
RCE:4131	Loss, Death, and Bereavement	3
RCE:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
RCE:4174	Positive Psychology	3
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
RCE:4178	Microcounseling	3
RCE:4179	Sexuality Within the Helping Professions	3
RCE:4185	Introduction to Substance Abuse	3

RCE:4191	Advocacy: Awareness, Assertiveness, and Activism	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3

For additional details about the emphasis area and related careers, see Human Relations Emphasis Area on the Bachelor of Applied Studies website.

Justice Studies Emphasis Area

The justice studies emphasis area requires 18 s.h. It is a good choice for students who hold associate degrees in disciplines such as community service, corrections, criminal justice, law enforcement, police science, or public safety. The emphasis area requires the following course work.

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
POLI:3111	American Public Policy	3
PSY:2501	Introduction to Social Psychology	3
RCE:4197	Citizenship in a Multicultural Society	3
SOC:4225	The Social Psychology of Leadership	3
At least four of these:		
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:4420	Criminal Punishment	3
MGMT:2000	Introduction to Law	3
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
RCE:4185	Introduction to Substance Abuse	3
RCE:4194	Interpersonal Effectiveness	3
SOC:2810	Social Inequality	3
SSW:3797	Child Welfare Policy and Practice	3
SSW:4100	Social Work in the Criminal Justice System	3

For additional details about the emphasis area and related careers, see Justice Studies Emphasis Area on the Bachelor of Applied Studies website.

Political Science Emphasis Area

The political science emphasis area requires 18 s.h. It focuses on the United States' political role in shaping social and public policy worldwide and on the interplay between foreign and domestic politics. The emphasis area requires the following course work.

Code	Title	Hours
Two of these:		
POLI:1100	Introduction to American Politics	3
POLI:1200	Introduction to Political Behavior	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3

POLI:1501	Introduction to American Foreign Policy	3
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At least four of these:

POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3116	The Presidency	3
POLI:3123	State Politics in Iowa	3
POLI:3202	Political Psychology	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3

For additional details about the emphasis area and related careers, see Political Science Emphasis Area on the Bachelor of Applied Studies website.

Admission

Individuals who wish to earn a B.A.S. must apply for admission to the program by completing an application through the Office of Admissions. Additional information on the B.A.S. program may be found on the Bachelor of Applied Studies website.

Applicants to the B.A.S. program must have earned an associate degree from a regionally accredited institution. They must have a minimum of 60 s.h. of approved transfer credit, which includes career-technical credit.

Students who have an A.A. degree from a two-year institution participating in articulation agreements with the University of Iowa are considered to have satisfied the B.A.S. core requirements, except for the business/management courses. Additional information on articulation agreements can be found on the Office of Admissions website.

Applicants who graduated from an Iowa community college or Waldorf College must have a cumulative g.p.a. of at least 2.00; those who graduated from Black Hawk College in Illinois must have a cumulative g.p.a. of at least 2.25; those who graduated from other institutions outside Iowa must have a cumulative g.p.a. of at least 2.50.

Bachelor of Liberal Studies

Associate Dean

- Anne W. Zalenski

Undergraduate major: Bachelor of Liberal Studies (B.L.S.)

Website: <https://basbls.uc.uiowa.edu/degrees/bls>

The Bachelor of Liberal Studies (B.L.S.) is designed for students who have earned college credit at a regionally accredited institution and would like to complete a bachelor's degree by distance education. The degree may be completed completely online or through a combination of on-site and online course work. Students may earn credit toward the degree with a selection of several types of courses, including semester-based online courses, extension courses at sites throughout Iowa, and regular session on-campus courses.

The B.L.S. emphasizes workplace and leadership skills. Students must select at least one track from the following six options: expression in writing and arts; family, community, and social support; global studies; health and human studies; justice and ethics; and organizational studies. B.L.S. students may complete multiple tracks and earn undergraduate certificates offered by the University of Iowa. They may not earn minors or enroll in a second college at the University of Iowa while completing the B.L.S. degree.

Applicants to the B.L.S. program must have at least 24 s.h. of graded college-level transfer credit with a g.p.a. of 2.00 or higher; see Admission [p. 1804] in this section of the Catalog for more detailed admission requirements.

The B.L.S. is awarded by University College and is administered by Distance and Online Education [p. 1818].

Programs

Undergraduate Program of Study Major

- Bachelor of Liberal Studies [p. 1798]

Bachelor of Liberal Studies, B.L.S.

Requirements

The Bachelor of Liberal Studies (B.L.S.) requires a minimum of 120 s.h. of credit. Students must earn at least 30 s.h. of credit toward the degree in University of Iowa courses after they are admitted to the B.L.S. program. They must earn at least 60 s.h. of the 120 s.h. (minimum) required for the B.L.S. at four-year colleges, including 30 s.h. in upper-level courses. University of Iowa upper-level courses are numbered from 3000 to 4999. Students must maintain a g.p.a. of at least 2.00 in all courses for the degree, all UI courses for the degree, and all courses for the B.L.S. track.

B.L.S. students must complete a required set of common core courses and a B.L.S. track, as part of the total number of semester hours required for the degree. Students select at least one track from six options: expression in writing and arts; family, community, and social support; global studies; health and human studies; justice and ethics; and organizational studies. Students may complete more than one track.

All University College policies regarding grading, course drops, withdrawals, academic standards, and so forth apply to B.L.S. students. For more information, see Taking University College Courses on the University College website.

The following course work is required for all B.L.S. students.

B.L.S. Common Core

Common core courses develop fundamental skills in writing, critical thinking, information literacy, and leadership and give students the opportunity to explore ideas from multiple perspectives.

Some courses in the common core are part of the College of Liberal Arts and Sciences (CLAS) General Education Program Two, as indicated below. Students should contact the B.L.S. advisor for information about additional courses that will fulfill their common core requirements.

Rhetoric

Rhetoric courses help students develop speaking, writing, listening, and critical reading skills. Courses approved for the Rhetoric area of the CLAS General Education Program satisfy the B.L.S. rhetoric requirement. Contact the B.L.S. advisor about additional courses that will fulfill the rhetoric requirement. The following course is offered by distance education.

Code	Title	Hours
RHET:1030	Rhetoric	4-5

Interpretation of Literature

This area, which focuses on the major genres of literature, improves students' abilities to read and analyze a variety of texts. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the Interpretation of Literature area of the CLAS General Education Program Two. Contact the B.L.S. advisor about additional courses that will fulfill the interpretation of

literature requirement. The following course is offered by distance education.

Code	Title	Hours
ENGL:1200	The Interpretation of Literature	3

Natural Sciences

Natural sciences courses explore the scope and major concepts of a scientific discipline. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the Natural Sciences area of the CLAS General Education Program Two, including the following courses offered by distance education. Contact the B.L.S. advisor for additional courses that will fulfill the natural sciences requirement.

Code	Title	Hours
ANTH:1301	Human Origins	3
CHEM:1070	General Chemistry I	3
EES:1040	Evolution and the History of Life	3-4
HHP:1100	Human Anatomy	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2310	Nutrition and Health	3

Global Perspectives

Global perspectives courses encourage students to understand issues from an international perspective. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the International and Global Issues area of the CLAS General Education Program Two, including the following courses offered by distance education. Contact the B.L.S. advisor about additional courses that will fulfill the global perspectives requirement.

Code	Title	Hours
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2261	Human Impacts on the Environment	3
ARTH:1040	Arts of Africa	3
HIST:1403	The West and the World: Modern	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3

Students also may use one of these distance education courses, which are not part of the CLAS General Education Program, to satisfy the B.L.S. global perspectives requirement.

Code	Title	Hours
POLI:3503	Politics of Terrorism	3
POLI:3550	Problems of International Politics	3

RELS:3105	The World of the Old Testament	3
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Domestic Diversity

Students must complete one approved course (3 s.h.) that addresses diversity and domestic perspectives on current issues. They may use any 3 s.h. course approved for the Values, Society, and Diversity area of the CLAS General Education Program Two, including the following courses offered by distance education. Contact the B.L.S. advisor about additional courses that will fulfill the domestic diversity requirement.

Code	Title	Hours
CLSA:2016	Classical Mythology	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1310/ SOC:1310	Gender and Society	3-4
HHP:2200	Physical Activity and Health	3
JMC:1500	Social Media Today	3
LING:2900	Language, Gender, and Sexuality	3
MUS:1720	History of Jazz	3
PHIL:1401	Matters of Life and Death	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:1903	Quest for Human Destiny	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:2986	Religion and Women	3
SOC:2710	The American Family	3
SOC:2810	Social Inequality	3
SRM:1072	Leisure and the Liberal Arts	3

Students also may use one of these distance education courses, which are not part of the CLAS General Education Program, to satisfy the B.L.S. domestic diversity requirement.

Code	Title	Hours
AMST:1075	American Popular Music: Rock and Roll to 1980	3
CRIM:2430	Comparative Criminal Justice Systems	3
GWSS:3154	Sexuality in the United States	3
RCE:4187/ EDTL:4987	Introduction to Assistive Technology	3
RCE:4197	Citizenship in a Multicultural Society	3
SOC:1020	Social Problems	3-4
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
TR:3174	Cultural Perspectives in Health Care	3

Statistics

Students must complete one approved statistics course (3-4 s.h.). They may use any 3-4 s.h. course offered by the Department of Statistics and Actuarial Science with the prefix STAT except STAT:1000 First-Year Seminar. The following

distance education courses are approved for the B.L.S. statistics/quantitative or formal reasoning requirement.

Code	Title	Hours
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Students also may use any 3 s.h. course approved for the Quantitative or Formal Reasoning area of the CLAS General Education Program Two, including the following courses offered by distance education.

Code	Title	Hours
MATH:1020	Elementary Functions	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4

Information Literacy

Students must complete one approved course (2-3 s.h.) focusing on information literacy. The following course is offered by distance education.

Code	Title	Hours
MSCI:1500	Business Computing Essentials	2

Students also may use one of these courses, which are not offered by distance education, to satisfy the B.L.S. information literacy requirement.

Code	Title	Hours
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3

Critical Thinking

Students must complete one approved course (3 s.h.) focusing on critical thinking. The following courses are offered by distance education.

Code	Title	Hours
PHIL:1033	The Meaning of Life	3
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2775	The Bible and the Holocaust	3
SRM:2065	The Experience Economy	3

Students also may use one of these courses, which are not offered by distance education, to satisfy the B.L.S. critical thinking requirement.

Code	Title	Hours
HHP:1030	Introduction to Critical Thinking	3
LING:1050	Language and Formal Reasoning	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3

Leadership and Career Development

Students must complete two or more approved courses (total of 6 s.h.) focusing on leadership and career development, chosen from the following list of distance education courses.

Code	Title	Hours
CCP:1304	Job Search Essentials	1
CCP:1305	Social Media for Your Job Search	1
CCP:2001	Graduate Admissions 101	1
CCP:3102	Job Search Strategies	2-3
CCP:3104	Defining Your Career Path	2
CLAS:1600	Life Design: Building Your Future	1
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
CW:3005/ INTD:3005	Professional and Creative Business Communication	3
EDTL:4081/ EALL:4081/ EPLS:4081/ PSQF:4081/ RCE:4081	ePortfolio Design and Production	1-2
ENTR:1350	Foundations in Entrepreneurship	2
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
PSY:2910	Industrial/Organizational Psychology	3
RCE:2081	Making a Vocational-Educational Choice	2-3
RCE:4194	Interpersonal Effectiveness	3
RCE:4197	Citizenship in a Multicultural Society	3
SOC:4225	The Social Psychology of Leadership	3

B.L.S. Tracks

B.L.S. students must complete one of the following tracks.

Expression in Writing and Arts Track

This track embraces interconnections between literature, writing, visual arts, and creative expression. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these offered by distance education:		
AMST:1075	American Popular Music: Rock and Roll to 1980	3
AMST:1076	Rock and Roll 1980 to the Present	3
ARTH:1040	Arts of Africa	3
ARTH:2320/ CLSA:2226	Introduction to Ancient Art	3
ARTS:1060	Elements of Digital Photography	3

ARTS:1090	Elements of Animation	3
CINE:1200	Screenwriting Fundamentals	3
CLSA:1805	Legends and Heroes of Ancient Rome	1
CLSA:2016	Classical Mythology	3
COMM:1301	Core Concepts in Communication Studies	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
LING:2900	Language, Gender, and Sexuality	3
SRM:1072	Leisure and the Liberal Arts	3
THTR:2301	Playwriting I	3
WRIT:1500	Writing Commons: A Community of Writers	1-3

Upper-Level Course Work

Code	Title	Hours
18 s.h. from these offered by distance education:		
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CLSA:3750	Medical and Technical Terminology	2
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
CW:4897	Novel Writing	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
EDTL:3212	Tasting Art: How the Senses Enhance Our Experience of Art	3
EDTL:3393/ ENGL:3191	Reading and Teaching Adolescent Literature	3
EDTL:4081/ EALL:4081/ EPLS:4081/ PSQF:4081/ RCE:4081	ePortfolio Design and Production	1-2
EDTL:4630/ MUS:4630	Psychology of Music	2-3
INTD:3005/ CW:3005	Professional and Creative Business Communication	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3100	Historic House Management and Preservation	3
MUSM:3105	Engaging Museum Audiences	3
MUSM:3120	Museum Origins	3

MUSM:3125	Museums in a Digital World	3
POLI:3603	War and Film	3
SRM:3178	Communications and Public Relations in Sports	3
THTR:3301	Playwriting II	3

Family, Community, and Social Support Track

This track focuses on human relations effectiveness in the social service sector. It explores mechanisms for the exchange of assistance through social relationships, especially as they relate to home, school, and community improvement. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these offered by distance education:		
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1310/ SOC:1310	Gender and Society	3-4
GWSS:2052/ RELS:2852	Women in Islam and the Middle East	3
LING:2900	Language, Gender, and Sexuality	3
NAIS:2165/ AMST:2165/ ANTH:2165	Native Peoples of North America	3
PSQF:1075	Educational Psychology and Measurement	3
SOC:1010	Introduction to Sociology	3-4
SRM:1045	Diversity and Inclusion in Healthy Living	3
SSW:2222	Introduction to Social Work	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3

Upper-Level Course Work

Code	Title	Hours
18 s.h. from these offered by distance education:		
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
EDTL:3114	Parent-Child Relationships	3
EDTL:4900	Foundations of Special Education	3
EDTL:4934/ PSQF:4134	Parent-Teacher Communication	1-3
EDTL:4936/ PSQF:4136	Home/School/Community Partnerships	3

EDTL:4940	Characteristics of Disabilities	3
GWSS:3154	Sexuality in the United States	3
PHIL:3920	Philosophy in Public	1-3
PSQF:3104	Multicultural Issues in Counseling and Psychology	3
PSQF:4133	The Adolescent and Young Adult	3
RCE:4132	Introduction to Addictions and Impulse Control Disorders	3
RCE:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
RCE:4173	Trauma Across the Lifespan	3
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
RCE:4179	Sexuality Within the Helping Professions	3
RCE:4191	Advocacy: Awareness, Assertiveness, and Activism	arr.
RCE:4194	Interpersonal Effectiveness	3
SSW:3500/ ENR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700	Nonprofit Organizational Effectiveness I	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	3
SSW:3797	Child Welfare Policy and Practice	3
SSW:4700	Motivational Interviewing in Diverse Application	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Global Studies Track

This track enables students to understand global issues and perspectives. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these offered by distance education:		
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ARTH:1040	Arts of Africa	3
CLSA:1117	Intrigue and Command in Ancient Rome: From Julius Caesar to Nero	3
CLSA:1840	Roman Civilization	3
CRIM:2430	Comparative Criminal Justice Systems	3

ECON:1200	Principles of Macroeconomics	4
HIST:1403	The West and the World: Modern	3-4
HRTS:2115/IS:2115	Introduction to Human Rights	3
IS:2020	World Events Today!	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
or STAT:1030	Statistics for Business	
World Languages General Education courses (maximum of two courses and 6 s.h.)		6

Upper-Level Course Work

Code	Title	Hours
18 s.h. from these offered by distance education:		
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
ANTH:3278	Archaeology of Ancient Cities	3
ENTR:4460	Entrepreneurship and Global Trade	3
GEOG:3420	Sustainable Development and Green Building Concepts	3
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4002	Working in Global Health	3
OEH:4240	Global Environmental Health	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3
POLI:3512	International Conflict	3
POLI:3520	National Security Policy	3
POLI:3550	Problems of International Politics	3
RCE:4194	Interpersonal Effectiveness	3
RCE:4197	Citizenship in a Multicultural Society	3
RELS:3105	The World of the Old Testament	3
SOC:4225	The Social Psychology of Leadership	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

TR:3174	Cultural Perspectives in Health Care	3
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Health and Human Studies Track

This track provides a foundation in the health sciences with a focus on social aspects of health care. It draws from courses in psychological and brain sciences and rehabilitation and counselor education. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
HHP:1100	Human Anatomy	3
HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
MED:1100	Introduction to Health Care Professions	3
PSY:1001	Elementary Psychology	3
PSY:2501	Introduction to Social Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2910	Industrial/Organizational Psychology	3
RELS:2265/ GHS:2265	Hard Cases in Healthcare at the End of Life	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
or STAT:1030	Statistics for Business	

Upper-Level Course Work

Code	Title	Hours
18 s.h. from these:		
ASP:3150	Psychology of Aging	3
ASP:3160	Biology of Aging	3
BIOC:3110	Biochemistry	3
CLSA:3750	Medical and Technical Terminology	2
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
HHP:4440	Physiology of Nutrition	3
NURS:3736	Legal Issues for Health Care Providers	3
NURS:3740/ ASP:3740/ MED:3740/ PHAR:3740	End-of-Life Care for Adults and Families	3
PSY:3010	Health Psychology	3
PSY:3320	Abnormal Psychology	3
PSY:3330	Childhood Psychopathology	3

PSY:3340	Behavior Modification	3
PSY:3620	Human Memory	3
RCE:4131	Loss, Death, and Bereavement	3
RCE:4173	Trauma Across the Lifespan	3
RCE:4174	Positive Psychology	3
RCE:4179	Sexuality Within the Helping Professions	3
RCE:4185	Introduction to Substance Abuse	3
RCE:4187/ EDTL:4987	Introduction to Assistive Technology	3
RSCI:4110	Vascular Anatomy	3
SOC:4225	The Social Psychology of Leadership	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
TR:3171	Child Life Practical Application	3
TR:3174	Cultural Perspectives in Health Care	3

Justice and Ethics Track

This track explores ethical and moral solutions for contemporary social issues related to criminal, justice, and political systems. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these offered by distance education:		
CRIM:1410	Introduction to Criminology	3
CRIM:2430	Comparative Criminal Justice Systems	3
GHS:2260/ RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
MGMT:2000	Introduction to Law	3
PHIL:1033	The Meaning of Life	3
PHIL:1401	Matters of Life and Death	3
POLI:1100	Introduction to American Politics	3
POLI:1601	Introduction to Social Media and Politics	3
SOC:1020	Social Problems	3-4
SOC:1220	Principles of Social Psychology	3-4
SOC:2810	Social Inequality	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3

Upper-Level Course Work

Code	Title	Hours
18 s.h. from these offered by distance education:		
ASP:3519/ POLI:3519	Politics of Aging	3
CRIM:3416	Race, Crime, and Justice	3

CRIM:3417	Community Corrections	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4420	Criminal Punishment	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3111	American Public Policy	3
POLI:3202	Political Psychology	3
POLI:3503	Politics of Terrorism	3
POLI:3521	Twenty-first-Century Technology and Warfare	3
RCE:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
RCE:4185	Introduction to Substance Abuse	3
RCE:4195	Ethics in Human Relations and Counseling	3
RCE:4197	Citizenship in a Multicultural Society	3
SOC:3171	Drugs and Society	3
SRM:3151	Liability in Sport and Recreation	3
SRM:3700	Ethics in Sport	3
SSW:4100	Social Work in the Criminal Justice System	3

Organizational Studies Track

This track focuses on management skills used in business enterprises. The track requires 12 s.h. of foundation course work and 18 s.h. of upper-level course work (courses numbered 3000 or above) offered by distance education.

Foundation Course Work

Code	Title	Hours
12 s.h. from these:		
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
BUS:2300	Searching for Business Information	1
COMM:1816	Business and Professional Communication	3
COMM:1819	Organizational Leadership	2-3
COMM:2010	Communication and Organizational Culture	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:2800	Statistics for Strategy Problems	3
ENTR:2000	Entrepreneurship and Innovation	3
MATH:1340	Mathematics for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
PSY:2910	Industrial/Organizational Psychology	3

STAT:1020/ PSQF:1020 or STAT:1030	Elementary Statistics and Inference Statistics for Business	3
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Upper-Level Course Work

Code	Title	Hours
18 s.h. from these:		
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:4400	Managing the Growth Business	3
FIN:3000	Introductory Financial Management	3
INTD:3005/ CW:3005	Professional and Creative Business Communication	3
JMC:3115	Audience Engagement: Marketing Research in the Digital Age	3
MKTG:3000	Introduction to Marketing Strategy	3
MSCI:3000	Operations Management	3
MSCI:3005	Information Systems	3
RCE:4140	Foundations of Leadership for Community Agencies	3
RCE:4187/ EDTL:4987	Introduction to Assistive Technology	3
RCE:4197	Citizenship in a Multicultural Society	3
SOC:4225	The Social Psychology of Leadership	3
SRM:3153	Sport Business Practices	3
SRM:3154	Foundations of Event Management	3
SRM:3158	Sport and Recreation Promotion	3
SSW:3600/ MGMT:3600/ NURS:3600/ RELS:3701	Nonprofit Organizational Effectiveness II	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

Admission

Individuals who would like to earn the Bachelor of Liberal Studies degree must apply for admission to the program.

Applicants to the B.L.S. program must meet one of the following sets of requirements:

they must have at least 24 s.h. of graded college-level transfer credit with a g.p.a. of 2.00 or higher and must have been granted a high school diploma at least three years before being admitted to the B.L.S. program; or

they must hold an Associate degree with a g.p.a. of 2.00 or higher for all college-level transfer credit.

Belin-Blank Center for Gifted Education

Director

- Susan G. Assouline

Website: <http://www2.education.uiowa.edu/belinblank/>

The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development is dedicated to serving the needs of the gifted community at local, national, and international levels. It offers programs for preservice and inservice educators, including the State of Iowa Talented and Gifted Endorsement. Its online and on-campus courses about the nature and needs of gifted learners, as well as about ways to facilitate talent development, support the professional development of educators worldwide.

The center is home to the Assessment and Counseling Clinic and the Acceleration Institute. The center also administers the College of Education's Honors Opportunity Program, through which qualified undergraduate students in education work toward graduation with collegiate honors.

Precollege Program Offerings

The Belin-Blank Center offers a wide variety of programs for precollege students.

Belin-Blank Exceptional Student Talent Search (BESTS)

BESTS (grades 4-9) helps determine talented students' academic abilities and needs.

Blast

Blast (grades 2-6) is a nonresidential summer program for Belin-Blank Exceptional Student Talent Search members that offers two weeks of half-day classes in Iowa City.

Bucksbaum Early Entrance Academy

The Bucksbaum Early Entrance Academy (grade 10 or 11) gives high-achieving students the opportunity to enroll at the University of Iowa before they finish high school. The Academy provides top students with a high-level curriculum and research opportunities while supporting them through the transition from high school to university. To enter the program, students must have completed grade 10 or the equivalent. The program is open to high-ability students worldwide.

Invent Iowa

As one of the state's original science, technology, engineering, and math (STEM) programs, Invent Iowa is a comprehensive statewide program developed to support educators in promoting the invention process as part of their kindergarten through high school curriculum. Invent Iowa was initiated in 1987 through the support of state political, business, and educational leaders in response to rapidly expanding technology. Since 1999, the Invent Iowa program has been a part of the Belin-Blank Center. The center promotes the use of Invent Iowa curriculum in programming for whole classes, specific groups, or individuals.

Junior Science and Humanities Symposium

The Junior Science and Humanities Symposium (grades 9-12) engages students in original research and experimentation in the STEM fields (science, technology, engineering, and math). Students present the results of their research to a panel of judges and an audience of their peers at the Iowa Regional Junior Science and Humanities Symposium. The top two presenters are invited to present at the national symposium.

Scholastic Art & Writing Awards

The Belin-Blank Center is proud to serve as the Iowa and Midwest region at-large affiliate for the Scholastic Art & Writing Awards (grades 7-12), which recognizes achievement in the literary and visual arts. The Scholastic Art & Writing Awards program is the nation's longest-running, largest, and most prestigious recognition program for creative teens. Over the past 90 years, the Awards have recognized and encouraged artists and writers such as Sylvia Plath, Andy Warhol, Truman Capote, Robert Redford, Tom Otterness, Zac Posen, among countless others.

Weekend Institute for Gifted Students

The Weekend Institute for Gifted Students (grades 2-8) offers three-hour Saturday classes in Iowa City for high-ability students.

Residential Programs

The Belin-Blank Center also offers the following residential programs, which are held on the University of Iowa campus during summer. Students in each program participate in cultural and recreational activities and have access to the University's libraries, computer facilities, and study areas. Housing and meals are provided at the University's residence halls.

Blank Summer Institute

The Blank Summer Institute for the Arts & Sciences (BSI) is a one-week program that provides an intensive, advanced educational experience designed to enhance exceptionally talented students' intellectual and social growth. The BSI study plan complements the regular school curriculum. Students are nominated for one of eight courses that explore advanced science, math problem solving, social sciences, creative writing, invention and innovation, visual arts, performing arts, and global and cultural studies.

To be eligible for BSI, students must be Iowa residents, must be completing grade 7 or 8, and must be nominated by their schools. Students selected for BSI receive a scholarship to cover part of the institute's cost.

Junior Scholars Institute

The Junior Scholars Institute (JSI) is a one-week program in which students take a single advanced course for the entire week. Students choose from courses on subjects ranging from creative writing to engineering to the arts.

JSI is open to students from around the world. To be eligible, students must be completing grade 6, 7, or 8. They may nominate themselves and must submit a nomination packet. Students selected for JSI receive a scholarship to cover part of the institute's cost.

Perry Research Scholars Institute

Students completing grade 8, 9, or 10 may apply for the Perry Research Scholars Institute (PRSI), a two-week residential summer academic program. PRSI students experience first-hand the wide variety of research that takes place at a research intensive university.

Summer Residency in Art or Writing

The Summer Residency in Art or Writing offers a three-week residential program for students completing grade 9, 10, or 11. The two programs immerse students in the creative environments of the University of Iowa's world-class faculty in art or writing. Out of class opportunities include evening tours, lectures, and events that are designed to stretch the developing artist or writer.

Secondary Student Training Program

Students completing grade 10 or 11 may apply for the Secondary Student Training Program [p. 1839] (SSTP), a five and one-half-week residential summer research program. SSTP students conduct research in university research groups under the guidance of a faculty mentor. Students earn 3 s.h. of academic credit. Visit the SSTP website to learn more about the program, including eligibility and application.

For more information about the center and its programs, contact the Belin-Blank Center or visit its website.

Courses

Belin-Blank Center for Gifted Education Courses

BBC:1000 Bucksbaum Academy Second-Year Seminar **1 s.h.**

Unites self-efficacy skills attained in first-year seminar experience with exploration of how to foster more fulfilling and productive lives; understanding and development of high potential; for Bucksbaum Academy second-year students and early-entrance program supported by the Belin-Blank Center.

BBC:1001 Summer Art Residency **2 s.h.**

Partnership between Belin-Blank Center and the UI School of Art and Art History; designed for talented high school artists from across the country; taught by faculty, staff, and graduate students from the School of Art and Art History and special visiting artists.

BBC:1002 Summer Writing Residency **2 s.h.**

Partnership between Belin-Blank Center and the UI undergraduate creative writing program; designed for talented high school writers from across the country; taught by faculty, staff, and graduate students from the English department, Iowa Writers' Workshop, and special visiting authors.

Biomedical and Health Sciences

Director

- Tanya M. Uden-Holman

Coordinator

- David G. Rethwisch (Chemical and Biochemical Engineering)

Precollege Program of Study

Biomedical and Health Sciences offers a sequence of Project Lead The Way courses for high school students taught in conjunction with traditional math and science courses. The curriculum emphasizes critical thinking, creativity, innovation, and real-world problem solving. Courses provide students with in-depth, hands-on knowledge of biomedical science.

Courses

Biomedical and Health Sciences Courses

BMS:1010 Principles of Biomedical Science **1 s.h.**

Introduction to human physiology, basic biology, medicine, and research processes through student activities and projects. Requirements: Project Lead The Way high school student.

BMS:1020 Human Body Systems **3 s.h.**

Interactions of human body systems in promoting homeostasis. Requirements: Project Lead The Way high school student.

BMS:1030 Medical Interventions **3 s.h.**

Techniques for preventing, diagnosing, and treating diseases. Requirements: Project Lead The Way high school student.

BMS:1040 Biomedical Innovation **3 s.h.**

Independent projects with a mentor to design solutions for pressing health challenges for the 21st century. Requirements: Project Lead The Way high school student.

Career Center Programs

Director

- David Baumgartner

Website: <https://careers.uiowa.edu/>

The University of Iowa Marvin A. and Rose Lee Pomerantz Career Center administers the University's Career Center Programs. Students may use the Pomerantz Career Center's services at any time during their academic careers, but the center encourages entering first-year and transfer students to visit after they arrive on campus and to make use of all of the center's services throughout their study at Iowa.

The center offers tailored professional career advising to students who are deciding on majors that connect with career interests, résumé and cover letter help, job and internship strategies, ways to gain hands-on experience, interview strategies, and other career-related topics. Students also can walk in daily for assistance from career peer advisors. Workshops and programs are presented to students across campus on career and professional development-related topics each semester.

Academic courses in career-related topics, such as career exploration and job search skills, are available each semester for academic credit ranging from 1-3 s.h. per course. See "Professional Development Courses" below for more information. Other courses are offered through the Leadership Studies [p. 1824] Program.

The center hosts several career fairs each fall and spring, offering students the opportunity to talk with and learn about prospective employers.

The Pomerantz Career Center facilitates job and internship interviewing with a wide range of employers: regional, national, and international; profit and nonprofit; state and federal government. Employers conduct on-campus interviews at specific times during the year, and many post immediate openings year-round for internships and for full-time positions. On-campus recruiting and job, internship, and student employment postings are available on HireaHawk.com.

The center helps students find internships in Iowa, the Midwest, nationwide, and sometimes in other countries. For discipline-related internships (all require course registration), see Courses [p. 1808] in this section of the Catalog.

For more information about the center's services and facilities, contact the Pomerantz Career Center.

Professional Development Courses

Professional development courses give students the opportunity to engage in practical, hands-on, skills-based instruction relevant to careers and leadership development. The topics and curricula for the following courses incorporate input from employers, who were surveyed about their experiences, real-world examples, guidance, and the skills they most often seek when hiring new graduates.

Code	Title	Hours
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1

CCP:1303	Successful Teamwork for the Workplace	1
CCP:1304	Job Search Essentials	1
CCP:1305	Social Media for Your Job Search	1

Courses

Career Center Programs Courses

CCP:1005 Internship in Liberal Arts and Sciences 0 s.h.
Recognition of practical work experience and internships.

CCP:1006 Internship in Business 0 s.h.
Recognition of practical work experience and internships.

CCP:1007 Internship in Education 0 s.h.
Recognition of practical work experience and internships.
Requirements: admission to Teacher Education Program for undergraduates.

CCP:1010 Internship in Nursing 0 s.h.
Recognition of practical work experience and internships.
Requirements: admission to College of Nursing.

CCP:1015 Internship 0 s.h.
Recognition of practical work experience and internships.

CCP:1017 Winterim Externship 0 s.h.
Recognition of practical work experience for career exploration; externships are shorter in duration and can include job shadowing, small projects, and informational meetings under the mentorship of a supervising professional; experiential education course that provides students with an opportunity to expand on their externship by reflecting on their experience through a self-assessment and evaluation; does not meet the Tippie RISE requirement for business students or CPT/Academic Training requirements for students on an F-1 or J-1 visa.

CCP:1069 Military-to-Civilian Career Exploration arr.
Increase service and veteran members' awareness of skills for employment and of personal qualities when hired; improve student's ability to choose career that is right for them through self-discovery and research; focus on role of personal interest, skills, and aptitudes in attaining and succeeding in given career pursuits; use and interpretation of career-related assessment inventories, how this information can lead to job and career satisfaction.

CCP:1091 Internship in Law 0 s.h.
Recognition of practical work experience and internships.

CCP:1170 Internship in Public Health 0 s.h.
Recognition of practical work experience and internships.
Requirements: admission to the College of Public Health.

CCP:1201 Academic Internship 1-3 s.h.
Opportunity for students to expand on internship experiences by developing learning objectives and reflecting on experience; how internship experience relates to academic course work and future career goals. Prerequisites: a minimum g.p.a. of 2.00. Requirements: secured internship, cumulative g.p.a. of at least 2.00, and completion of 24 s.h. of UI course work (12 s.h. for transfer students).

CCP:1300 Major and Career Explorations 1 s.h.
Helps students identify their interests, skills, and values relative to majors and careers; self-assessment, informational interviews, research on majors and careers.

CCP:1301 Communication for the Workplace 1 s.h.

How effective verbal and written communication is utilized in the workplace; how email and social media communication is used at work; appropriate ways to utilize assertiveness skills; development of refined presentation skills necessary for the workplace; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

CCP:1302 Office Etiquette for the Workplace 1 s.h.

How professionalism and work ethic is demonstrated in the workplace; time management and organization skills relevant to full-time employment; succeeding in multigenerational workplaces; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

CCP:1303 Successful Teamwork for the Workplace 1 s.h.

Demonstration of problem solving and self-awareness skills relevant to the workplace; application of listening and critical thinking skills; how to perform with a global mindset in the workplace; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

CCP:1304 Job Search Essentials 1 s.h.

Essential skills for finding full-time employment; creating and polishing a résumé, techniques for interviewing and networking, and developing a personal job search plan for students thinking about graduation and wanting to get serious about a job search. Requirements: junior or higher standing.

CCP:1305 Social Media for Your Job Search 1 s.h.

Effective use of social media for networking as part of preparing for a job search; efficient identification and utilization of online tools (e.g., LinkedIn, Twitter); building a professional online presence; creating a plan for utilizing social networks for an entry-level job search.

CCP:1306 UI STEP - Student to Employed Professional 2 s.h.

Current employment trends, changes in employer recruitment, and career preparation procedures as undergraduate students; analysis of current employment and University experiences through self-assessment activities; development of a personal action plan to minimize experience gaps; expectations of entry-level employees in résumé, interview, and on-the-job performance; small-group discussion, online discussion boards, assigned readings, education workshops, and action activities. Requirements: student hourly or work-study employment. Recommendations: sophomore or junior standing.

CCP:2001 Graduate Admissions 101 1 s.h.

Preparation for graduate school application and admissions process; graduate entrance examinations, how to select a graduate program, graduate school applications and personal statements, securing a graduate assistantship, and graduate school interviews. Recommendations: junior standing or one-to-two years before start of graduate school for an intentional and less stressful application process.

CCP:2002 International Job Search: Working Abroad 1 s.h.

Beginner's guide to international employment: how to conduct an international job search, applying and interviewing for work abroad, using the internet to your advantage, networking domestically, using United States resources in seeking foreign employment, what to expect in the foreign workplace.

CCP:2003 Preparation for Success in the Workplace 3 s.h.

Communication, office etiquette, and successful teamwork combined in one course; crucial professional development topics for all majors and disciplines before entering workplace. Requirements: sophomore or higher standing.

CCP:2004 Internships: Search, Secure, and Succeed 1 s.h.

Types of internships; how to find and succeed at an internship; identifying internship priorities; creating résumés; interviewing skills; successful networking; tips for professionalism.

CCP:2020 Washington Center Internship Program arr.

Internship placements for all UI majors; sample internships include United Way Worldwide, U.S. Department of Education, Federal Trade Commission, Financial Services Roundtable, Congressional offices, Urban Institute, Pan American Health Organization, U.S. Department of the Interior, Peace Corps, C-SPAN, Voice of America, U.S. Marshals Service, Federal courts, and law offices; in addition to the internship, program includes the LEAD Colloquium (Leadership, Civic Engagement, Achievement, and Career Development), an academic course with professional networking, participation in Presidential Lecture Series, and Congressional Breakfast Series.

CCP:2021 Washington Center Seminar arr.

Combined classroom instruction, faculty-led discussions, and experiential work opportunities; usually offered in Washington, D.C., occasionally at other locations tied to an event (e.g., political convention); one or two weeks.

CCP:2202 International Student Full-Time Academic Internship 9 s.h.

Academic credit for full time internship (minimum of 40 hours per week) that relates to student's major field. Requirements: occupies an academic term (fall or spring) and must participate in the internship and the course during the same semester, F-1 or J-1 visa international student, undergraduate standing in the Tippie College of Business, minimum 3.00 g.p.a., must be approved by International Student and Scholar Services (ISSS) for F-1 Curricular Practical Training (CPT) or J-1 Academic Training (AT), and concurrent registration in approved singular 3 s.h. distance education course to reach full-time (12 s.h.) student standing.

CCP:3101 Advanced Job Search Skills 2 s.h.

Independent online study with required face-to-face meetings with career coaches to discuss plans and improve skills; seminars with employer panels and opportunities to network; students will develop targeted job search plan and strategies to succeed. Requirements: junior (60 s.h. minimum) or higher standing.

CCP:3102 Job Search Strategies 2-3 s.h.

How to conduct a successful job search; résumé development, interviewing, branding, and job search strategies; how to get ahead in your job. Requirements: junior, senior, or graduate standing.

CCP:3103 MoneyWise 1-2 s.h.

Basics of personal finance for success at work and in life; savings, debt, mortgages, loans, employer benefits, insurance and student loans; may include investment basics (e.g., stocks, bonds, mutual funds, 401ks, IRAs).

CCP:3104 Defining Your Career Path 2 s.h.

Transitioning between career fields; understanding personal interests, values, and abilities; methods of researching information on careers; career development models and student preferences in making career-related decisions; preparation for making career-related decisions through participation in class and individual activities; balancing current responsibilities such as finances and family during a career transition. Requirements: 60 s.h. completed.

CCP:3169 Internship in Graduate Studies 0 s.h.

Recognition of practical work experience and internships. Requirements: admission to Graduate College.

CCP:3203 Investment Wise: Personal Investment Basics 2 s.h.

Basic understanding of general principles of personal investing; topics may include compounding, stocks, bonds, mutual funds, 401K/403B, IRAs, diversification, and asset allocation.

Center for Diversity and Enrichment

Executive Director

- Nadine C. Petty

Website: <https://diversity.uiowa.edu/office/center-diversity-and-enrichment>

The Center for Diversity and Enrichment offers the Iowa First Nations summer program for high school students and the Iowa Edge program for students entering the University of Iowa.

Precollege Program of Study

Iowa First Nations

The Iowa First Nations program enables high school students to explore the educational opportunities offered on the University of Iowa campus and by the higher education field. Iowa First Nations students live on campus for a week (Monday through Friday), spending five nights in one of the University's residence halls. They go on structured field trips to campus departments, participate in hands-on classroom experiences, and take part in activities on campus and in the community.

Undergraduate Program

The Iowa Edge

The Iowa Edge program is a retention program that supports incoming students as they make their transition to the University of Iowa. The program is held on Sunday through Wednesday, the week before fall semester classes begin. Iowa Edge students move into the residence halls early, learn about campus resources, become familiar with the campus setting, engage in academic sessions with faculty, explore identity, and build community with other students. Current UI students serve as Iowa Edge peer leaders, facilitating the program.

Courses

Center for Diversity and Enrichment Courses

CDE:0023 Iowa First Nations 0 s.h.

CDE:2013 Iowa Edge Peer Leader Training 1 s.h.

Preparation for role of Iowa Edge Peer Leader; working with African American, Alaskan Native, American Indian, Asian American, Pacific Islander, Latino/a, and first generation college students; development of leadership, group facilitation, presentation, and peer mentoring skills.

Clinical and Translational Science

Program Coordinator

- Beth Rydstrom Knudson

Committee Members

- Lori Adams (Biology), Beth Rydstrom Knudson, Vincent G. Rodgers (Physics and Astronomy), James C. Torner (Epidemiology/Neuroscience/Surgery)

Undergraduate certificate: clinical and translational science

Website: <https://icts.uiowa.edu/workforce-development/early-scholars-certificate-clinical-and-translational-science>

Translational science focuses on applying biomedical discoveries to health care. It requires team-based interdisciplinary approaches to move research-generated discoveries into clinical trials and to facilitate the adoption of best practices in clinical and community settings. Investigators in translational science understand principles involved in foundational research and how such research relates to epidemiology, behavioral medicine, and patient-oriented research.

Opportunities for training in translational science are available through graduate and professional study in medicine, public health, nursing, dentistry, pharmacy, and other allied health professions, including biostatistics, behavioral medicine, clinical pharmacology, and epidemiology.

The certificate program in clinical and translational science provides undergraduates with opportunities to connect their research activities to translational science and to begin training in the discipline.

The Certificate in Clinical and Translational Science is presented by the Institute for Clinical and Translational Science and Iowa Biosciences Academy; it is administered by University College.

Programs

Undergraduate Program of Study Certificate

- Certificate in Clinical and Translational Science [p. 1813]

Clinical and Translational Science, Certificate

The undergraduate Certificate in Clinical and Translational Science requires 16 s.h. of credit. Students must maintain a g.p.a. of at least 3.00 in the certificate's core courses. Work for the certificate includes core courses and electives. Students must complete all course work for the certificate within three years of entering the program.

The Certificate in Clinical and Translational Science requires the following course work.

Core Courses

Code	Title	Hours
All of these (10 s.h.):		
EPID:4400	Epidemiology I: Principles	3
STAT:3510/ IGPI:3510	Biostatistics (or an equivalent course)	3
TBM:3001	Introduction to Translational Research (must take EPID:4400 before or at the same time as this course)	2
TBM:3002	Practicum in Clinical and Translational Science (capstone course; must take TBM:3001 before this course)	2

Electives

Students must earn a total of 6 s.h. in courses chosen from the following lists.

Creative Writing

Code	Title	Hours
CNW:3664	Writing About Science	3

Life Sciences

Code	Title	Hours
BIOC:3110	Biochemistry	3
BIOC:3120	Biochemistry and Molecular Biology I	3
BIOC:3130	Biochemistry and Molecular Biology II	3
BIOL:2254	Endocrinology	3
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3253	Neurobiology	4
BIOL:3713	Molecular Genetics	4
BIOL:3753	Developmental Neurobiology	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	4
BIOL:4333	Genes and Development	3
MICR:2157	General Microbiology	3

MICR:3147	Immunology and Human Disease	3
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Global Health

Code	Title	Hours
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project (when subtitle is research design in global health)	2-3
GHS:3102/ ANTH:3102/ CBH:3102	Medical Anthropology	3
GHS:3111/ GEOG:3110	Geography of Health	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4600	Global Health and Human Rights	2-3

Health and Human Physiology

Code	Title	Hours
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3500	Human Physiology	3
HHP:3850/ GHS:3850	Promoting Health Globally	3
NURS:1030	Human Development and Behavior	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3

Psychological and Brain Sciences

Code	Title	Hours
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:3010	Health Psychology	3

Public Health

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CPH:1400	Fundamentals of Public Health	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3

CPH:3500/ GHS:3500	Global Public Health	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

Admission

Admission to the certificate program is selective. Applicants must fulfill the following requirements by the end of the semester in which they apply:

- have a cumulative g.p.a. of at least 3.00;
- have earned a minimum of 45 s.h. of college-level credit;
- have been engaged in mentored scientific research at the University of Iowa;
- have completed one of these: BIOL:1411 Foundations of Biology or BIOL:1141 Introductory Animal Biology; and
- have completed one of these: MATH:1380 Calculus and Matrix Algebra for Business or MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I.

Application

Interested students should apply on the certificate program's student application system. Applications are accepted on a rolling basis and are reviewed by the Certificate in Clinical and Translational Science Steering Committee. Students will receive an email after an admissions decision has been made. Consult the Early Scholars Certificate in Clinical and Translational Science website for more information.

Applications should include the following:

- a description of the student's undergraduate research (maximum of 1,000 words), including the approximate number of hours per week the student spends conducting the research and the name and email address of the student's research mentor;
- a personal statement outlining the student's professional and career goals;
- a copy of the student's grade report from MyUI; and
- a letter of recommendation from the student's research mentor.

College Success Initiatives

Coordinator

- Lisa Ingram

College Success Initiatives (CSI) courses are designed to support new first year and transfer students in their transition to the University of Iowa. In addition, CSI courses enrich students' experiences, develop their academic skills, and prepare them for college-level learning.

College Success Initiatives courses are administered by the associate provost for undergraduate education through the Academic Advising Center and University College.

Courses

College Success Initiatives Courses

CSI:1020 Academic Seminar I 3 s.h.

Development of knowledge and skills essential for academic success at college level; reading, writing, and communication skills; focus on reading comprehension, class discussion, and development of writing process; various narratives including published collections of essays and peers' texts; writing process and techniques, and components that bring each piece together. Requirements: IowaLink participant.

CSI:1021 Academic Seminar II 3 s.h.

Continued development of knowledge and skills necessary for academic success; reading, writing, and communication skills; experimentation with ethnographic research methods, exploration of cultures and subcultures; writing about findings in various experimental forms, using as a model, short ethnographic essays, excerpts from a graphic novel; focus on reading comprehension strategies, class discussion, and development of writing process. Requirements: IowaLink participant. Recommendations: CSI:1020.

CSI:1100 College Transition Seminar 1 s.h.

College culture, University of Iowa resources, refinement of study skills, test taking, identification of personal values, self-motivation, goal setting; taught in small sections with emphasis on classroom discussion. Requirements: entering first-year student.

CSI:1150 College Transition Workshop 1 s.h.

Preparation for affiliated lecture course; practical context to apply, evaluate, and refine study skills strategies explored in CSI:1100; expand study strategies, enhance grasp of affiliated course material, and apply study skills to future course work. Corequisites: CSI:1100. Requirements: concurrent enrollment in a CIC affiliated lecture course.

CSI:1200 First-Year Seminar 1 s.h.

Introduction to the intellectual life of the University; opportunity to work closely with a faculty member or senior administrator; active participation that eases the transition to college-level learning.

CSI:1210 Peer Led Undergraduate Study (PLUS) 0 s.h.

Peer guided and facilitated academic support focusing on quantitative problem solving skills; students discuss course material, address multiple course concepts, and develop tools and skills for effective study habits.

CSI:1213 Special Topics I 0-6 s.h.

Special topics offered through University College at the Iowa Medical Classification Center (IMCC). Requirements: Oakdale outreach student.

CSI:1214 Special Topics II 0-6 s.h.

Special topics offered through University College at the Iowa Medical Classification Center (IMCC). Requirements: IMCC inmate.

CSI:1215 Exploring Liberal Arts 2 s.h.

Introduction to the benefits of exposure to opportunities made available through higher education, particularly in liberal arts/humanities fields; focus on literacies practiced in a liberal arts curriculum—reading, writing, speaking, and listening; students gain a basic understanding of how their development in these practices support their self-efficacy in academic success, obtaining employment, being a productive citizen, and living a fulfilling life.

CSI:1217 Singing, Reflecting, and Writing in a Choir 2 s.h.

Students explore musical, social, and civic learning opportunities through group singing—practicing solfège, improvising, reading traditional music notation, developing rhythmic competencies (e.g., performing a steady beat, understanding meter, practicing vocal techniques)—and writing reflectively and critically on choral singing in prisons.

CSI:1220 Green Adventures: This is What Happens 1 s.h.

Designed for students of the Green Adventures Living Learning Community; basic sustainability practices and education; opportunity for experiential education; help students incorporate sustainable practices into daily life and academic, professional, and cocurricular experiences.

CSI:1230 Exploring Social Justice 1 s.h.

Definition of social justice; current issues involving social justice at local level and larger macro level; for students in the Justice for All Living Learning Community (LLC).

CSI:1240 Well Beings Living Learning Community Seminar 1 s.h.

Knowledge and skills that contribute to personal wellness and success as students; focus on individual as well as environmental aspects that contribute to health and well-being; varied activities, assessments, and programs offered with opportunity for personal reflection; discussion of wellness resources and helping others; for students in Well Beings Living Learning Community (LLC).

CSI:1250 Introduction to Law Study and Legal Careers 1 s.h.

Introduction to legal education and careers; exploration of role of law in society, nature of legal education, careers in law, and current legal issues; opportunity for students to begin reflecting on their own interest in this field.

CSI:1270 Military-to-College Transition Success 1 s.h.

Transitioning from military, guard, or reserve status into academia, employment, and other aspects of civilian life; strategies for succeeding in school and at work, including time management, writing ability, and critical thinking; impact of military experiences on success as civilians, particularly as students; vocational skills such as résumé writing and interviewing; life issues such as maintaining successful relationships, self-care, and leadership; networking with other military-related students and staff.

CSI:1280 Steps to Success for TRiO: Step I 1 s.h.

Learning about and adjusting to the University of Iowa for TRiO students; first in a series of courses.

CSI:1281 Steps to Success for TRiO: Step I 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; first (second semester) in a series of courses.

CSI:1290 Steps to Success for TRiO: Step II 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; second in a series of courses.

CSI:1291 Steps to Success for TRiO: Step II 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; second (second semester) in a series of courses.

CSI:1380 Steps to Success for TRiO: Step III 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; third in a series of courses.

CSI:1381 Steps to Success for TRiO: Step III 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; third (second semester) in a series of courses.

CSI:1390 Steps to Success for TRiO: Step IV 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; fourth in a series of courses.

CSI:1391 Steps to Success for TRiO: Step IV 1 s.h.
Learning about and adjusting to the University of Iowa for TRiO students; fourth (second semester) in a series of courses.

CSI:1400 The Passport Project: Exploring Iowa and Iowa City 1 s.h.
Attendance and discussion at 12 events of student's choice, selected from the University and Iowa City's rich cultural offerings. Same as ARTS:1400.

CSI:1450 Exploring Iowa and Iowa City: Passport Project Colloquium 3 s.h.
Opportunities for peer mentors involved in ARTS:1400 and CSI:1400; activities including short readings and media screenings related to innovative and best practices in learning and teaching; emphasis on multi-modal writing online for peers; informal presentations and reflections; may include work with Passport Projects students, collaboration on development of guidelines and handouts for best practices in writing, and supplemental writing reflections. Same as ARTS:1450.

CSI:1460 Athletic Transition Seminar 1 s.h.
Overview of the Hawkeye Life Program for new student athletes; foundational pillars for all student athletes at the UI; application of skills in leadership, community engagement, academic success, career development, health and well-being, diversity and inclusion through exploration and application of these pillars; students further examine their academic, personal, and career goals.

CSI:1470 The Hawkeye Life Experience 1 s.h.
Experiential seminar for student athletes; students select events that focus on leadership, community engagement, academic success, career development, health and well-being, and diversity and inclusion from the Hawkeye Life Program; students post written reflections of their experiences online and reflect on their experiences during seminar-style class discussions.

CSI:1490 Flip the Script 1 s.h.
Sexual assault resistance education designed specifically for university women; theory, research evidence, and best practices for helping women resist acquaintance sexual assault; consists of four core units in which information is provided and skills are taught and practiced with the goal of being able to assess risk from acquaintances, overcome emotional barriers in acknowledging danger, and engage in effective verbal and physical self-defense.

CSI:1500 College Success Seminar 1 s.h.
Skills, habits, and attitudes essential for college success; self-assessment, goal setting, problem solving, motivation, time management, study skills, preparing for and taking tests; campus resources, including the Pomerantz Career Center, University Counseling Service; emphasis on class participation and completion of assignments related to course topics. Requirements: selected students with first-year standing in the College of Liberal Arts and Sciences.

CSI:1550 Strategies for Academic Success 1 s.h.
Designed for second-year students; focus on academic strategies to help students improve their academic performance; topics include organization, goal setting, motivation, time management, study skills, test preparation, and campus resources; requires class participation and completion of assignments related to course topics. Requirements: second-year standing in the College of Liberal Arts and Sciences and no prior credit earned for CSI:1500.

CSI:1600 Success at Iowa 0-2 s.h.
Online course designed to help students transition successfully to the University of Iowa; required of all new undergraduate first-year and transfer students.

CSI:2100 The Transfer Transition 1 s.h.
Adjustment to university life and academics; strategies for academic success including study and test-taking skills, time management, utilization of campus resources for success in courses; planning a major and learning about Career Center services; exposure to university culture; opportunities to reflect on adjustment to the University. Requirements: entering transfer student standing.

CSI:2600 UNI Regents Online Course Exchange 1-4 s.h.
University of Northern Iowa Online Course Sharing course; offered by the University of Northern Iowa (UNI) to University of Iowa students as part of an Iowa Board of Regents online course sharing project between the University of Iowa (SUI), Iowa State University (ISU), and the University of Northern Iowa (UNI).

CSI:2610 ISU Regents Online Course Exchange 1-4 s.h.
Iowa State University Online Course Sharing Course; offered by Iowa State University (ISU) to University of Iowa students as part of an Iowa Board of Regents online course sharing project between the University of Iowa (SUI), Iowa State University (ISU), and the University of Northern Iowa (UNI).

CSI:3110 Global at Iowa 0-1 s.h.
Creation of a learning environment where international and American students are introduced to issues and experiences of the others; international students new to the United States learn about the transition and adjustment period while becoming familiar with campus and American culture, American students are exposed to the sometimes very different cultural backgrounds and perspectives of international students; brief reflection papers, significant in-class discussion, and one or two small group projects.

CSI:3120 Global at Iowa Teaching Practicum 0-3 s.h.

Corresponding practicum class for teaching assistants of Global at Iowa (CSI:3110); students will facilitate class activities, support small group work, grade assignments, participate in a National Coalition Building Institute (NCBI) training workshop, and attend weekly meetings to discuss the Global at Iowa course.

Distance and Online Education

Associate Dean

- Anne W. Zalenski

Website: <https://distance.uiowa.edu/>

Distance and Online Education (DOE) increases access to the services and resources at the University of Iowa. In partnership with the University's colleges and departments, DOE provides high-quality credit course work, degrees, and certificate programs to traditional and nontraditional learners. Using a variety of locations, schedules, and technologies, DOE helps provide a University of Iowa learning environment beyond the physical borders of campus. In addition, many on campus students enjoy the flexibility that online course work affords them. Courses offered through University College are taught by University of Iowa faculty and staff members.

There are nine undergraduate degrees, twelve graduate degrees, seven undergraduate certificates, and eleven graduate certificates available either online or on location in Iowa. DOE has offered 617 online or on location courses during the academic year.

A list of all degrees and certificate programs is provided below. For additional information on a particular program, see the program finder on the DOE website.

Programs of Study Online or on Location in Iowa

Undergraduate Degrees

- Bachelor of Applied Studies [p. 1795]
- B.A. in enterprise leadership [p. 397]
- B.A. in political science [p. 845]
- B.A. in social work [p. 923]
- Bachelor of Business Administration [p. 1049]
- Bachelor of Liberal Studies [p. 1798]
- Bachelor of Science in Nursing [p. 1668] (RN-B.S.N. for registered nurses)
- B.S. in radiation Sciences [p. 1644] (radiation therapy)
- B.S. in sport and recreation management [p. 574]

Undergraduate Certificates

- Aging and Longevity Studies [p. 35]
- Entrepreneurial Management [p. 1082]
- Interscholastic Athletic/Activities Administration [p. 587]
- Leadership Studies [p. 1827]
- Museum Studies [p. 748]
- Nonprofit Management [p. 1838]
- Writing [p. 714]

Graduate Degrees

- Doctor of Nursing Practice [p. 1673]
- M.A. in educational policy and leadership studies [p. 1200] (educational leadership)
- M.A. in psychological and quantitative foundations [p. 1222] (educational measurement and statistics)
- M.A. in psychological and quantitative foundations [p. 1223] (learning sciences)

- M.A. in strategic communication [p. 684]
- M.A. in teaching and learning [p. 1273] (teaching, leadership, and cultural competency)
- Master of Business Administration [p. 1135] (executive, professional, Hong Kong)
- Master of Health Administration [p. 1770] (executive)
- M.S. in business analytics [p. 1119] (professional)
- Master of Science in Nursing [p. 1672]
- M.S. in teaching and learning [p. 1280] (STEM education)
- Master of Social Work [p. 928]

Graduate Certificates

- Aging and Longevity Studies [p. 36]
- Business Analytics [p. 1121]
- Health Systems [p. 1687]
- Healthcare Management [p. 1777]
- Online Teaching [p. 1212]
- Public Health [p. 1739]

Professional Certificates

- Business Fundamentals [p. 1141]
- Finance [p. 1142]
- Leadership [p. 1143]
- Marketing [p. 1144]

Resource Centers

Distance and Online Education also partners with the state of Iowa's Regents Resource Centers located in Council Bluffs, Des Moines, Sioux City, and Milford. The primary goal of the resource centers is to increase access to high-quality undergraduate and graduate program opportunities online and on location to students in the region where they live. Other community partnerships have been created further benefiting Iowans.

Southwest Iowa Regents Resource Center

Director: Michael Hero

Website: <https://qualityeducationswia.org>

This center is located in Council Bluffs, Iowa, on the Southwestern Iowa Community College campus.

Northwest Iowa Regents Resource Center

Director: Steve Warnstadt

Website: <https://qualityeducationnwia.org/>

This center is located in Sioux City, Iowa, on the Western Iowa Tech Community College campus.

Iowa Lakeside Laboratory and Regents Resource Center

Executive Director: Mary P. Skopec

Website: <https://iowalakesidelab.org>

This center is located near Milford, Iowa, on scenic West Okoboji Lake on Little Miller's Bay.

Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa, and administered by the University of Iowa. The laboratory offers summer courses and research opportunities for undergraduate

and graduate students. Courses focus on the ecology, taxonomy, and conservation of northern plains animals, plants, microorganisms, and ecosystems.

Des Moines Programs

Director: Tom W. Rice

Website: <https://desmoines.uiowa.edu>

There are two University of Iowa education centers in Des Moines—the Iowa Center for Higher Education and the John and Mary Pappajohn Educational Center.

The John and Mary Pappajohn Education Center (JMPEC) is located in downtown Des Moines, Iowa, close to many corporate businesses and government offices making it an ideal place for working adults who want to further their education with a graduate degree.

On January 1, 2019, the Iowa Center for Higher Education will no longer be in operation. All undergraduate programming will be located at the Pappajohn Education Center.

Intercollegiate Athletic Participation

Director

- Elizabeth A. Tovar

Website: <http://academics.hawkeyesports.com/>

Students who are members of University of Iowa intercollegiate athletics teams and are certified to participate in their sport may register for CSI:1460 Athletic Transition Seminar and CSI:1470 The Hawkeye Life Experience.

First year student-athletes may enroll in CSI:1460 Athletic Transition Seminar and receive 1 s.h. of graded credit. The course provides new student athletes with an overview of the Hawkeye Life Program through Athletics, the student development program for all student athletes at the University of Iowa. Through the exploration and application of leadership, community engagement, academic success, health and well-being, career development, and diversity and inclusion, students are able to apply these pillars to further examine their academic, personal, and career goals.

Student-athletes who have previously received credit for CSI:1460 Athletic Transition Seminar may enroll in CSI:1470 The Hawkeye Life Experience and receive 1 s.h. of graded credit. The course is an experiential seminar for student athletes. Students select events that focus on leadership, community engagement, academic success, career development, health and well-being, and diversity and inclusion from the Hawkeye Life Program through Athletics, and then post written reflections of their experiences on the class site and reflect on their experiences when the seminar meets.

Registration for CSI:1460 Athletic Transition Seminar and CSI:1470 The Hawkeye Life Experience requires approval from the associate athletics director for student-athlete academic services. Members of University of Iowa sport clubs are not eligible to enroll in CSI:1460 or CSI:1470.

Iowa Biosciences Academy

Codirectors

- Lori Adams (Biology), Vincent G. Rodgers (Physics and Astronomy)

Faculty: <https://iba.biology.uiowa.edu/people>

Website: <https://iba.biology.uiowa.edu>

Iowa Biosciences Academy (IBA) is a highly competitive undergraduate research and academic enrichment program funded by the National Institutes of Health. The program identifies academically talented undergraduate, underrepresented students who aspire to research careers and gives them first-rate training that facilitates entry into doctoral programs in biomedical, behavioral, and biophysical sciences.

Iowa Biosciences Academy students have opportunities to work in research laboratories with faculty mentors during the course of their undergraduate careers. The program's faculty represents a broad range of disciplines in the basic and biomedical sciences. IBA students also benefit from specialized course work, career counseling, and academic advising for biomedical and bioscience careers.

Undergraduate Program

Students selected for Iowa Biosciences Academy must maintain good standing in academics and research. Good academic standing requires a g.p.a. of at least 3.00 and is evaluated at the end of each semester. Good research standing is determined by each student's research mentor. Students work with their mentors throughout the academic year and summer.

Students Accepted from High School

Students admitted to IBA from high school spend their first year at the University of Iowa establishing good academic standing and conducting laboratory experiences.

During fall semester, IBA students enroll in BIOL:1808 Ways of Knowing Science (1 s.h.), where they explore subdisciplines of scientific research represented on campus and learn about the scope and methods of scientific research before diving into the content that is the focus of most biology courses.

During spring semester, IBA students enroll in IBA:1041 IBA Student Development Seminar (1 s.h.), which is designed to help them navigate their laboratory rotations. They also enroll in IBA:3992 IBA Research in Biomedical Science (0 s.h.) and complete a research rotation. The rotation, which is set up by IBA staff, introduces students to laboratory research at the University.

Students may choose to remain on campus for the eight-week summer session. They earn pay for laboratory work with their research mentors and may participate in IBA events. After completing a full year of research experience, each student is evaluated for admission to the IBA Scholar Program. Students who earn admission may continue in IBA throughout the year.

Students Accepted from College

Applications also are accepted from current University of Iowa undergraduates majoring in the sciences as well as students transferring to Iowa. Students accepted to IBA during their first, second, or third year of college join the appropriate class

of IBA scholars. During their first semester of participation, new undergraduates complete lab rotations and establish good academic standing. They also enroll in IBA:1041 IBA Student Development Seminar (1 s.h.). Once students are matched with a research mentor, they earn pay for their laboratory work during summer and the academic year. They also enroll in IBA:3992 IBA Research in Biomedical Science (0 s.h.).

Admission

Students apply to Iowa Biosciences Academy during their senior year of high school or once they are undergraduate students.

Applicants must:

- have a strong interest in pursuing a research career;
- have a qualifying academic major;
- be in good academic standing;
- submit an IBA application, including short essays; and
- submit one letter of recommendation from a science/math instructor or research mentor.

Admission requires an interview. Admission decisions are generally made in March, July, and October. For more information, including an online application form, see the Iowa Biosciences Academy website.

Faculty

Faculty members from the University's broad range of basic and biomedical science disciplines serve as teachers and mentors to IBA students. They represent many departments, including anatomy and cell biology, biochemistry, biology, biomedical engineering, chemistry, health and human physiology, microbiology and immunology, molecular physiology and biophysics, neuroscience, nursing, physics, and psychological and brain sciences.

Courses

Iowa Biosciences Academy Courses

IBA:1041 IBA Student Development Seminar **1 s.h.**

Academic and professional development; presentations by faculty researchers, admissions representatives, or students in graduate bioscience programs; discussions about succeeding at the University; talks by professional educators on topics such as effective study skills.

IBA:3992 IBA Research in Biomedical Science **0 s.h.**

Registration in a section taught by student's research mentor. Requirements: enrollment in IBA.

IBA:5045 Entering Mentoring **0 s.h.**

Process of becoming an effective research mentor; mentoring methods and resolution of mentoring dilemmas; secondhand exposure to the experiences of other mentors; strategies for managing mentoring challenges.

Iowa Lakeside Laboratory

Director

- Mary P. Skopec (Geographical and Sustainability Sciences)

Iowa State University participating faculty

- Lori Biederman (Ecology, Evolution, and Organismal Biology), James Colbert (Ecology, Evolution, and Organismal Biology), Mary Harris (Natural Resource Ecology Management), Elizabeth Swanner (Geological and Atmospheric Sciences)

University of Iowa participating faculty

- John F. Doershuk (Anthropology), Andrew A. Forbes (Biology), Marc A. Linderman (Geographical and Sustainability Sciences), Silvia Secchi (Geographical and Sustainability Sciences), Adam Skibbe (University College)

University of Northern Iowa participating faculty

- Laura Jackson (Biology), Mark Meyers (Biology), Patrick Pease (Geography/Social Science and History Education), Daryl D. Smith (Biology)

Website: <https://iowalakesidelab.org/>

Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa. Students at all three institutions, as well as visiting students, nationally and internationally, may take Iowa Lakeside Laboratory courses for credit. They should check with their advisors to determine whether specific courses count toward requirements of their academic majors or minors or toward other requirements.

Iowa Lakeside Laboratory was established in 1909 for the conservation and study of the rich flora and fauna of northwest Iowa, especially the numerous lakes, wetlands, and prairies of the Iowa Great Lakes region. The campus is located on approximately 140 acres of restored prairie, wetland, and gallery forest along the west shore of West Okoboji Lake. Lakeside's mission is to provide undergraduate and graduate students an opportunity for hands-on experience in a variety of natural and human environments through its field-oriented summer courses, and to provide research facilities and support for graduate students and faculty members working on research projects in northwestern Iowa.

Each summer Iowa Lakeside Laboratory offers students a unique educational experience—small, inquiry-based, full-immersion, field-oriented courses in the natural sciences (archaeology, botany, ecology, hydrology, soils, zoology) and related areas, such as the health sciences. Courses are taught at the sophomore/junior level and the senior/graduate level. Enrollment usually is limited to 10 or fewer students per course. Most courses meet all day Monday through Friday, last four weeks, and offer 1 s.h. of credit for each week (40 clock hours) in class. One- and two-week courses also are available, including courses designed especially for teachers.

Weather permitting, students normally spend at least part of each day doing fieldwork, either as part of their class work or for individual or group projects.

Not all courses are offered every year; visit Course Catalog on the Iowa Lakeside Laboratory website or consult summer course offerings at the University of Iowa or the other Regent

institutions to learn which courses will be offered during a particular summer session.

Research projects by undergraduates, graduate students, and faculty members can be completed either on the Iowa Lakeside Laboratory campus or at many nearby natural areas. Undergraduate and graduate students are strongly encouraged to work on independent projects at the laboratory, and graduate students are welcome to use Lakeside as a base for their thesis and dissertation research. Laboratory space and other facilities are available for long-term or short-term research projects.

Teaching and research facilities include eight laboratory buildings, a library, and a lecture hall. Living accommodations include cottages, motel-style units, and a large mess hall. All students are encouraged to stay at Lakeside while they are taking courses to derive full advantage of its educational, professional, and social life.

Registration

Students may enroll in Iowa Lakeside Laboratory courses by submitting an Iowa Lakeside Laboratory registration and housing form to the Iowa Lakeside Laboratory administrative office. Information about current courses, registration, and housing is available on the Iowa Lakeside Laboratory website.

Registration usually opens in early January. Enrollment is limited, so students should register early. When they register, they must apply for housing or indicate that they plan to live off campus.

Financial Support

Financial support is available for undergraduate and graduate students. The Friends of Lakeside Lab organization provides a merit scholarship that is equivalent to the cost of room and board. Additional financial support may be available from Iowa Lakeside Laboratory and from other sources. Consult the Office of Student Financial Aid for information about support, including work-study and loan programs.

Courses

Iowa Lakeside Laboratory Courses

IAL:1010 Earth, Air, and Sky **1-4 s.h.**
Essentials of earth science, including astronomy, meteorology, geology, and paleontology; includes laboratory and fieldwork.

IAL:1030 Natural History Workshop **1-2 s.h.**
A specific aspect of the upper Midwest's natural history, or techniques for studying natural history; amphibians and reptiles, birds and birding, nature photography, mushrooms and other fungi, Iowa's trees and forests, fish biology, prairies, common algae, common insects, aquatic plants, life in rivers, life in lakes, mosses and liverworts, natural history of Iowa Great Lakes region, field archaeology, scuba diving, astronomy, nature sketching; five-day, nontechnical introductions.

IAL:1040 Field Archaeology **4 s.h.**
Nature of cultural and environmental evidence in archaeology, how such evidence is used to model past human behavior and land use; emphasis on Iowa prehistory; basic reconnaissance surveying, excavation techniques.

IAL:3034 Topics in Ecology and Sustainability 1-4 s.h.

Scientific introduction at intermediate level to ecology and evolution of important groups of organisms: algae to vertebrates, different ecological phenomena (e.g., fire and climate change), varying landforms, different ecosystems (e.g., prairies and aquatic systems); emphasis on sustainability with introduction to concepts, issues, and practices; ability to communicate environmental information through a variety of means. Requirements: one general biology course.

IAL:3101 Science Teaching Methods 1-3 s.h.

Development and implementation of laboratory exercises suitable for inclusion in elementary, middle, high school, and community college biology, geology, and environmental courses; exercises built around common organisms and ecosystems in Iowa; animal biology, plant biology, fungi and lichens, aquatic ecology, prairie ecology, wetland ecology, limnology, animal behavior, insect ecology, biology of invertebrates, noninvasive use of living organisms, Project WET; field trips.

IAL:3103 Aquatic Ecology 4 s.h.

Analysis of aquatic ecosystems; emphasis on basic ecological principles; ecological theories tested in the field; identification of common plants and animals. Requirements: ecology, chemistry, and physics courses.

IAL:3104 Nature Based, Early Childhood Teaching Methods Using "The Project Approach" 3-4 s.h.

Examination of the value of young children's direct experiences in nature through inquiry-based learning; "The Project Approach" builds on children's natural curiosity and enables them to interact, question, connect, problem solve, communicate, and reflect; students follow steps for implementing a nature-based project within their own classroom setting as they insure the needs of diverse learners are met for both social and academic learning; designed for early childhood teachers.

IAL:3109 Ecology and Systematics of Algae 2,4 s.h.

Ecology, morphological structure, phylogeny, and taxonomy of freshwater algae based on field material collected; emphasis on genus-level identifications, biodiversity, ecology; habitat visits to lakes, fens, streams, rivers; algal ecology.

IAL:3113 Undergraduate Independent Study 1-4 s.h.

Requirements: junior or senior standing.

IAL:3114 Field Mycology 2 s.h.

Identification and classification of common fungi; techniques for identification, preservation, and culture practiced with members of various fungi groups.

IAL:3117 Ecology and Systematics of Diatoms 4 s.h.

Field and laboratory study of freshwater diatoms; techniques in collection, preparation, and identification of diatom samples; study of environmental factors affecting growth, distribution, taxonomic characters; project design and execution, including construction of reference and voucher collections; data organization and analysis.

IAL:3122 Prairie Ecology 4 s.h.

Basic patterns, underlying physical and biotic causes of regional and local distributions of North American prairie plants and animals; field and laboratory analysis and projects. Requirements: familiarity with basic principles of biology and ecology.

IAL:3126 Ornithology 2-4 s.h.

Biology, ecology, and behavior of birds; emphasis on field studies of local avifauna; group projects with focus on techniques of population analysis and methodology for population studies.

IAL:3131 Ecology 4 s.h.

Introduction to the principles of ecology at the population, community, ecosystem levels; field studies of local lakes, wetlands, and prairies used to examine factors that control distributions, interactions, and roles of plants and animals in native ecosystems. Requirements: two semesters of introductory biology.

IAL:3164 Animal Behavior 2 s.h.

Examination of ecological and evolutionary theories of animal behavior through field studies of animal coloniality, courtship, territoriality, predator defense, habitat selection, foraging, mating systems, and parental care. Requirements: two biology courses.

IAL:3175 Soil Formation and Landscape Relationships 2-4 s.h.

Relationships between soil formation, geomorphology, environment; soil description, classification, geography, mapping, interpretation for land use.

IAL:3176 Glacial Geomorphology 2,4 s.h.

Field-based introduction to glacial environments and processes including the origin of sediments, landforms, and landscapes produced in glacial and associated environments; aeolian (wind) processes, river and lacustrine systems, and mechanisms and chronologies of climate change.

IAL:5213 Graduate Independent Study 1-4 s.h.**IAL:5217 Ecology and Systematics of Diatoms 4 s.h.**

Leadership Studies

Codirectors

- Amanda McFadden, William Nelson

Undergraduate certificate: leadership studies

Website: <https://careers.uiowa.edu/students/leadership-certificate>

Leadership studies is a multidisciplinary academic field that draws upon theories and applications from a wide variety of related disciplines, such as the social sciences (e.g., psychology, sociology, political science, and anthropology) and the humanities (e.g., philosophy and history), as well as professional fields, including management and education. The Leadership Studies Program examines ethical issues, principles, theories, and styles of leadership; the dynamics of interactions between leaders, followers, and group members; leaders' impact on organizations and communities; and leadership skills such as goal setting, communicating effectively, creating a vision, and empowering others.

The Leadership Studies Program offers the undergraduate Certificate in Leadership Studies as well as the Career Leadership Academy, a two-course sequence designed to help undergraduate students develop leadership and employment skills. The program also offers professional development courses.

Certificate in Leadership Studies

The Certificate in Leadership Studies is an interdisciplinary program coordinated by the Pomerantz Career Center and supported by the Tippie College of Business, the College of Education, the College of Liberal Arts and Sciences, and the Center for Student Involvement and Leadership.

Career Leadership Academy

The Career Leadership Academy is a two-semester sequence of courses designed to help undergraduate students develop vital skills for leadership and career development: communication, interpersonal, and presentation skills and the ability to work well with others. This highly interactive program consists of weekly seminars, activities, and events. Participants also engage in career exploration opportunities, professional networking, and leadership development experiences.

Code	Title	Hours
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

For more information, see Career Leadership Academy on the Pomerantz Career Center website.

Professional Development

Professional development courses provide students with opportunities to engage in practical, hands-on, skills-based instruction relevant to careers and leadership development. The topics and curricula for the following courses incorporate input from employers, who were surveyed about their experiences, real-world examples, guidance, and which skills they most often seek when hiring new graduates.

Code	Title	Hours
LS:2013	Strengths-Based Leadership	1
LS:3003	Culturally Intelligent Leadership	1

Programs

Undergraduate Program of Study Certificate

- Certificate in Leadership Studies [p. 1827]

Courses

Leadership Studies Courses

LS:1005 Leadership Community Seminar 0-1 s.h.

Opportunity to develop leadership knowledge and skills through workshops and programs; meaningful involvement and engagement on campus and in community through service learning opportunities; team building through a variety of initiatives and student-led programming; interaction with students who are making their own personal impact. Requirements: member of Personal Impact Living Learning Community.

LS:1009 Mock Trial 2 s.h.

Opportunity to learn legal analysis and argumentation, public performance; participation in University of Iowa Mock Trial Club; mock trial role preparation, tournament competition, and staging an annual club tournament.

LS:1010 Theme Semester Student Ambassador Seminar I 0-1 s.h.

Preparation to effectively communicate information about the Theme Semester program to faculty, staff, students, and community members; support program events and activities by increasing student involvement.

LS:1011 Theme Semester Student Ambassador Seminar II 0-1 s.h.

Builds off of LS:1010; continued preparation to effectively communicate information about the Theme Semester program to faculty, staff, students, and community members; support program events and activities by increasing student involvement.

LS:1017 Orientation Leader Training 0-2 s.h.

Preparation for leadership role as a Hawkeye Guide in the Office of Orientation Services or as an On Iowa! team captain.

LS:1018 Issues in College Residence Halls I 0-1 s.h.

Development of knowledge and skills required for work as a resident assistant; creating community, handling crises and emergencies; leadership.

LS:1020 Introduction to Leadership 3 s.h.

Overview of leadership theory and skills for effective leadership; historical perspective, development of a personal philosophy of leadership, self-assessments, leadership models; study of groups, culture, and communities; application of experiential learning settings; community service project; geared toward emerging student leaders.

LS:1021 Current Issues and Leadership in Fraternity and Sorority Life 3 s.h.

Current issues facing leaders (alcohol and hazing education, conflict management, lasting impact of organizations on members); lifetime membership and values-based decision making; for leaders of fraternity and sorority community.

LS:1022 President's Leadership Class (PLC) 3 s.h.

Meetings on current UI issues and the UI Presidents' philosophy on leadership; leaders from inside and outside the University, including Board of Regents, political leaders, influential alumni, student leaders, professors, coaches, other administrators; activities linked to the development of personal leadership style. Requirements: first-year standing and application.

LS:1024 Alternative Break Service Learning arr.

Introduction to theoretical approaches to service learning; shared experiential learning event off campus (i.e., alternative break) coordinated by professional or graduate staff member; variety of concepts including intersectionality of varied social and community issues, reflection and reciprocity, active citizenship and community building, practical implementation of skills from student's academic disciplines, leadership development, and other related areas; five expectations of the IOWA Challenge, with emphasis on STRETCH and SERVE, through education, direct service, and reflection. Requirements: application and acceptance to program.

LS:1025 Leadership for Social Justice 3 s.h.

Social justice as a process and a goal; students build a brave community that empowers all members when faced with social justice related dilemmas; skills that bring about positive social change on campus, within local communities, and on global scale; for students who are committed to study and practice of social justice in their personal and professional lives and student organization leaders directly advised or supported by UI cultural and resource centers—African American Cultural Center (AACC), Asian Pacific American Cultural Center (APACC), Latino Native American Cultural Center (LNACC), and Lesbian, Gay, Bisexual, Transgender, and Queer Resource Center (LGBTQRC).

LS:2002 Career Leadership Academy Part 1: Leadership in Practice 3 s.h.

How to become a successful leader; opportunity to increase understanding of self, others, and the skills sought by employers; work and lead effectively in teams; creation of a group presentation focused on community needs; career components of résumé writing, LinkedIn profile development, and networking; first in a two-course series.

LS:2013 Strengths-Based Leadership 1 s.h.

Examination and evaluation of personal unique talents, be more engaged, and gain better understanding of leadership from a "Strengths" perspective; how to maximize strengths to stand out from the crowd; how society encourages people to be well-rounded (according to Gallup Organization's Strengths research) and how this pursuit of many goals can actually result in mediocrity.

LS:2024 Hawkeye Service Team: Alternative Break Leadership 0,2 s.h.

Focus on techniques for planning trip logistics, education on social issues, and facilitation of critical reflection; development in theoretical approaches to service learning specifically connected to service immersion leadership; varied concepts including intersectionality of varied social and community issues, reflection and reciprocity, active citizenship and community building, practical implementation of skills from student's academic disciplines, leadership development, and other related areas. Requirements: LS:1024, and application and acceptance to leadership position.

LS:3002 Career Leadership Academy Part 2: Leadership in Action 3 s.h.

Leadership development and career readiness; application of strengths, building effective teams, motivation, and delegation skills to a service-learning project designed by the class through engagement with a community partner; explore interviewing, personal branding, job searching, professional etiquette, salary negotiation, and transitioning successfully into the workplace; second in a two-course series. Prerequisites: LS:2002.

LS:3003 Culturally Intelligent Leadership 1 s.h.

Knowledge and skills for leadership in an increasingly diverse and global workplace; highly interactive and relational experience; students gain a greater understanding of their leadership in various environments and learn how to develop tools for establishing and maintaining interpersonal relationships for professional success.

LS:3004 Perspectives on Leadership: Principles and Practices 3 s.h.

Broad foundation of leadership knowledge representing diverse approaches to studying and practicing leadership; core course for students pursuing the leadership certificate. Requirements: sophomore or higher standing.

LS:3009 Global Leadership Initiative in Xicotepec 0-2 s.h.

Culture, history, and values of Mexico; leadership skills and work on civil and humanitarian projects; reflection of learning and experiences; spring break week in Xicotepec, Mexico. Requirements: participation in Career Leadership Academy and concurrent enrollment in ABRD:3352.

LS:3010 Global Leadership Initiative 1 s.h.

Development of knowledge, attitudes, and skills to be effective global leaders regardless of the industry or field; working effectively in a global environment; ability to deal with ambiguity and unfamiliarity; critical thinking and comparative skills, including the ability to think creatively and integrate knowledge; pre-experience assessment, guided reflection, intercultural communication; online course for students engaged in a study abroad experience or international internship. Requirements: concurrent enrollment in a study abroad or international internship experience, completing an international component of current employment, or plans to participate in one of the previous experiences within a year.

LS:3011 Leadership Certificate Capstone 0,2 s.h.

Registration of practical work experience (internship or career position) with leadership components, or meaningful and educational cocurricular experience in on-campus leadership position (i.e., student organization leader, student government leader, residence assistant, student orientation advisor, peer educator, fraternity/sorority leader) with active leadership roles and responsibilities (i.e., executive leadership position, initiating and organizing a major event); application of leadership models and theories to practical experiences; for students completing the leadership certificate. Prerequisites: LS:3004 and LS:3012. Requirements: an additional 6 s.h. of approved leadership course work and meet with instructor prior to enrollment.

LS:3012 Leadership Theory to Practice 3 s.h.

How the world is changing at an accelerating rate; leadership effectiveness and demand of a high-level ability to work with others and respond to change; foundational concepts of major theories and behaviors of leadership models; practical challenges of leadership analyzed through use of experiential projects, discussion, presentations, exercises; development of self-awareness through use of behavioral instruments, group exercises, individual reflection; major approaches to leadership, authentic leadership, team leadership, gender issues in leadership, emotional intelligence, virtual leadership.

Leadership Studies, Certificate

The undergraduate Certificate in Leadership Studies requires 20 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students must declare their intent to earn the certificate to a leadership studies advisor in the Pomerantz Career Center; see Leadership Studies Certificate on the center's website for information on how to enter the certificate program.

The certificate program provides a structure for involvement and commitment to leadership. It introduces students to leadership concepts and offers them hands-on leadership experiences they will need in order to begin the life-long development of these skills. Certificate students complete two interdisciplinary core courses (6 s.h.), area electives (12 s.h.), and an experiential learning course (2 s.h.). A course may not be used to satisfy more than one certificate requirement. Students also have the opportunity to complete the certificate online.

The Certificate in Leadership Studies requires the following course work.

Interdisciplinary Core Courses

All certificate students are required to complete two interdisciplinary core courses. In order to enroll in either course, they must have earned a minimum of 30 s.h. of credit and must be in good academic standing as defined by the College of Liberal Arts and Sciences (cumulative g.p.a. of at least 2.00).

Code	Title	Hours
LS:3004	Perspectives on Leadership: Principles and Practices	3
LS:3012	Leadership Theory to Practice	3

Perspectives on Leadership: Principles and Practices (LS:3004) provides students with a broad foundation of leadership knowledge. It introduces diverse approaches to studying and practicing leadership and gives students a structure for organizing knowledge and skills from other leadership courses and experiences. The course features presentations by guest instructors from across the University, offering students an interdisciplinary perspective on leadership.

With the world changing at an accelerating rate, Leadership Theory to Practice (LS:3012) examines leadership effectiveness and the demand of a high-level ability to work with others and respond to change. Foundational concepts of major theories and behaviors of leadership models are covered; and practical challenges of leadership are analyzed through the use of experiential projects, discussion, presentations, and exercises. The development of self-awareness through use of behavioral instruments, group exercises, and individual reflection are explored; and major approaches to leadership, authentic leadership, team leadership, gender issues in leadership, emotional intelligence, and virtual leadership are reviewed.

Certificate students must complete LS:3004 and LS:3012 before they may enroll in the required experiential learning course.

Area Electives

Area electives are drawn from four developmental areas central to effective leadership: self and group leadership, communication, cultural competence, and ethics and integrity. Students must complete 3 s.h. from each of these areas (total of 12 s.h.).

Self and Group Leadership

Code	Title	Hours
At least 3 s.h. from these:		
LS:1020	Introduction to Leadership	3
LS:1022	President's Leadership Class (PLC)	3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
LS:3010	Global Leadership Initiative	1
AERO:3100	Air Force Leadership Studies I	3
AERO:3200	Air Force Leadership Studies II	3
CLSA:2913	Leadership in Greco-Roman Antiquity	3
COMM:1819	Organizational Leadership	2-3
COMM:2011	Group Communication	3
LLS:1150	Leadership in the Outdoors	3
MGMT:2100	Introduction to Management	3
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:4300	Leadership and Personal Development	3
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2
PSY:2501	Introduction to Social Psychology	3
SOC:1220	Principles of Social Psychology	3-4
SOC:3610	Organizations and Modern Society	3
SOC:4225	The Social Psychology of Leadership	3
SSW:3600/ MGMT:3600/ NURS:3600/ RELS:3701	Nonprofit Organizational Effectiveness II	3

Communication

Code	Title	Hours
At least 3 s.h. from these:		
BUS:3000	Business Communication and Protocol	3
BUS:3800	Business Writing	3
CNW:3640	Writing for Business and Industry	3
COMM:1112	Interpersonal Communication	3
COMM:1117	Theory and Practice of Argument	4
COMM:1130	The Art of Persuading Others	3
COMM:1170	Communication Theory in Everyday Life	3
COMM:1301	Core Concepts in Communication Studies	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	2-3
COMM:2091	Organizational Communication	3
MGMT:4100	Dynamics of Negotiations	3

Cultural Competence

Code	Title	Hours
At least 3 s.h. from these:		
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
CCCC:2220	Foundations of Critical Cultural Competence	3
EPLS:4150- EPLS:4151	Leadership and Public Service I-II (both courses are required)	5
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:3154	Sexuality in the United States	3
HIST:1040	Diversity in History	3
JMC:1200	Media History and Culture	3
MUS:1310	World Music	3
One elective approved for the Certificate in Critical Cultural Competence ¹		3
The 3 s.h. may include ABRD:3352 and one of the following courses.		
This course:		
ABRD:3352	International Perspectives: Xicotepec	arr.
And one of these:		
LS:3009	Global Leadership Initiative in Xicotepec	0-2
CEE:4788/ GHS:4126/ PHAR:8788/ THTR:4265	International Perspectives: Xicotepec	2-3

¹ Students who use an elective approved for the Certificate in Critical Cultural Competence to satisfy this requirement must choose it from elective courses listed on the Certificate in Critical Cultural Competence website.

Ethics and Integrity

Code	Title	Hours
At least 3 s.h. from these:		
HMP:6315	Healthcare Ethics	1-2
HRTS:2115/IS:2115	Introduction to Human Rights	3
JMC:2600	Freedom of Expression	3
JMC:3180	Media Ethics and Diversity	3
MGMT:2000	Introduction to Law	3
MGMT:3400	Employment Law	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:1861	Introduction to Philosophy	3
PHIL:2402	Introduction to Ethics	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PTRS:5100	Professional Issues and Ethics	1
RCE:4195	Ethics in Human Relations and Counseling	3

Experiential Learning

Certificate students must earn 2 s.h. in a course focused on experiential or hands-on learning. An experiential learning course may take different forms, such as a service learning experience, an internship, or an on-campus leadership practicum.

Before they enroll in the hands-on course, students must have completed at least 12 s.h. of work toward the certificate, including the core courses LS:3004 Perspectives on Leadership: Principles and Practices and LS:3012 Leadership Theory to Practice, so that they have a solid foundation of knowledge to apply to the experience.

Service Learning Courses

Service learning courses incorporate community engagement with academic course work. They allow students to gain hands-on experience along with a deeper understanding of course content while responding to real community needs. Students may satisfy the certificate's experiential learning requirement by earning a minimum of 2 s.h. in service learning courses from the following.

Code	Title	Hours
Select one of the following three options:		
Option A		
LS:1024	Alternative Break Service Learning	3
Option B		
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
Option C		
This course:		
ABRD:3352	International Perspectives: Xicotepec	arr.
And one of these:		

LS:3009	Global Leadership Initiative in Xicotepec	0-2
CEE:4788/ GHS:4126/ PHAR:8788/ THTR:4265	International Perspectives: Xicotepec	2-3

Each student also must identify a practicum mentor and demonstrate that the mentor is willing to guide and evaluate the student's work and development of leadership skills, and intends to participate in reviewing the student's goal-setting assignment and the final review of the student's performance.

Internship or On-Campus Leadership Practicum

Students register for the following course earning a minimum of 2 s.h. in order to receive certificate credit for the internship or on-campus leadership practicum. They must complete all course assignments in order to fulfill the experiential learning requirement.

Code	Title	Hours
LS:3011	Leadership Certificate Capstone	2

Internships consist of preapproved, supervised on-the-job learning; they may be paid or unpaid.

To meet the certificate's experiential learning requirement, an internship must consist of professional experience that relates to a student's major field of study or career interest area and allows the student to build on the academic course work already completed in the certificate program. At least 80 percent of a student's internship duties must be professional-level work, and a student must receive continuous supervision by a professional (not a student) in the internship field. The internship must last a minimum of 15 weeks in fall or spring semester or six weeks in the summer and requires 150 hours of work.

Internships that fulfill the certificate's experiential learning requirement must be approved in advance by one of the certificate program's advisors, and the internship site supervisor must agree to the terms of the internship and must complete the required form before the internship may be approved. Students may work with staff at the Pomerantz Career Center to find an approved internship opportunity, or they may secure their own internship.

For more information about internships, see Internships on the Pomerantz Career Center website.

Students who wish to fulfill the experiential learning requirement with an on-campus leadership practicum must engage in a formal, approved experience that is meaningful, educational, and cocurricular. It requires a student to take initiative and pursue active leadership roles and responsibilities. Examples include positions as student organization leaders, student government leaders, University Housing resident assistants, student orientation advisors, peer educators, and fraternity and sorority leaders. Practicums may be paid or unpaid.

To meet the certificate's experiential learning requirement, a practicum must last a minimum of 15 weeks in fall or spring semester or six weeks in the summer and requires 150 hours of work.

Practicums that fulfill the certificate's experiential learning requirement must be approved in advance by one of the certificate program's advisors. Students must submit a list of goals and assignments and/or duties they will complete during the practicum in order to demonstrate that the practicum will provide substantive work assignments and opportunities to build on the academic course work they have completed in the certificate program.

Lifetime Leisure Skills

Director

- Steve J. Campbell

Website: <https://recserv.uiowa.edu/programs/lifetime-leisure-skills>

Lifetime Leisure Skills (LLS) courses are designed to engage students in fun and healthy recreational activities that can be continued beyond college and throughout their lives. Courses range from outdoor recreation activities such as rock climbing, canoeing, kayaking, backpacking, biking, and camping to indoor activities that include tae kwon do, kickboxing, brazilian jiu-jitsu, salsa dancing, and ballroom dancing. LLS courses are appropriate for students at all skill levels.

Lifetime Leisure Skills courses are open to University of Iowa undergraduate and graduate students. Undergraduate students in the College of Liberal Arts and Sciences may count credit earned in Lifetime Leisure Skills courses toward the total number of semester hours required for their degree. Students should consult their academic advisor.

While the majority of courses are on campus or in the Iowa City area, several off-campus courses are held in locations that include Grand Canyon National Park, Canyonlands National Park, Arches National Park, Zion National Park, Big Bend National Park, Voyageurs National Park, Grand Staircase-Escalante National Monument, Glen Canyon National Recreation Area, Black Canyon of the Colorado River, Effigy Mounds National Monument, Loess Hills State Forest, Yellow River State Forest, Maquoketa Caves State Park, Devil's Lake State Park, Pictured Rocks County Park, and the Upper Iowa River.

Courses

Lifetime Leisure Skills Courses

LLS:1100 Introduction to Camping 1 s.h.
Introduction to the wonderful world of camping; focus on development of skills and knowledge pertaining to camping equipment, campsite selection and setup, outdoor cooking, useful knots, and minimum impact principles; overnight camping required.

LLS:1110 Exploring Iowa's Natural Wonders 1 s.h.
Natural history of the Loess Hills of western Iowa, Maquoketa Caves of eastern Iowa, or Effigy Mounds National Monument and Yellow River State Forest of northeastern Iowa; overnight camping required.

LLS:1115 Hiking 1 s.h.
Beginner-level hiking skills; safety and planning; proper care and use of equipment; physically strenuous; overnight camping required.

LLS:1116 Leave No Trace Camping 1 s.h.
Seven principles of "Leave No Trace," an international standard for the ethical utilization and enjoyment of outdoor spaces; overnight camping experience at Macbride Nature Recreation Area.

LLS:1120 Backpacking 1 s.h.
Beginner-level backpacking skills; basic map reading, proper packing and planning, equipment and clothing selection; physically strenuous; overnight camping required.

LLS:1121 Expedition Backpacking 1 s.h.
Remote, multiday, backcountry camping skills; proper packing and planning; backcountry nutrition; topographic map reading; equipment and clothing selection; very physically strenuous; overnight camping required.

LLS:1130 Basic Orienteering 1 s.h.
Basics of orienteering, including map and compass skills. Taught at Macbride Nature Recreation Area.

LLS:1131 Expedition Orienteering 1 s.h.
Extensive navigation and camping skills in a remote wilderness; focus on map and compass skills including declination, bearings, triangulation, topographical map reading, situational awareness; backcountry camping skills; very physically strenuous.

LLS:1140 Team Building 1 s.h.
Exploration of various methods of team building and common characteristics of successful teams through the use of UI Challenge Course; strong emphasis on cooperative group work and discussions.

LLS:1141 Challenge Course Facilitation 3 s.h.
How to effectively facilitate and lead challenge course activities; philosophy and history of challenge courses, group games and initiatives, processing and debriefing with challenge course groups, low- and high-course setup procedures, risk management.

LLS:1150 Leadership in the Outdoors 3 s.h.
Leadership theories, group dynamics, expedition logistics, outdoor leadership skills, risk management; indoor and outdoor classroom sessions, overnight camping required; technical skill development may include backpacking, canoeing, kayaking, rock climbing, mountain biking, bike touring, general camping.

LLS:1200 Introduction to Rock Climbing 1 s.h.
Utilization of indoor and outdoor climbing classrooms; comprehensive introduction to physical techniques of rock climbing, mechanical skills of belaying, proper usage of personal protective equipment, and common climbing terminology.

LLS:1201 Intermediate Rock Climbing 1 s.h.
Expands on skills learned in LLS:1200; students must have current belay card at the UI Climbing Wall; overnight camping required. Prerequisites: LLS:1200.

LLS:1202 Expedition Rock Climbing 1 s.h.
Multiday climbing expedition; physically strenuous; overnight camping required.

LLS:1205 Anchor Systems for Top Rope Climbing 1 s.h.
Development of basic skills for climbing anchors; understanding setting top-rope anchors; use of bolts, trees, and passive and mechanical chocks for anchor setting; equalization of anchors; basic knots for rope, webbing, and cordelettes; basic understanding of the structural integrity and frictional forces important to anchor setting.

LLS:1210 Introduction to Lead Climbing: Sport 1 s.h.
Fundamentals of single-pitch sport climbing on lead; belaying a leader; use of 52.5-foot tall climbing wall at CRWC; eligible to obtain lead climbing approval at UI Climbing Wall after successful completion of course. Prerequisites: LLS:1200.

LLS:1212 Expedition Lead Climbing: Sport 1 s.h.
Multiday single-pitch sport lead climbing expedition; requires current lead climbing approval for UI Campus Recreation and Wellness Center climbing wall; overnight camping required.

LLS:1230 Introduction to Bouldering 1 s.h.
Basic skills, safety, and techniques for bouldering.

- LLS:1232 Expedition Bouldering** 1 s.h.
Multiday bouldering expedition; overnight camping required.
- LLS:1240 Introduction to Ice Climbing** 1 s.h.
Basics of ice climbing.
- LLS:1241 Expedition Ice Climbing** 1 s.h.
Multiday ice climbing expedition.
- LLS:1300 Recreational Cycling** 1 s.h.
Basics of bicycling for recreation; riding techniques, basic bicycle maintenance, rules of the road; students must already know how to ride a bike; physically strenuous. Taught on Johnson County area roads and trail systems.
- LLS:1301 Urban Cycling** 1 s.h.
How to safely navigate urban areas by bicycle; traffic laws, situational awareness, basic maintenance, planning and route considerations.
- LLS:1302 Tandem Biking** 1 s.h.
How to ride a tandem bicycle with a partner; traffic principles and safety concerns; equipment and accessories for tandem bikes; physically strenuous.
- LLS:1310 Bicycle Touring** 1 s.h.
Planning and packing for self-supported, overnight bicycle touring trips; proper care and use of equipment; physically strenuous; overnight camping required.
- LLS:1311 Expedition Bicycle Touring** 1 s.h.
Multiday self-supported bicycle touring expedition; camp while exploring iconic touring routes of the United States; very physically strenuous; overnight camping required.
- LLS:1320 Mountain Biking** 1 s.h.
Basics of mountain bicycling; riding techniques, basic bicycle maintenance, trail etiquette. Taught on Sugar Bottom recreation trail system.
- LLS:1322 Expedition Mountain Biking** 1 s.h.
Multiday mountain bicycling expedition; very physically strenuous; overnight camping required.
- LLS:1350 Marathon Training** 1 s.h.
Multiweek training program; for students who currently run on a regular basis and wish to take their running to a more advanced level; physically strenuous.
- LLS:1360 Trail Running** 1 s.h.
Techniques of off-road running; local running trails in and around Iowa City; emphasis on proper training, clothing, equipment, and nutrition; physically strenuous; no experience required.
- LLS:1361 Expedition Trail Running** 1 s.h.
Multiday trail running expedition; very physically strenuous; overnight camping required.
- LLS:1400 Flat Water Canoeing** 1 s.h.
Basics of flat water tandem canoeing; paddle strokes, canoe anatomy, water safety. Taught at Macbride Nature Recreation Area.
- LLS:1401 River Canoeing** 1 s.h.
Fundamentals of tandem canoeing on moving water; basic paddling strokes, canoe anatomy, hydrology, river safety; overnight camping required.
- LLS:1402 Whitewater Canoeing** 1 s.h.
Basics of whitewater canoeing; paddle strokes, canoe anatomy, water safety, whitewater hydrology; overnight camping required.
- LLS:1403 Expedition Canoeing** 1 s.h.
How to plan and pack for multiday canoeing expeditions; Leave No Trace primitive camping; paddling skills in loaded canoes; reading river/lake maps; portaging techniques; rescue techniques; overnight camping required.
- LLS:1410 Sea Kayaking** 1 s.h.
Basics of sea kayaking using solo and tandem boats. Taught at Macbride Nature Recreation Area.
- LLS:1411 Expedition Sea Kayaking** 1 s.h.
Multiday sea kayaking expedition; primitive camping; paddling skills in loaded kayaks, reading river/lake maps, rescue techniques.
- LLS:1420 River Kayaking** 1 s.h.
Fundamentals of kayaking on moving water; basic paddling strokes, kayak anatomy, hydrology, river safety; overnight camping required.
- LLS:1421 Whitewater Kayaking** 1 s.h.
Basics of whitewater kayaking; paddle strokes, kayak anatomy, rolling and bracing, water safety, whitewater hydrology; introductory pool session; overnight camping required.
- LLS:1422 Whitewater Kayak Playboating** 1 s.h.
Varied techniques of playboating—a style of whitewater kayaking in which the paddler performs tricks on natural or human-made whitewater features; introductory pool session; taught on rivers in Iowa with whitewater kayaking parks. Recommendations: previous whitewater kayaking experience or LLS:1421.
- LLS:1423 Expedition Whitewater Kayaking** 1 s.h.
Multiday whitewater kayaking expedition; class I-III rapids, rolling and bracing, safety and rescue techniques; overnight camping required.
- LLS:1430 Stand Up Paddleboarding** 1 s.h.
Introduction to paddleboarding skills on flat, calm water; paddling environment, board and paddle control, standing and balancing, personal preparation and safety.
- LLS:1431 Stand-Up Paddleboard Yoga** 1 s.h.
Paddleboarding and yoga, learning and combining two skills in one course; for all skill levels.
- LLS:1440 Scuba** 1 s.h.
Basics of Scuba diving. Seven weeks.
- LLS:1441 Advanced Open Water Scuba** 1 s.h.
Participation in five scuba diving specialty activities. Prerequisites: LLS:1440. Requirements: certification as open water scuba diver.
- LLS:1500 Winter Camping** 1 s.h.
How to successfully and comfortably camp in cold, harsh conditions; snow shelters, hydration, meal preparation, clothing needs; snowshoe/ski travel with sleds (as conditions permit).
- LLS:1510 Snowshoeing** 1 s.h.
Basics of snowshoeing; physically strenuous.
- LLS:1512 Expedition Snowshoeing** 1 s.h.
Multiday snowshoeing and winter camping expedition; very physically strenuous; overnight camping required.
- LLS:1520 Cross-Country Skiing** 1 s.h.
Basics of cross-country skiing in northern Wisconsin.
- LLS:1522 Expedition Cross-Country Skiing** 1 s.h.
Multiday cross-country skiing expedition; physically strenuous.
- LLS:1530 Alpine Skiing** 1 s.h.
Basics of downhill skiing; physically strenuous.

LLS:1532 Expedition Alpine Skiing	1 s.h.	LLS:1680 Golf	1 s.h.
Multiday alpine skiing expedition; very physically strenuous.		Basic principles and fundamentals of golf swing (e.g., full swing, pitching, chipping, putting); opportunity to practice skills at various facilities; history, basic rules, proper golf etiquette, evolution of golf related to technology.	
LLS:1600 Basic Self Defense	1 s.h.		
Basics of self-defense.		LLS:1690 Gardening: Vegetables and Herbs	1 s.h.
LLS:1610 Kickboxing	1 s.h.	Fundamental skills for successfully growing vegetables and herbs outdoors and in containers.	
Basics of kickboxing.		LLS:1691 Gardening: Designing Edible Forests	1 s.h.
LLS:1611 Intermediate Kickboxing	1 s.h.	Fundamental skills for successfully designing and establishing fruit trees, berry bushes, and perennial herbs in ways that emulate a healthy woodland ecosystem and enrich our interaction with nature.	
Aggressive workout utilizing heavy bags, coach's mitts, and other equipment; conducted at moderate to intense pace using competitive kickboxing techniques, training methods, and equipment; kickboxing as a conditioning tool with self-defense as a byproduct; not designed to prepare for competition. Prerequisites: LLS:1610.		LLS:1801 Wilderness First Responder	2 s.h.
LLS:1620 Tae Kwon Do	1 s.h.	Skills necessary for providing critical medical care and making evacuation decisions in remote wilderness locations; interactive lectures, case studies, and hands-on practice through realistic scenarios help master material; 80-hour certification course.	
Basics of Tae Kwon Do.		LLS:1840 Introduction to Nature Photography	1 s.h.
LLS:1621 Intermediate Tae Kwon Do	1 s.h.	Basics of outdoor photography; students must supply their own digital single lens reflex (DSLR) camera.	
Expand on knowledge and skills learned in LLS:1620. Prerequisites: LLS:1620.		LLS:1850 Service Learning	1 s.h.
LLS:1630 Brazilian Jiu-Jitsu	1 s.h.	Service learning project in an urban or wilderness setting; learn about local community, environment; projects depend on location, season.	
Introduction to the sport of Brazilian Jiu Jitsu; basic self-defense, positional grappling, submissions, submission defense; no martial arts experience required.		LLS:4000 Independent Study	arr.
LLS:1650 Introduction to Ballroom Dancing	1 s.h.	Individual study in an area of interest to students; course work determined by faculty supervisor.	
Basics of ballroom dancing; overview of several figures; beginner level.			
LLS:1651 Ballroom Dancing: Waltz	1 s.h.		
Beginning through intermediate-level waltz figures; performing a beautiful waltz routine; skills and knowledge to dance with confidence at any formal dance occasion; for all skill levels.			
LLS:1652 Ballroom Dancing: Foxtrot and Tango	1 s.h.		
Beginning to intermediate-level figures in two of the most beautiful and popular dances in the world—foxtrot and tango; for all skill levels.			
LLS:1653 Ballroom Dancing: Rhumba, Cha Cha, Merengue	1 s.h.		
Beginner- to intermediate-level figures in three of the most popular and energy-charged Latin dances of today—Rhumba, Cha Cha, and Merengue; for all skill levels.			
LLS:1654 Ballroom Dancing: Nightclub Series	1 s.h.		
Salsa, the Hustle, Nightclub Two-Step, Argentine tango; for all skill levels.			
LLS:1655 Ballroom Dancing: Rhythm and Smooth	1 s.h.		
Mambo, samba, waltz, Viennese waltz; for all skill levels.			
LLS:1660 Salsa Dancing	1 s.h.		
Fundamentals of Latin/Salsa dancing; musical rhythms, cultural history, postures, technique, basic movements; techniques for developing strength, stamina, balance, poise, and partner dancing skills; traditional social behaviors in salsa's cultural context.			
LLS:1665 Modern Dance for Fitness	1 s.h.		
Basic working knowledge of modern dance; introduction to modern dance styles, skills, physical art, and discipline; focus on movement, dance techniques and skill, performance, creative experience.			
LLS:1670 Relaxercise	1 s.h.		
Stress reduction through exercise, stretching, meditation, and full body breathing techniques.			
LLS:1675 Yoga	1 s.h.		
Emphasis on mindfulness, breath awareness, and attention to alignment.			

Military Science (Army ROTC)

Head

- Zachary J. Buettner

Undergraduate minor: military science

Faculty: <https://uiowa.edu/armyrotc/contact#overlay-context=contact>

Website: <https://uiowa.edu/armyrotc/>

The Military Science Program administers the Iowa Army Reserve Officers' Training Corps (ROTC). It gives students who wish to serve on active or reserve status in the U.S. Army the opportunity to earn commissions as army officers. It also administers merit scholarships from the United States government to qualified students.

Although the Military Science Program does not offer degrees, students can earn a minor in military science. ROTC courses provide education in the military's role and instruction in leadership and management. The program's courses are an essential part of the Iowa ROTC program, which competes annually in national leadership assessments.

Military Science Program courses are open to all students. Course credit that counts toward graduation varies by college. Students in the College of Liberal Arts and Sciences may count up to 20 s.h. earned in military science courses toward graduation.

Undergraduate and Graduate Programs

Basic Course

The ROTC Basic Course is designed primarily for first- and second-year students. It provides the fundamentals of leadership and management and introduces the roles of the military as influenced by national and foreign policy. Students incur no obligation to the military for participation in the Basic Course.

The following four courses satisfy the Basic Course requirement.

Code	Title	Hours
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2

The Basic Course requirement may be taken over a one- or two-year period or during a four-week paid summer camp (Basic Camp, held at Fort Knox, Kentucky) followed by completion of a Lateral Entry Cadet Training Module. Students with prior military training normally are exempt from the Basic Course requirement.

Basic Camp takes place in the summer, either between a cadet's first and second years or between their second and third years. Similar to basic training, Basic Camp trains cadets on many basic soldier skills ensuring cadets across the

country have the same foundation knowledge to be successful with the remainder of their Army ROTC training.

Advanced Course

The ROTC Advanced Course is open to any student who meets the prerequisites, but it is designed primarily for cadets who wish to pursue a commission as a lieutenant in the U.S. Army upon graduation. It is open to both undergraduate and graduate students. Most cadets in the Advanced Course incur an obligation to the military that can be satisfied in the Active Army, Army Reserve, or Army National Guard.

To enter the Advanced Course, students must satisfy the Basic Course requirement, earn at least 54 s.h., and have a cumulative g.p.a. of at least 2.00. In order to become U.S. Army officers, cadets must complete the Advanced Camp, an approximately 30-day session held at Fort Knox, Kentucky. Cadets normally attend Advanced Camp during the summer between their third and fourth years.

A tax-free monthly stipend is provided to cadets who enter a contractual agreement with ROTC to serve in the armed forces. Additional financial assistance may be provided through scholarships.

The following courses are the academic requirements for completion of the Advanced Course.

Code	Title	Hours
MILS:1090	Leadership Laboratory	0
MILS:1095	Advanced Military Fitness Training	1
MILS:3010	Adaptive Tactical Leadership MSL301	3
MILS:3020	Leadership in Changing Environments MSL302	3
MILS:4010	Developing Adaptive Leaders MSL401	3
MILS:4020	Leadership in a Complex World MSL402	3

Additional Course Work

Cadets whose aim is a commission must satisfy a Professional Military Education (PME) requirement. They must complete at least one course in military history from the following list. The History That Made Our World (HIST:1016) can be used to satisfy the College of Liberal Arts and Sciences GE CLAS Core [p. 459]. Cadets may use other courses to meet the additional course work requirement, with the military science professor's approval.

Code	Title	Hours
HIST:1016	The History That Made Our World	3
HIST:3271	American Revolutionary Period	3
HIST:4256	The Progressive Era in America	3
HIST:4264	U.S.A. in a World at War 1931-1945	3
HIST:4268	The Contemporary U.S. 1940-Present	3

Scholarship Opportunities

Military Science offers two-, three-, and four-year ROTC scholarships for students who enter the ROTC program. These scholarships pay full tuition at the University of Iowa,

an allotment for books and supplies each semester, most mandatory educational fees, and a tax-free monthly stipend during the academic year.

Programs

Undergraduate Program of Study Minor

- Minor in Military Science [p. 1836]

Courses

Military Science Courses

MILS:1010 Leadership and Personal Development MSL101 1 s.h.

Introduction to the personal challenges and competencies critical for effective leadership; how skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the army as a profession; dimensions of army leadership; understanding of the ROTC program, its purpose in the army, its advantages for students. Offered fall semesters.

MILS:1020 Introduction to Tactical Leadership MSL102 1 s.h.

Leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback, using effective writing skills; leadership values, attributes, skills, and actions explored through hands-on, interactive exercises; cadre role models, development of strong relationships among students through common experience, practical interaction. Offered spring semesters.

MILS:1090 Leadership Laboratory 0 s.h.

Hands-on training in basic soldier skills, such as customs and courtesies, drill and ceremony, first aid, weapons employment, troop movement techniques; leadership training for U.S. army officership. Offered fall and spring semesters.

MILS:1095 Advanced Military Fitness Training 1 s.h.

Aerobics and running, muscular strength and endurance, flexibility, and nutrition through exercise and classroom instruction; how to evaluate and measure fitness improvement; developed around Army physical fitness training program. Offered fall and spring semesters.

MILS:2010 Innovative Team Leadership MSL201 2 s.h.

Dimensions of creative, innovative tactical leadership strategies and styles explored through team dynamics and historical leadership theories (trait and behavior) central to the Army leadership framework; personal motivation and team building through planning, executing, and assessing team exercises and participating in leadership labs; continued development of leadership values and attributes through understanding army rank, structure, duties, basic aspects of land navigation and squad tactics; case studies on soldier's creed and warrior ethos in the contemporary operating environment. Offered fall semesters.

MILS:2020 Foundations of Tactical Leadership MSL202 2 s.h.

Challenges of leading tactical teams in the complex contemporary operating environment; dimensions of terrain analysis, patrolling, operation orders; theoretical basis of the army leadership framework, dynamics of adaptive leadership in the context of military operations; self-assessment of cadet leadership styles, practice in communication and team building skills; case studies on importance and practice of teamwork and tactics in real-world scenarios. Offered spring semesters.

MILS:3010 Adaptive Tactical Leadership MSL301 3 s.h.

Study, practice, and evaluation of adaptive leadership skills in challenging scenarios related to squad tactical operations; feedback on cadets' leadership attributes and actions, continued development of leadership and critical thinking abilities; development of tactical leadership abilities in preparation for Leadership Development and Assessment Course (LDAC). Offered fall semesters. Corequisites: MILS:1090 and MILS:1095. Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

MILS:3020 Leadership in Changing Environments MSL302 3 s.h.

Development of cadet awareness and tactical leadership to platoon level, through increasingly intense situational leadership challenges; experience reviewing combat, stability, and support operations, conducting military briefings, developing proficiency in garrison operation orders; focus on exploring, evaluating, and developing skills in decision making, persuasion, and motivation of team members in a contemporary operating environment; preparation for summer Leader Development Assessment Course. Offered spring semesters. Prerequisites: MILS:3010. Corequisites: MILS:1090 and MILS:1095. Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

MILS:3121 Readings in Contemporary Military Issues 1-3 s.h.

Preparation of book reviews from a reading list provided by the instructor, with topics ranging from historical battles and campaigns to global impact of U.S. political policies; or writing of an operations order relating to an ROTC event or similar project of historical significance (work in conjunction with instructor). Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

MILS:4010 Developing Adaptive Leaders MSL401 3 s.h.

Development of proficiency in planning, executing, and assessing complex operations, functioning as member of a staff, providing performance feedback to subordinates; experience assessing risk, making ethical decisions, leading fellow cadets; military justice and personnel processes in preparation for officership; identification of key staff responsibilities, coordination of staff roles, use of situational opportunities to teach, train, and develop subordinates. Offered fall semesters. Prerequisites: MILS:3020 and MILS:3010. Corequisites: MILS:1090 and MILS:1095.

MILS:4020 Leadership in a Complex World**MSL402****3 s.h.**

Leadership dynamics in complex military operations of the contemporary operating environment; differences in customs and courtesies, military law, principles of war, rules of engagement in the face of international terrorism; interaction with nongovernmental organizations, civilians on the battlefield, host nation support; ethical and practical demands on army commissioned officers; preparation for first unit assignment through case studies, scenarios, exercises. Offered spring semesters. Prerequisites: MILS:3010 and MILS:4010 and MILS:3020. Corequisites: MILS:1090 and MILS:1095.

Military Science, Minor

The undergraduate minor in military science requires a minimum of 20 s.h. of course work taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass. In order to count course work taken at other institutions toward the minor, students must have the military science professor's approval.

The minor in military science requires the following course work.

Code	Title	Hours
All of these:		
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2
MILS:3010	Adaptive Tactical Leadership MSL301	3
MILS:3020	Leadership in Changing Environments MSL302	3
MILS:4010	Developing Adaptive Leaders MSL401	3
MILS:4020	Leadership in a Complex World MSL402	3
One of these:		
MILS:3121	Readings in Contemporary Military Issues (taken with a qualified IMHIC instructor)	2-3
HIST:1000	First-Year Seminar (when topic is history in the making: world events in historical context)	2
HIST:1014	Issues: Twentieth-Century Crisis (when topic is history of World War II)	3
HIST:1016	The History That Made Our World	3
HIST:1261	American History to 1877	3
HIST:1262	American History 1877-Present	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3155	The World Since 1945	3
HIST:3242	The United States in World Affairs	3-4
HIST:3271	American Revolutionary Period	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:3810	History of the Modern Middle East (when topic is historical survey of Southwest Asia and North Africa)	3

HIST:4125	War and Peace in the Twentieth Century	3
HIST:4256	The Progressive Era in America	3
HIST:4264	U.S.A. in a World at War 1931-1945	3
HIST:4268	The Contemporary U.S. 1940-Present	3
HIST:4334	Topics in American Borderlands History	3
HIST:4499	First World War	3-4
HIST:4617	History, Memory, and Pacific War	3
HIST:4815	Topics in the Modern Middle East	3

Nonprofit Management

Director

- Jill K. Smith (Management and Organizations)

Undergraduate certificate: nonprofit management

Website: <https://admissions.uiowa.edu/academics/nonprofit-management-certificate>

Nonprofit organizations play vital roles in our communities and contribute to our quality of life. These organizations have unique management, funding, and finance issues that require specialized training. The Certificate in Nonprofit Management is designed to help staff members, board members, founders, and volunteers develop the business and leadership skills necessary for building a successful nonprofit organization. The program provides a balance of academic principles and real-world experience as well as a fundamental understanding of how nonprofit organizations participate in building communities.

Certificate courses cover a wide range of topics and issues, such as community and government partnerships, organizational leadership, entrepreneurship, planning, human resources, financial accountability, grant writing, and website creation and maintenance. Entrepreneurship courses help frame an organization's value proposition to maximize revenue generation from multiple sources as social enterprises need revenue to operate, survive, and thrive. Courses are offered primarily online.

The Certificate in Nonprofit Management is administered by Distance and Online Education and the Larned A. Waterman Iowa Nonprofit Resource Center, in collaboration with University College.

Programs

Undergraduate Program of Study Certificate

- Certificate in Nonprofit Management [p. 1838]

Nonprofit Management, Certificate

The undergraduate Certificate in Nonprofit Management requires a minimum of 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a graduate or professional degree program.

Bachelor of Applied Studies [p. 1794] and Bachelor of Liberal Studies [p. 1797] students may be able to incorporate certificate courses into their degree programs; students should consult with their advisors.

The Certificate in Nonprofit Management requires the following course work.

Foundation Courses

Students should complete these two courses before they enroll in the remaining certificate course work.

Code	Title	Hours
MGMT:3500/ ENTR:3595/ MUSM:3500/ SSW:3500/ NURS:3595/ RELS:3700	Nonprofit Organizational Effectiveness I	3
MGMT:3600/ NURS:3600/ SSW:3600/ RELS:3701	Nonprofit Organizational Effectiveness II	3

Students complete one of the following three courses. Two of them, ENTR:2000 Entrepreneurship and Innovation and ENTR:3520 New Ventures in the Arts, have corequisites; see the course descriptions for choice of corequisites. Foundations in Entrepreneurship (ENTR:1350) is the only corequisite that may be taken online.

Code	Title	Hours
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3520/ THTR:3520/ INTD:3520/ DPA:3520	New Ventures in the Arts	3
MGMT:3100	Entrepreneurial Strategy	3

Electives

Students select a minimum of 9 s.h. in courses chosen from these.

Code	Title	Hours
COMM:1819	Organizational Leadership	2-3
DPA:3510/ THTR:3510/ INTD:3510	Introduction to Arts Management	3
EDTL:4081/ PSQF:4081/ EALL:4081/ RCE:4081/ EPLS:4081	ePortfolio Design and Production	1-2

EDTL:4936/ PSQF:4136	Home/School/Community Partnerships	3
ENTR:3500	Social Entrepreneurship	3
IS:3910/HRTS:3910	Human Rights Advocacy	3
POLI:3110	Local Politics	3
POLI:3123	State Politics in Iowa	3
SOC:4225	The Social Psychology of Leadership	3
SSW:3904	Human Services Administration	2
WRIT:2100	Writing and Community Outreach	3

Students may take one of these:

ARTS:3400	Grant Writing in the Arts	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3

Admission

See the undergraduate Nonprofit Management Certificate web page for details about how to enter the program.

Secondary Student Training Program

Director

- Lori M. Ihrig

Website: <http://www2.education.uiowa.edu/belinblank/Students/Classes.aspx?P=SSTP>

Precollege Program

Students who are currently in grades 10-11 may nominate themselves for the Secondary Student Training Program (SSTP), a multi-week residential summer research program at the University of Iowa. SSTP students conduct original research under the guidance of a faculty mentor. They also produce a research brief and an academic poster as a part of the program.

Students who participate in the program pay a SSTP fee that covers room, board, all materials, and admission to all regularly scheduled activities. They also pay University of Iowa tuition for 3 s.h. of required credit. Students and their families are responsible for their transportation to and from SSTP and for incidental expenses, such as souvenirs and snacks. Students are considered for financial aid after they are selected for the program.

The Secondary Student Training Program is administered by the Belin-Blank International Center for Gifted Education and Talent Development. For more information, contact the Belin-Blank Center.

Courses

Secondary Student Training Program Course

SSTP:1001 Secondary Student Training Program 3 s.h.

Experience conducting research under the guidance of a faculty mentor; presentation of research findings at concluding seminar.

Study Abroad

Assistant Provost, International Programs

- Douglas J. Lee

Associate Directors

- Autumn Tallman, Elizabeth Wildenberg de Hernandez

Website: <https://international.uiowa.edu/study-abroad>

The University of Iowa sponsors a wide variety of study abroad programs in approximately 50 countries throughout the world. Students may choose from summer, fall, or spring semester, academic year, and winter session programs that complement and extend the University's academic programs across the curriculum.

Study Abroad offers programs to appeal to a broad range of majors and interests. Major Advising Pages (MAPs) are created to help students better understand how study abroad can fit into their programs of study. The program search engine, Search UI Study Abroad Programs, allows students to browse information about study abroad programs and supplements materials available in the Study Abroad resource room.

Students also can participate in study abroad programs sponsored by other accredited U.S. and foreign institutions. They should obtain advance approval of all transfer credit by completing a Study Abroad Credit Approval Form.

Information on University of Iowa study abroad programs is available from Study Abroad.

Facilities

Study Abroad is located in the International Programs suite in the University Capitol Centre (UCC). Students can visit the resource room weekdays and can choose to meet with a peer student assistant, who has study abroad experience, to learn more about study abroad options and processes.

Courses

- Study Abroad Courses [p. 1840]
- International Activities Courses [p. 1856]

Study Abroad Courses

ABRD:1526 International Hawkeye Service Team arr.

Introduction to theoretical approaches to service learning; shared international experiential learning event off campus coordinated by professional; variety of concepts including intersectionality of varied social and community issues, reflection and reciprocity, active citizenship and community building, practical implementation of skills from student's academic disciplines, leadership development, and other related areas; five expectations of the IOWA Challenge—with emphasis on stretch and serve—through education, direct service, and reflection. Offered summer session. Requirements: good academic and disciplinary standing.

ABRD:3010 Iowa Regents Semester in Wales arr.

University of Swansea, Wales; three-week interdisciplinary course on British life and culture, followed by regular degree course work in the humanities, social sciences, physical sciences, business, engineering. Fall and spring semesters. Requirements: g.p.a. of at least 2.80.

ABRD:3011 Iowa at Oxford

arr.

Unique opportunity to spend an academic year fully matriculated at the University of Oxford; students enroll in a wide range of courses at Mansfield College, one of 38 colleges that make up the University of Oxford; as an Oxford student, participants take part in Oxford's personalized tutorial system, attend lectures, share accommodations with local students, and become fully immersed in the social and academic culture of one of the mostly highly regarded academic institutions in the world. Requirements: 3.70 g.p.a., sophomore standing, and good academic and disciplinary standing.

ABRD:3012 Iowa Regents Semester in Scotland arr.

Advanced undergraduate study at the University of Edinburgh; humanities, social sciences, science, engineering. Fall and/or spring. Requirements: g.p.a. of at least 3.00.

ABRD:3013 IES London: Study London arr.

Course work in international economics, finance, management, creative and performing arts, literature, communications, cultural studies, and political science, as well as a huge variety of credit-bearing internship and service learning opportunities; option to enroll directly in a local British university; the IES Study London program provides a unique opportunity to engage in all aspects of contemporary British society; students combine course work with study outside the classroom to explore the rich heritage of the United Kingdom, as well as its contemporary social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3014 IES London and Jamaica Health Practice and Policy arr.

Opportunity to study global health issues in the United Kingdom and Jamaica; students enroll in courses in public health, social welfare, and comparative health care in London, and spend their final ten days of the program completing a capstone experience in Mona, Jamaica hosted by the University of West Indies in Mona; ideal for students focusing on preprofessional medical studies, public health, anthropology, economics, political science, and sociology. Semester. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

ABRD:3016 IES London, United Kingdom Today arr.

Unique opportunity to engage in all aspects of contemporary British society; courses in international business, management, literature, communications, cultural studies, film studies, political science, and sociology; students combine course work with study outside the classroom, and explore the rich heritage of the United Kingdom as well as its contemporary social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3017 IES London: University College London arr.

Unique opportunity to directly enroll at the University College London, one of the top-ranking universities in the world; students live and study with their British peers in the heart of London while choosing from a huge variety of courses in biology, chemistry, engineering, economics, English, fine art, global health, history, management, and many other popular majors; students are fully immersed in British culture and truly learn what it's like to be a Londoner through engagement with locals and taking advantage of IES field trips around the country. Semester or academic year. Requirements: good academic and disciplinary standing, g.p.a. of at least 3.30 (3.70 to enroll in economics courses, 3.50 to enroll in English or management courses); and junior or senior standing.

ABRD:3019 World of the Beatles Liverpool arr.

Opportunity to analyze social, cultural, and historical contexts in which the Beatles honed their craft and how these contexts informed their songwriting; students meet with faculty, museum curators, archivists, librarians, and local historians to discuss the Beatles' history in Liverpool; students visit various locations around Liverpool that are significant to the lives of the band members and that are important to their songs. Spring break in Liverpool, England. Requirements: 2.75 minimum g.p.a., good academic and disciplinary standing, and current enrollment in or completion of MUS:3004 or DPA:3004.

ABRD:3020 London Performance Study arr.

Selected theater productions, lectures, performances, discussions, written exercises, workshops, cultural activities. Credit may be applied toward a University of Iowa major in English or theatre arts. Summer.

ABRD:3025 Undergraduate International Business Abroad arr.

Study of the international business environment in one of the world's financial capitals; may count toward undergraduate business major or Certificate in International Business. Winter. Prerequisites vary depending on classes being offered. Requirements: junior standing.

ABRD:3026 IES Internships London arr.

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3027 Crime and Justice in Britain 3 s.h.

Introduction to crime and criminal justice in Britain, drawing comparisons and highlighting features important to understanding crime and justice in the United States; first week on campus in Iowa City, second two weeks overseas; classroom and experiential learning through visits to key sites in London in Edinburgh; unique opportunity to visit sites that aid understanding of British justice and prison systems; contemporary patterns of crime and justice in Great Britain. Three-weeks in summer. Requirements: completion of one academic year of work (24 s.h. minimum) at the University of Iowa at time of application or 2.50 g.p.a., and good academic standing.

ABRD:3030 Iowa Regents Semester in Ireland arr.

Regular course work in all disciplines at University College Cork in Ireland. Fall and spring semesters. Requirements: sophomore standing and g.p.a. of at least 3.00.

ABRD:3031 IES Internships Dublin arr.

Real-world experience combined with professional skill building and cultural immersion; interning full-time in chosen field. Eight weeks in summer.

ABRD:3035 Irish Writing Program arr.

Dublin, Ireland; writing workshops directed by Irish writers, literature courses taught by faculty. Summer.

ABRD:3036 IES Dublin Irish Studies arr.

Offering course work in economics, entrepreneurship, management, creative writing and literature, communications, cultural studies, and political science, as well as a huge variety of credit-bearing internship and service learning opportunities, the IES Dublin Irish Studies program addresses all aspects of contemporary Irish society; students combine course work with study outside the classroom for the opportunity to discover the rich heritage of Ireland and its contemporary, social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3037 IES Dublin: Trinity College Dublin arr.

Unique opportunity to enroll at Trinity College Dublin; students live and study with their Irish peers while choosing from a huge variety of courses in biology, business, chemistry, drama and film, English, engineering, economics, Irish language, psychology, and many other popular majors; students are fully immersed in Irish culture and truly learn what it's like to be a Dubliner through engagement with locals, taking advantage of IES field trips around the country, and enrolling in one of Ireland's oldest and finest institutions. Semester or academic year. Requirements: 3.30 g.p.a., good academic and disciplinary standing, second-semester sophomore or higher standing at time of participation, and at least one year of successful course work at the UI or another bachelor's-degree granting institution.

ABRD:3038 IES Dublin: Gaiety School of Acting arr.

Unique opportunity to directly enroll at the National Theatre School of Ireland's Gaiety School of Acting; students become engaged in intensive, conservatory-like training in acting for theatre, film, and television at Ireland's premier acting school; situated in the heart of Dublin and offers a rare chance to be fully immersed in Irish social and academic culture at a world-class institution focusing specifically on performance art. Semester or academic year. Recommendations: 2.75 g.p.a., theatre arts major or minor, and good academic and disciplinary standing.

ABRD:3045 Academic Year in Freiburg arr.

Combination of special program classes, German for foreigners, and regular degree course work in most liberal arts subjects at Albert-Ludwigs University, Freiburg, Germany. Academic year. Requirements: at least four semesters college German with g.p.a. of at least 3.00.

ABRD:3046 IES Internships Berlin arr.

Real-world experience combined with professional skill building and cultural immersion; eight weeks over the summer interning full-time in the student's chosen field. Requirements: two semesters of college-level German, 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing; non-U.S. passport holders should verify eligibility for German visa prior to application.

ABRD:3047 Global Engineering: Berlin arr.

Students enroll in a basic engineering course taught according to syllabi developed by the University of Iowa College of Engineering; visits and excursions to observe practical applications of engineering principles discussed in class. Four-weeks in summer. Requirements: 2.75 g.p.a., and good academic and disciplinary standing; may require additional prerequisites depending on specific course offered.

ABRD:3048 USAC Luneburg Program**arr.**

The Lüneburg program is ideal for students interested in learning German language and focus on European Studies—specifically Germany's role within the European Union; students greatly expand their language skills and knowledge of German society through formal course work and personal interaction with host culture. Requirements: good academic and disciplinary standing at time of application and through departure, and minimum UI and cumulative g.p.a. of 2.50.

ABRD:3050 IES Freiburg European Union**arr.**

Students live and learn about European politics, economics, business, and international relations; courses taught in English (e.g., global leadership, political science); exposure to the European Union and beyond. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3055 SIT Switzerland International Studies and Multilateral Diplomacy**arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., and emotional maturity due to subject matter.

ABRD:3062 CIEE Paris Critical Studies Program**arr.**

Analysis of literature, film, and other forms of visual expression through use of contemporary critical theory; interaction among fields of literature, aesthetics, and psychoanalysis; examination of problems involved in such analysis; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for students with advanced French language skills. Requirements: 3.00 cumulative g.p.a., five semesters of college-level French, and previous course work in relevant fields.

ABRD:3063 CIEE Paris Open Campus**arr.**

Combines an interdisciplinary academic program on contemporary French society and culture (taught in French or English) with opportunity to develop strong language skills; contemporary social issues in politics, Francophone cultures, and Muslim communities in Europe; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for intermediate-level French students. Requirements: 2.75 cumulative g.p.a. and good academic and disciplinary standing.

ABRD:3064 CIEE Rennes Liberal Arts Program 12 s.h.

Increase language ability and knowledge of France and French culture; opportunity to take regular university classes alongside French students; intensive language and humanities course work; cultural activities; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for intermediate or advanced intermediate students. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in French language, and four semesters of college-level French.

ABRD:3066 CIEE Paris Global Institute Summer Program**arr.**

Students take courses in several different disciplines; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. One, two, or three four-week summer sessions. Requirements: 2.75 g.p.a. and four semesters of college-level French.

ABRD:3069 USAC Lyon Program**arr.**

Intensive French language beginning with second-year French; additional courses in French culture, history, art, politics, and other disciplines are taught in both French and English. Requirements: g.p.a. of at least 2.50; good academic and disciplinary standing; and completion of two semesters of college-level French or equivalent.

ABRD:3070 USAC Pau**arr.**

Beginning through advanced French language study at the University of Pau; additional courses in French culture, literature, politics, history, and other disciplines. Taught in English and French; no previous study of French required. Requirements: g.p.a. of at least 2.50.

ABRD:3071 Study Abroad in Montpellier**arr.**

Special courses for foreign students or regular courses with French students at University of Montpellier; taught in French. Semester or academic year. Requirements: four semesters of French.

ABRD:3072 Montpellier Summer Language Program**4,6,8 s.h.**

Advanced French language and course on contemporary France that explores current perspectives on immigration; visits to local organizations dedicated to naturalization services; public housing; immigrants' rights, nonviolence, antiracism, and antidiscrimination; excursions around Montpellier and other social activities; option to take accelerated language track in either four- or eight-week program; development of language skills in various contexts depending on level (beginning through advanced) and prescribed curriculum at each level. Six weeks. Requirements: 2.50 g.p.a. and average grade of B in French course work.

ABRD:3073 Perspectives on International Politics 3 s.h.

Study world politics in Paris, France; how concepts of international relations originated and evolved, and how political phenomena relate to theories of world politics through study in Europe, the birthplace of the modern nation-state; site visits related to France's flavored history of religion, revolution, colonization, war, occupation, emancipation, integration, and globalization; fundamental processes of international politics. Requirements: good academic and disciplinary standing.

ABRD:3074 IES Internships Paris**arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: four semesters of college-level French, 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3081 John Cabot University in Rome, Italy**arr.**

Business, social science, humanities, art, and language courses at John Cabot University; located in the heart of Rome and surrounded by the extraordinarily rich offerings of a city of culture, history, art, creativity, business, and international affairs.

ABRD:3082 Studio Art Centers International in Florence, Italy**arr.**

Studio art, design, art conservation, art history, Italian language, and creative writing instruction at Studio Art Centers International (SACI) in Florence, Italy; focus on art courses; engagement in leading areas of research and exploration; opportunities to interact with the Florentine community through a variety of social and humanitarian programs. Summer, semester, or academic year.

ABRD:3083 USAC Torino Program**arr.**

Academic course work, practical learning, tours, site visits, and integrated cultural experience; content in diverse academic areas of business, architecture, and Italian studies; Italian language courses; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Semester, summer, or academic year. Requirements: 2.50 g.p.a. and appointment with Italy study abroad advisor prior to application.

ABRD:3084 USAC Viterbo Program**arr.**

Academic course work at Viterbo's historical Tuscia University of Viterbo; practical learning, tours, site visits, and integrated cultural experience; high-quality educational experience in art history and Italian studies; Italian language course; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Semester, academic year, or five-week summer session. Requirements: 2.50 g.p.a., good academic standing, and appointment with Italy study abroad advisor prior to application.

ABRD:3086 USAC Verona Program**arr.**

Language study and additional course work in English or Italian; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3087 USAC Reggio Emilia Program**arr.**

Language study and additional course work in English or Italian; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3088 CIMBA Italy Program**arr.**

Course work in business and related disciplines in the Veneto region of Italy, taught in English. Four weeks in summer or 13-week semesters.

ABRD:3089 IES Internships Rome**arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in the student's chosen field. Eight weeks in summer. Recommendations: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3090 IES Internships Milan**arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3091 IES Milan Business Studies and Italy Today**arr.**

Offering course work in liberal arts, social sciences, business, and music, the IES Abroad Milan program addresses all aspects of contemporary Italian society; students have the opportunity to take classes at one of six local partner universities or enroll in a part-time internship for credit. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3092 IES Rome**arr.**

Offering courses in art history, history, religious studies, and Italian, the IES Abroad Rome program focuses on full language immersion; students have the opportunity to take advantage of a part-time internship for credit. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3093 IES Rome Tourism and Cultural Heritage Management**arr.**

Course offerings in tourism and cultural management; students utilize Rome as their classroom while learning how to balance a thriving tourist industry with a sustainable cultural heritage emphasis. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3094 Wells College Florence: Lorenzo de Medici**arr.**

Unique opportunity to study and live in Florence, Italy; Wells College Florence study abroad program offers a rich and varied curriculum in English with more than 250 courses through Lorenzo de Medici. Requirements: 2.80 g.p.a. and good academic and disciplinary standing.

ABRD:3095 CEA Florence: Santa Reparata International School**arr.**

Students are challenged to transform their Italian experience into art through printmaking, fashion design, painting, drawing, and more; close instruction by practicing artists encourage contemporary work in response to Florentine traditions; designed for art and non-art majors. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3120 Regents Hispanic Institute**arr.**

Study of Spanish language and culture in Valladolid, Spain. Six weeks in summer. Requirements: four semesters of college-level Spanish.

ABRD:3121 Cultures of Spain**3 s.h.**

Study abroad in Madrid, the geographic and sociocultural center of Spain; overview of heterogeneous cultural landscape of Spain through interdisciplinary approach to its history; special attention given to conflict between two antagonistic national projects—one that understands Spain as a homogeneous entity and historically based on authoritarian forms of government, Catholic faith, and centralistic culture, and one that advocates for a plural conception of the country and emphasizes a liberal government, tolerance, and cultural diversity. Four weeks. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.

ABRD:3135 CIEE Portugal Program**arr.**

Intensive Portuguese language study (beginning to advanced levels) and area studies courses taught in English at Lisbon's Universidade Nova; regular university courses are available to semester students with sufficient language proficiency. Summer, semester, or academic year. Requirements: g.p.a. of at least 2.75.

ABRD:3136 European Innovation Academy**arr.**

The European Innovation Academy's Entrepreneurship Innovation Summer School is the world's largest entrepreneurship summer course focused on information technology innovations; accelerated mode of learning turns an idea into a start-up in only 15 days; entrepreneurial and ambitious students are inspired to innovate and prompt rapid growth, with the aim to achieve at least a 100M EUR valuation for their business; necessary mindset, skills, and knowledge are nurtured; tools and network provided in order to achieve set goals; University of Iowa students participate alongside students from other U.S. universities and countries. Requirements: good academic and disciplinary standing.

ABRD:3140 American College of Thessaloniki Semester **arr.**

Undergraduate studies in varied academic disciplines (business, history, international relations, psychology, fine arts, literature, philosophy, modern Greek language) at the American College of Thessaloniki. Taught in English.

ABRD:3142 Greece: Origins of Humanistic Counseling **arr.**

Origins of humanistic psychotherapy through an experiential exploration of the history and topography of Greece; students gain a deeper understanding of the culture in which humanism originated, unique environmental factors that promote a humanistic worldview, and critically analyze the evolution of humanistic theory from its philosophical beginnings to its status as a leading theory in counseling and psychotherapy; physical exploration, reading, reflecting, and on-site lectures; designed for masters and doctoral students who have had an introduction to theories of counseling and psychotherapy. Requirements: sophomore or higher standing, 3.00 minimum g.p.a., and good academic and disciplinary standing. Recommendations: enrollment in a masters or doctoral program focusing on mental health (counseling, counseling psychology, couples and family therapy, social work) and prior exposure to counseling theory.

ABRD:3143 The Land of the Muses: Traveling Like a Writer **arr.**

Creative writing program in Athens, Greece; exposure to ancient Greek literature and writings about Greece by various international travelers; these literary models are used to inspire original student writing about Greece including ancient and contemporary history, culture, people, and politics. Requirements: 2.75 g.p.a., sophomore or higher standing, positive evaluation of writing skills from a 4-6 page writing sample, and good academic and disciplinary standing.

ABRD:3165 Archaeological Field Work Abroad **arr.**

Major archeology projects hosted at international excavation sites. Summer.

ABRD:3166 SIT Netherlands International Perspectives on Sexuality and Gender **arr.**

Examination of the intersections of gender and sexuality with race, class, and religion; highlights experiences of a growing number of postcolonial and post-migration subjects living in these intersections; how identity is affected by gender, sexuality, race, religion, and class, both as they are experienced and as they are perceived, apart from looking at theories and applications of gender, LGBT, and sexuality studies in activism. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and previous college-level course work or other preparation in sexuality and/or gender studies.

ABRD:3170 SIT Iceland Renewable Energy, Technology, and Resource Economics **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., previous course work in engineering, economics, environmental science or studies, or related fields.

ABRD:3180 CIEE Copenhagen Open Campus **arr.**

Students customize their experience by studying one of six academic tracks; courses taught in English by faculty drawn from higher education institutions across Denmark; traditional lectures are combined with cocurricular excursions and activities; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.

ABRD:3201 CIEE Alcala Language and Culture Program **6,12 s.h.**

Established in 1999, the CIEE Study Center at the Universidad de Alcala (Alcala de Henares, Spain) provides an academic program for students with a high- intermediate to advanced-level of Spanish; the summer program (established in 2008) consists of language and culture courses offered through the Institute; all courses offered in Spanish; many approved for Spanish majors, minors, and general education requirements, and may be approved for other degree requirements; 6 s.h. taken in each four-and-one-half-week session. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in most recent Spanish course, four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3205 CIEE Alicante Language and Culture Program **arr.**

Rapid progress in language skills while taking area studies courses related to Europe and Spain; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes and supplementary visits and excursions; administered by the Council on International Education Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 minimum g.p.a., three to four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3206 CIEE Alicante Language and Culture Summer Program **arr.**

Development of Spanish language skills and knowledge of Spanish art, cinema, and culture in Alicante, Spain; linguistic development and cultural immersion through housing in Spanish-speaking homes, supplementary visits and excursions, content courses in Spanish, and direct enrollment at the University of Alicante; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students with varying levels of Spanish. Summer. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3207 CIEE Alicante Language in Context Program **12 s.h.**

Solid foundation provided in Spanish language; improvement of language skills while pursuing studies focusing on Spain and Europe; topics in history, art history, political science, and international business; intensive language course work; area studies courses in English, conversation exchange program, excursions, and homestays; administered by the Council on International Educational Exchange (CIEE). Requirements: 2.75 minimum g.p.a., two semesters or less of college-level Spanish, and valid passport at time of application.

ABRD:3208 CIEE Alicante Liberal Arts Program arr.

Development of spoken and written Spanish language skills; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes, supplementary visits and excursions, content courses in Spanish, and direct enrollment at the University of Alicante; administered by the Council on International Education Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 minimum g.p.a., at least five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3215 CIEE Barcelona Advanced Liberal Arts Program arr.

Development of fluency through direct enrollment in a wide range of regular university classes; classes taken alongside Spanish classmates who become friends and guides to the culture; dramatic improvement of Spanish language skills while living the language every day in the city and the university; for students with advanced Spanish language skills. Semester or academic year. Requirements: 3.00 minimum g.p.a., at least six semesters of college-level Spanish, and valid passport at time of application.

ABRD:3216 CIEE Barcelona Architecture and Design Program 12 s.h.

Exploration of the intersection of two fields in a city famous for its vibrant architecture and innovative design; courses offered by ELISAVA and CIEE allow a unique opportunity to collaborate in a joint core class alongside courses in student's track and Spanish language; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a. and valid passport at time of application; for design track students—design or related major or minor and four semesters of college-level Spanish.

ABRD:3217 CIEE Barcelona Business and Culture Program arr.

Development of competency in Spanish language while studying issues related to business in Spain and the European Union, Spanish language and culture; company visits, excursions, and homestays or student residence option in the vibrant city of Barcelona contribute to students' cultural immersion and development of language skills; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium; designed for students with varied levels of Spanish. Semester or academic year. Requirements: 3.00 cumulative g.p.a.; three semesters of microeconomics, macroeconomics, accounting, finance, management, or statistics; and valid passport at time of application.

ABRD:3218 CIEE Barcelona Economics and Culture Program 12 s.h.

Classes at a Spanish university for students with varying levels of Spanish and a strong background in economics; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 3.25 cumulative g.p.a., three semesters of microeconomics or macroeconomics, one semester of calculus, and valid passport at time of application.

ABRD:3219 CIEE Barcelona Language and Culture Program 12 s.h.

Development of skills and competency in Spanish language while studying Spanish history, arts, politics, and culture; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a., junior standing, one to three semesters of college-level Spanish, and valid passport at time of application.

ABRD:3220 CIEE Barcelona Language and Culture Summer Program arr.

Rapid progress in language skills while taking language, culture, or business courses in Barcelona; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students with varying levels of Spanish. Summer. Requirements: 2.75 cumulative g.p.a. and four semesters of college-level Spanish.

ABRD:3221 CIEE Barcelona Liberal Arts Program arr.

Development of skills and competency in Spanish language while studying Spanish history, politics, and culture at Universitat Pompeu Fabra; cultural immersion and development of language skills through excursions and homestays or student residence option in the vibrant city of Barcelona; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a., junior standing, four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3230 CIEE Madrid Legal Studies Program 12 s.h.

Opportunity to further develop Spanish language skills while pursuing cocurricular program focused on law and public policy in Spain; goals achieved through a specially designed language course, course on legal issues in Spain, an optional internship, and law and political science elective course at the Universidad Carlos III de Madrid; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for highly motivated students with a strong Spanish background, from any academic discipline. Requirements: g.p.a. of at least 3.00, six semesters of college-level Spanish, junior standing or above, and valid passport at time of application. Recommendations: good background in math/statistics in order to grasp the more theoretical focus of European business instruction.

ABRD:3231 CIEE Madrid Liberal Arts Program arr.

Opportunity to matriculate in a combination of content courses in Hispanic studies, regular university courses, and short seminars while continuing to improve language skills and take advantage of the vibrant and rich cultural milieu of Madrid; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes, and supplementary visits and excursions; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for independent, advanced-level students. Semester or academic year. Requirements: 3.00 minimum g.p.a., five or six semesters of college-level Spanish, and valid passport at time of application.

ABRD:3240 CIEE Palma de Mallorca Liberal Arts Program arr.

Established in 2006, the CIEE study center at Universitat de les Illes Balears provides an academic program for students with an advanced level of Spanish who are interested in tourism studies, business, humanities, Spanish literature and language, and social sciences; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3241 CIEE Palma de Mallorca Business and Tourism Program 12 s.h.

Study business, tourism, and hospitality alongside Spanish students in a direct enrollment environment with a global perspective in Palma de Mallorca; development of management skills for future leadership in the tourism and hospitality industry; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and valid passport at time of application. Recommendations: two semesters of college-level Spanish.

ABRD:3242 CIEE Palma de Mallorca Language and Culture Summer Program arr.

Established in 2006, the CIEE Study Center at Universitat de les Illes Balears provides an academic summer program for students interested in tourism; development or improvement of Spanish language skills while learning about Spain and Europe; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3243 CIEE Palma de Mallorca Summer Internship Program 6 s.h.

Enhancement of academic and language skills in a professional context while being immersed in Spanish professional work environment; intensive Spanish language course related to business and tourism taken during first three weeks with substantial interactive and practical component; five-week internship in hotel, company, or nonprofit organization with completion of 130 hours of work and meeting three hours each week with a university professor; designed for business and tourism students. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3250 CIEE Seville Advanced Liberal Arts Program arr.

Achievement of fluency in spoken and written Spanish; wide variety of academic fields to gain deeper understanding from a Spanish perspective; direct matriculation in university courses, homestays, local and overnight excursions, conversational exchange program, volunteer opportunities, and independent study options in Seville, Spain. Requirements: 3.00 cumulative g.p.a., 3.00 minimum g.p.a. in Spanish courses, six semesters of college-level Spanish, and valid passport at time of application.

ABRD:3251 CIEE Seville Business and Society Program arr.

Opportunity to study business in an international context through a combination of course work in Spanish business, society, and language; related field visits to Spanish companies; designed for highly motivated students of business with advanced-level Spanish skills at the University of Seville's Business School; unpaid internships may be available to students with advanced language ability; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: at least 2.75 g.p.a.; five semesters of college-level Spanish; 6 s.h. of microeconomics, macroeconomics, accounting, finance, management, or statistics; and valid passport at time of application. Recommendations: good background in math/statistics to grasp the more theoretical focus of European business instruction.

ABRD:3252 CIEE Seville Business Internship Program 6 s.h.

Exposure to a professional workplace atmosphere in Seville, Spain for business students; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Eight weeks. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3253 CIEE Seville Communications, New Media, and Journalism Program arr.

Valuable hands-on experience in a multifaceted academic and professional environment; courses through CIEE and with Spanish students at the Universidad de Sevilla; may include CIEE classes offered through the Liberal Arts program; social and cultural immersion of participants in the host society through specialized projects and extracurricular activities; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students considering a career in any communication environment. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3254 CIEE Seville International Business and Culture Program arr.

Spanish language improvement in Seville, Spain; courses in English, primarily in the field of international business; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for beginning to intermediate students. Semester or academic year. Requirements: 2.75 g.p.a., four semesters or less of college-level Spanish, and valid passport at time of application.

ABRD:3255 CIEE Seville Language and Culture Summer Program 3,6,9 s.h.

Development of Spanish language skills and exposure to Spanish culture through an intense immersion experience; courses in Spanish language and culture, conversational exchange program, homestay program, and local visits and excursions; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Three, six, or nine weeks. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3257 CIEE Seville Language and Society Program

Rapid improvement of Spanish language skills; Spanish culture and its artistic, literary, historical, or political traditions; linguistic and cross-cultural development enhanced by participation in community life, volunteer work, field trips, and housing with Spanish-speakers in homestays; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for intermediate or low-advanced level students. Fall or spring semester. Requirements: 2.75 minimum g.p.a., completion of three and no more than four semesters of college-level Spanish, and valid passport at time of application.

ABRD:3258 CIEE Seville Liberal Arts Program

Achieve fluency in written and spoken Spanish; language acquisition and cultural immersion through housing in Spanish-speaking homes, involvement in volunteer opportunities, and conversation exchanges; courses at the CIEE Study Center, the University of Seville, and Pablo de Olavide University (UPO); administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3259 CIEE Seville Teaching Development Program**12 s.h.**

Achieve greater competency in written and spoken Spanish while developing specific expertise in international education and second language acquisition; academic program, teaching development course, homestay, excursions and cultural activities, conversation exchanges, and volunteer opportunities; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

ABRD:3260 CIEE Madrid Business, Economics, and Culture

Development of skills and competency in Spanish language while studying business, economics, and culture at CIEE Madrid study center and/or Universidad Carlos III; cultural immersion and development of language skills through excursions and homestays or student residence option in energetic city of Madrid; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a., two semesters of college-level Spanish, and three semesters of college-level microeconomics, macroeconomics, accounting, finance, management, marketing, or statistics; for students taking economics courses—two additional college-level microeconomics or macroeconomics courses and one semester of calculus.

ABRD:3270 USAC Alicante Program

Intensive language study in Alicante, Spain; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester or academic year. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3271 USAC Valencia Program**arr.**

Study abroad program in Spain offers an opportunity to learn or improve on Spanish language and cultural knowledge; appropriate for all levels of Spanish, this program also offers a wide selection of STEM courses taught in English. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3272 USAC Bilbao Program**arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish and include offerings in business and environmental sustainability; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester or academic year. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3274 USAC Madrid Program**arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3276 USAC San Sebastian Program**arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3277 IES Internships Barcelona**arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3278 IES Barcelona Liberal Arts and Business**arr.**

Opportunity to enroll in a variety of Spanish or English language courses in several disciplines. Requirements: 2.75 g.p.a. and good disciplinary and academic standing.

ABRD:3279 IES Granada**arr.**

Study abroad program for intermediate to advanced Spanish language students and Spanish majors. Requirements: 2.75 g.p.a., good disciplinary and academic standing, and two semesters of college-level Spanish for intermediate track or four semesters of college-level Spanish for advanced track.

ABRD:3312 CIEE Buenos Aires Liberal Arts Program**12 s.h.**

Critical appreciation of Argentina and its importance in Latin America from perspective of social sciences and humanities; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for advanced Spanish students with strong language preparation. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish. Recommendations: completion of Spanish language course in session prior to study abroad and college-level course work in Latin American Studies.

ABRD:3317 CIEE Santiago (Chile) Business and Culture Program 12 s.h.

Development of competency in Spanish language while studying issues related to local and regional business environment, management practices, and entrepreneurship in Chile and the southern cone; homestay living provides opportunities for cultural and linguistic immersion; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for students with varying levels of Spanish. Requirements: cumulative g.p.a. of 2.75. Recommendations: completion of Spanish language course within past year.

ABRD:3318 CIEE Santiago (Chile) Liberal Arts Program arr.

Special CIEE courses and direct enrollment with Chilean students in regular courses at the Pontificia Universidad Catolica de Chile and the Universidad de Chile; first-hand knowledge of contemporary issues and cultural patterns in Chile; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish.

ABRD:3321 USAC Studies in Chile arr.

Intensive beginning-level Spanish language; advanced language, literature, civilization at third-year level; area studies. Some courses taught in English. Requirements: g.p.a. of at least 2.50.

ABRD:3323 CIEE Valparaiso Liberal Arts Program 12 s.h.

Special CIEE courses and direct enrollment with Chilean students in regular courses at the Universidad Catolica de Valparaiso; first-hand knowledge of contemporary issues to better understand Chilean society and an appreciation for Chilean history and identity; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish.

ABRD:3324 CIEE Monteverde Tropical Ecology and Conservation 10,12 s.h.

Rich understanding of tropical ecology through hands-on exposure, direct experimentation, study of theory, taxonomy of major groups, and observation of empirical patterns; science courses taught in English; Spanish-language course for various levels; travel to diverse ecosystems; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and two semesters of college-level biology. Recommendations: college-level ecology or environmental science course, and college-level Spanish.

ABRD:3325 CIEE Monteverde Sustainability and the Environment 12 s.h.

Insight into complexity of pressures that confront global biodiversity (e.g., population growth, consumption, urbanization, globalization); homestay with local families provides exposure to Spanish language and Costa Rican culture; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for students with an interest in environmental studies. Requirements: 2.75 g.p.a. and three semesters of college-level environmental studies. Recommendations: college-level Spanish.

ABRD:3326 CIEE Santiago (DR) Liberal Arts Program 12 s.h.

Enrollment in one of three distinct academic tracks based on language proficiency level; tracks offer a variety of courses on society, culture, economics, and politics of Hispaniola and the Greater Hispanic Caribbean; regional literature, history, and widely variant sociocultural issues facing the region; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in Spanish language, and four semesters of college-level Spanish.

ABRD:3332 CIEE Lima Liberal Arts Program arr.

CIEE-taught course, homestay, and city-based cultural activities with direct enrollment alongside Peruvian students at the Pontificia Universidad Catolica del Peru; immersion to refine language skills and develop understanding of contemporary Peruvian society; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and five semesters of college-level Spanish. Recommendations: completion of Spanish language course within past year.

ABRD:3334 CIEE Valparaiso Language in Context arr.

Development of Spanish language skills; Chile and its role in Latin America; intensive language study and choice of courses in history, literature, economics, and international relations taught in English; excursions, homestay, and opportunities for community service; administered by the Council on International Educational Exchange (CIEE). Requirements: g.p.a. of 2.75.

ABRD:3335 USAC Heredia Program arr.

Culture and physical beauty of Costa Rica experienced through specially designed courses combined with family home stay and some program travel; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Requirements: cumulative g.p.a. of 2.50.

ABRD:3336 USAC Puntarenas Program arr.

Expansion of Spanish language skills through personal interaction with host culture in homestay setting, field trips and optional tours, and accelerated classroom study according to tracks; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3337 USAC San Ramon Program arr.

Life and health sciences, Spanish language and culture studies program; tropical ecology, tropical marine biology, conversation biology, and environmental policy courses taught in English; science curriculum combined with Spanish language or literature classes designed by tracks according to level; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member; for science majors interested in learning more about ecology and conservation biology in Costa Rica. Requirements: 2.50 g.p.a. and one year of college-level general biology with lab.

ABRD:3338 USAC Havana Program 3,6 s.h.

Appreciation of Cuban society through area studies course work in history, culture, and politics of the region; courses taught in English and Spanish; administered by the University Studies Abroad Consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a. and good academic standing.

ABRD:3339 CIEE Buenos Aires Community Public Health Program 9 s.h.

Classroom-based theory and language instruction to support extensive, offsite field work; examination of Argentine health care system through lens of social sciences; exposure to challenges facing global health arena and diversity of solutions being implemented locally to resolve them. Summer. Requirements: 2.75 cumulative g.p.a. and five semesters of college-level Spanish. Recommendations: college-level course work in public health, and course work in history or politics of Latin America or Argentina.

ABRD:3341 IES Internships Santiago arr.

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing. Recommendations: four semesters of college-level Spanish.

ABRD:3342 Brazilian Carnival: Music and Dance 3 s.h.**ABRD:3345 CIEE Santiago Community Public Health Program arr.**

Program in Santiago, Dominican Republic; concepts of public health with a focus on health management, policies and coverage, and language instruction; extensive off-site field work in semi-rural and urban areas; multi-dimensional nature of health, preventive medicine, and health care administration through involvement in community services; students live in private Dominican homes with families. Requirements: good academic and disciplinary standing, four semesters of college-level Spanish or equivalent, and an overall g.p.a. of 2.75.

ABRD:3346 SIT Argentina Social Movements and Human Rights arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, previous course work and/or other significant preparation in social work, political economy, development studies, or Latin American studies, as assessed by SIT.

ABRD:3347 SIT Bolivia Multiculturalism, Globalization, and Social Change arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, and ability to follow course work in Spanish.

ABRD:3348 SIT Ecuador Development, Politics, and Languages arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, and ability to follow course work in Spanish.

ABRD:3349 IES Buenos Aires and Santiago Emerging Economies arr.

Multiple location and interdisciplinary program that offers a unique comparative perspective of two of the most notable emerging economies in South America; students spend half of the semester in Buenos Aires, Argentina and the other half in Santiago, Chile; designed for students interested in business, economics, sociology, and political science. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3352 International Perspectives: Xicotepec arr.

Introduction to providing service to communities in underdeveloped countries through discipline-specific projects to improve community life in Xicotepec, Mexico; cultural and professional preparation for teamwork in an international environment; service-learning course in collaboration with Rotary International. Spring break in Xicotepec, Mexico.

ABRD:3353 International Entrepreneurship and Culture arr.

International business strategies, foreign exchange, tariffs and trade, micro-finance, economic conditions and culture of destination countries; hands-on experience working with in-country micro-entrepreneurs, a firsthand look at international businesses in operation, and lectures from in-country experts; business strategies and operations for successful sustainable growth in foreign countries. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

ABRD:3354 Engineering Service Program arr.

Engineering students work in teams to build or repair bridges in communities outside the United States as part of a service-learning project; students live locally in the community where bridge work is being done; complemented by University of Iowa course work before and after experience abroad. Requirements: good academic and disciplinary standing.

ABRD:3355 IES Santiago Health Studies arr.

Students expand their knowledge of Spanish language through required courses, a homestay, and interaction with host culture through an observership; students participate in a health studies seminar and are required to complete 80 hours of an observership in either a clinical setting or a community setting; designed for Spanish students in health-related majors. Requirements: four semesters of college-level Spanish including at least one course completed within the year prior to program start date, sophomore standing, 2.75 g.p.a., and good academic and disciplinary standing.

ABRD:3356 USAC Montevideo Program arr.

Development of Spanish language skills through course work, homestay, and field trips; students learn about the area known as the Rio de la Plata in Argentina and Uruguay, and are required to spend the beginning of the semester taking an intensive Spanish language course which allows for rapid acquisition of language and culture; courses also are available in viticulture and agribusiness. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3357 CIEE Santiago Open Campus arr.

Students are offered a series of courses that allow them to explore the dynamics of this Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., good academic and disciplinary standing.

ABRD:3358 CIEE Buenos Aires Open Campus arr.

Students are offered a series of courses that allow them to explore the forces at play in this Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.

ABRD:3359 CIEE Rio de Janeiro Open Campus arr.

Students are offered a series of courses that allow them to discover this charismatic and compelling Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.

ABRD:3364 Pharmacy Rotations Abroad arr.

Practicum experience; focus on best practices for pharmaceutical management, ways to enhance access to medicine; promotion in underserved and resource-limited environments abroad. Recommendations: successful completion of all requirements listed as prerequisites for rotations in the advanced practice experience syllabus.

ABRD:3370 Spanish Language and Service Learning Ecuador arr.

Spanish language and Ecuadorian civilization course work (6 s.h.) and 100 hours of community service learning in Cuenca, Ecuador. Two months in summer. Requirements: two years of college-level Spanish, 2.50 cumulative g.p.a., and good academic and disciplinary standing.

ABRD:3372 USAC Florianopolis Program arr.

Brazilian culture studies, global economy, and natural resource management; opportunity to develop language skills while taking courses taught in English by local faculty from the Universidade Federal de Santa Catarina; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: cumulative g.p.a. of 2.50.

ABRD:3401 CIEE Beijing Advanced Chinese Studies arr.

Important topics in Chinese from a Chinese perspective; development of professional writing and research skills in Chinese; designed for students interested in using their superior level of Chinese to study international affairs, business, history, or Chinese literature.

ABRD:3402 CIEE Beijing Intensive Chinese Language 10,12 s.h.

CIEE's Intensive Chinese Language study abroad program at Peking University in Beijing, China, is one of the oldest and most recognized intensive Chinese language programs; the Peking University Center for Teaching Chinese houses over eight different language levels and many other elective courses; intensive language courses coupled with individual language tutorials, diversified field trips, modern housing facilities, and experienced onsite staff make the CIEE Study Center in Beijing an incredible place to study and learn under the auspices of the most famous university in China. Requirements: 2.75 g.p.a. and two to six semesters of college-level Chinese. Recommendations: completion of at least one Chinese area studies course before departure.

ABRD:3403 CIEE Beijing Sustainable Development arr.

Investigation of environmental, social, and economic dimensions of sustainable development in Beijing; students experience social and cultural immersion in the host society through specialized projects and extracurricular activities; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: cumulative g.p.a. of 2.50. Recommendations: previous course work in sustainability, environmental studies, global studies, anthropology, or sociology.

ABRD:3408 SIT China Community Health and Traditional Chinese Medicine arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3411 Iowa in Tianjin arr.

Chinese language, area studies, and folk art; based at Tianjin University of Technology. Summer or semester. Requirements: one to three years of college-level Chinese.

ABRD:3413 IES Internships Shanghai arr.

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

ABRD:3414 IES Internships Hong Kong arr.

Exhilarating challenge of real-world experience combined with professional skill building and cultural immersion; full-time internship in student's field of choice. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.

ABRD:3415 CIEE Nanjing Intensive Chinese Language and Culture arr.

CIEE's intensive Chinese language and culture program in Nanjing, China; Chinese studies and immersion in a more traditional and accessible locale against the backdrop of a large developing Chinese city; for students with background in Mandarin Chinese. Requirements: 2.75 g.p.a. and two to six semesters of college-level Chinese. Recommendations: completion of one Chinese area studies course.

ABRD:3422 Japan Animation arr.

Immersion in the professional animation and gaming studios of Japan; meet experienced animators and learn about the creative process that goes into constructing major works of animation and video games; studio and museum visits will supplement this exclusive look into the Japanese animation industry, adding to the understanding of Japanese technology, art, culture, and design. Requirements: good academic and disciplinary standing. Recommendations: background in drawing.

ABRD:3425 CIEE Shanghai Accelerated Chinese Language 10,12 s.h.

Accelerated language program in Shanghai, China; one year of Chinese language training accomplished during summer; for intermediate and advanced Chinese language students. Requirements: cumulative g.p.a. of 3.00.

ABRD:3427 CIEE Shanghai Business, Language, and Culture 9,12 s.h.

CIEE study abroad program in Shanghai, China; Chinese language training at standard and intensive levels; courses (taught in English) in business, marketing, economics, international relations, and area studies; contemporary business issues affecting China; effects of China as a rising power in the business world today; for students majoring in business with no Chinese language background and those who have studied Chinese for several semesters. Requirements: 2.75 g.p.a., seven semesters or less of college-level Chinese, and three or more semesters of microeconomics, macroeconomics, accounting, finance, management, or marketing.

ABRD:3428 CIEE Shanghai China in a Global Context **12 s.h.**

CIEE study abroad program in Shanghai, China; focus on China in a global context; Chinese language training at standard and intensive levels; courses (taught in English) in global studies, economics, international relations, and area studies; for students with no Chinese language background and those who have studied Chinese for several semesters. Requirements: 2.75 g.p.a. and seven semesters or less of college-level Chinese. Recommendations: completion of one Chinese area studies course.

ABRD:3429 CIEE Shanghai Global Sustainability and Environment **arr.**

Introspection into how humans adversely impact our world; developing ideas for minimizing impact by gaining technical and project-planning skills in Chinese labs, research centers, and universities in Shanghai; urban challenges to sustainable life; immersion in Chinese culture, with optional homestay for further immersion; course work conducted in English. Requirements: 3.00 g.p.a., minimum of two college-level courses in environmental studies or environmental science. Recommendations: completion of at least one college-level science or social science course with an integrated lab.

ABRD:3435 TEAN South Korea: Korea University **arr.**

Study abroad experience in Seoul, South Korea through The Education Abroad Network (TEAN) program at Korea University; courses in business, communication and media, education, engineering, humanities, social sciences, international studies, science, and visual arts; resident directors available to provide onsite support in Seoul, organize group activities, and help students navigate academic and cultural differences. Summer, semester, or academic year. Requirements: good academic and disciplinary standing, minimum 2.50 cumulative g.p.a., and completion of one year of on-campus study at the University of Iowa.

ABRD:3442 CIEE Taipei Communications, Business, and Political Economy **arr.**

Intensive Mandarin Chinese language courses; courses in business, communications, political sciences, and other academic areas taught in English; internships in various fields; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: cumulative g.p.a. of 2.75. Recommendations: one Chinese area studies course.

ABRD:3443 CIEE Taipei Intensive Chinese Language and Culture **12 s.h.**

CIEE intensive Chinese language and culture program in Taipei, Taiwan; for beginning through advanced language students who have an interest in improving their Chinese; opportunity to take non-language courses taught in English to aid understanding of Taiwanese culture and society; flexible and supportive environment to experience life at one of Taiwan's most prestigious national universities. Requirements: 2.75 g.p.a. and two to eight semesters of college-level Chinese. Recommendations: completion of one Chinese area studies course.

ABRD:3445 India Winterim **arr.**

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services; led by UI faculty. Winter session.

ABRD:3446 SIT India Traditional Medicine and Healthcare Practices **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.

ABRD:3447 SIT India Public Health, Policy Advocacy, and Community **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.

ABRD:3500 Study Abroad **arr.**

Students participating in study abroad programs at other U.S. or foreign universities maintain their status at the University of Iowa by registering for this course.

ABRD:3501 Study Abroad **arr.****ABRD:3502 Study Abroad Independent Enrollment** **arr.****ABRD:3510 International Student Exchange Program Direct** **arr.**

Study at some ISEP member institutions in Brazil, Chile, Costa Rica, Estonia, Ghana, Italy, Malta, The Netherlands, New Zealand, South Africa, Thailand, the United Kingdom; fields and terms vary.

ABRD:3530 Elementary Student Teaching Abroad **arr.**

Supervised student teaching in an overseas school.

ABRD:3531 Secondary Student Teaching Abroad **arr.**

Supervised student teaching in an overseas school.

ABRD:3601 Iowa Regents Semester in Australia: University of Newcastle **arr.**

Opportunity to study at the University of Newcastle in Australia; full academic and social integration with Australian peers. Requirements: 2.50 minimum g.p.a. and sophomore standing.

ABRD:3602 Iowa Regents Semester in Australia: University of Tasmania **12 s.h.**

Study at the University of Tasmania; full academic and social integration with Australian peers. Semester. Requirements: 2.50 minimum g.p.a. and sophomore standing at time of application.

ABRD:3603 IES Internships Sydney **arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing, and eligible to receive Australian work/holiday visa.

ABRD:3604 SIT Australia Sustainability and Environmental Action **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3605 TEAN Australia: Bond University **arr.**

Study at Bond University on the Gold Coast of Australia alongside other local and international students; focus on a wide range of academic course areas including business, social science, arts and humanities, and the sciences. Requirements: minimum 2.50 g.p.a., and good academic and disciplinary standing.

ABRD:3606 International Business in Sydney **arr.**

Program in Sydney, Australia, for students wishing to gain a deeper understanding of international business and expand their knowledge of the fast growing dynamic region of Asia Pacific; introduction to basic concepts of international business and the rise of globalization; students examine the importance of understanding key political-legal, socioeconomic, and technological factors and issues impacting international trade in this region. Requirements: good academic and disciplinary standing, UI and cumulative g.p.a. of at least 2.75, completion of at least one full academic year at UI prior to application, sufficient course work in business, and MGMT:2100 or consent of program director.

ABRD:3610 TEAN New Zealand: University of Otago **arr.**

Study at the University of Otago, New Zealand's first university established in 1869; with focus on traditional arts and sciences, the university offers a broad spectrum of courses that students can take alongside other local or international students. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

ABRD:3611 TEAN New Zealand: Victoria University of Wellington **arr.**

Students participating in the Victoria University of Wellington program enjoy courses that are ranked in the top 100 internationally recognized programs for arts and humanities, social sciences, and management; students take a wide variety of courses from many disciplines alongside other local or international students. Requirements: 2.70 g.p.a. and good academic and disciplinary standing.

ABRD:3655 Community and Public Health Nursing Practicum Abroad **arr.**

Two-week intensive nursing practicum abroad; fulfills community and public health nursing practicum requirement for nursing majors. Requirements: nursing majors in last semester of program and good academic and disciplinary standing.

ABRD:3710 SIT South Africa: Social and Political Transformation **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3712 Child Life Experiential Learning Program **3 s.h.**

Preparation to work with children and their families in a variety of health care settings through a practical experience in Cape Town, South Africa; impact of illness, injury, trauma, and health care environments on patients and families; hands-on opportunity to explore how the Red Cross and hospitals operate on a daily basis. Requirements: good academic standing.

ABRD:3713 IES Internships Cape Town **arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.

ABRD:3714 SIT South Africa Community Health and Social Policy **arr.**

The School for International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3715 SIT South Africa Multiculturalism and Human Rights **arr.**

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3716 SIT South Africa Education and Social Change **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3717 IES Cape Town: University of Cape Town **arr.**

The University of Cape Town offers course work in African studies, biology, botany, business, environmental sciences, history, mathematics, engineering, sociology, and anthropology; opportunities for students to participate in internships and service learning for credit. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

ABRD:3718 IES Cape Town Health Studies **arr.**

Opportunity to research and examine health care delivery in South Africa; field visits and placements in townships surrounding Cape Town and a week-long rural excursion to the northern part of South Africa provide first-hand experience with the many health issues that challenge South Africa and the national effort to improve public health. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3719 SIT Madagascar Traditional Medicine and Healthcare Systems **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3720 SIT Rwanda Post-Genocide Restoration and Peacebuilding **arr.**

The School for International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., emotional maturity for subject matter, and good academic and disciplinary standing.

ABRD:3721 SIT Uganda and Rwanda Peace and Conflict Studies **arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and emotional maturity due to subject matter.

ABRD:3722 SIT Uganda: Development Studies arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing. Recommendations: background in development studies or related field strong recommended.

ABRD:3723 SIT Senegal: Global Security and Religious Pluralism arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3724 SIT Madagascar: Biodiversity and Natural Resource Management arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3725 SIT Tanzania Wildlife Conservation and Political Ecology arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and previous course work in environmental studies, ecology, biology, sociology, anthropology, international relations, or related fields.

ABRD:3726 SIT Tanzania: Coastal Ecology and Natural Resource Management arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and college-level course work in environmental studies, ecology, biology, or related field. Recommendations: swimming and snorkeling proficiency strongly recommended.

ABRD:3750 Arabic Language and Culture in Morocco arr.

Moroccan colloquial Arabic, modern standard Arabic, and Moroccan culture; development of communication skills and cultural awareness through language study, homestays, cultural immersion; based in Fez, Morocco. Seven weeks in summer. Requirements: completion of GE CLAS Core World Languages and minimum g.p.a. of 3.00.

ABRD:3751 Archaeology in Israel arr.

Opportunity to participate in an active archaeological dig alongside local professionals and faculty in Israel; part of an international consortium participating the Lautenschlag Tel Azekah archaeological excavation; morning excavation time complemented by daily afternoon lectures from leading local archaeologists and University of Iowa faculty. Requirements: good academic and disciplinary standing.

ABRD:3752 SIT Morocco Field Studies in Journalism and New Media arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, previous course work in journalism or related field, strong writing skills, and an interest in journalism.

ABRD:3753 SIT Jordan Geopolitics, International Relations, and the Future of the Middle East arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3754 SIT Jordan Refugees, Health, and Humanitarian Action arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3755 SIT Morocco Multiculturalism and Human Rights arr.

The School of International Training (SIT) offers more than 60 accredited semester and summer study abroad programs in Africa, Asia, the Pacific, Europe, Latin America, and the Middle East; these rigorous academic programs connect with students through a field-based, experiential approach. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3756 SIT Morocco Arabic Language and Community Service arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3757 SIT Jordan Engineering and Design for Sustainable Environments arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3758 SIT Jordan Intensive Arabic Language Studies arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

ABRD:3810 ACTR Contemporary Russian Program 12 s.h.

Russian language study; Russian economics, politics, and culture classes taught in English; content-based courses taught by faculty of the State University Higher School of Economics in Moscow; full-time resident director oversees academic and cultural programs and assists participants with academic, administrative and personal matters; for students and working professionals at all levels of Russian-language proficiency, including no prior study of the language. Requirements: good academic and disciplinary standing.

ABRD:3811 ACTR Language and Area Studies Program 8,12 s.h.

Russian Language and Area Studies Program of the American Council of Teachers of Russian (ACTR); designed for improvement of oral, listening, reading and writing proficiency in Russian language; Russian history, politics, culture, and society; offered at one of three locations (St. Petersburg, Moscow, or Vladimir) with final placement determined by ACTR; full-time U.S. resident director provides ongoing logistical support and emergency assistance to participants. Requirements: four semesters of college-level Russian language.

ABRD:3812 ACTR Business Russian Language and Internship Program **12 s.h.**

Curriculum focusing on language of Russian business combined with an internship at a multinational company, business, or NGO agency in Russia; highly individualized curriculum; offered at one of two locations (St. Petersburg or Moscow) with final placement determined by ACTR; full-time U.S. resident director provides ongoing logistical support and emergency assistance to participants; for intermediate- to near-native speakers of Russian. Requirements: prior Russian language study and a strong command of Russian grammar.

ABRD:3813 PRUE Summer Intensive Russian Program **arr.**

Immersion in Russian language and culture; students attend Plekhanov Russian University of Economics (PRUE), enroll in Russian language courses, and become more familiar with the Russian culture through firsthand experience. Eight weeks in summer. Requirements: 2.75 UI and cumulative g.p.a., minimum of four semesters of college-level Russian, and good academic and disciplinary standing.

ABRD:3830 USAC Studies in the Czech Republic **arr.**

Introductory Czech language and culture courses taught in English at Charles University. Summer, semester, or academic year.

ABRD:3831 CEA Prague: Full Curriculum **arr.**

Choice of courses from Anglo-American University's (AAU) full curriculum—more than 100 courses, all taught in English, across a range of disciplines; students attend class with local Czech and other international students, creating a truly integrated experience. Requirements: native English speaker or satisfactory TOEFL scores, 2.70 minimum g.p.a., sophomore standing prior to program start, and good academic and disciplinary standing.

ABRD:3832 CEA Prague: Business, Liberal Arts, and Social Sciences **arr.**

Students spend a summer immersed in Czech culture and attend class with local Czech and other international students at Anglo-American University (AAU); all courses taught in English; diverse selection of topics and disciplines allows students to find courses aligned with their academic interests. Requirements: native English speaker or satisfactory TOEFL scores, 2.70 minimum g.p.a., and good academic and disciplinary standing.

ABRD:3833 CEA Prague: Internship **arr.**

Students gain valuable hands-on skills in an international internship in one of Central Europe's economic and cultural capitals; placement in a business or organization aligned with the student's professional and academic goals; students build a professional network as they gain hands-on international experience that employers value. Requirements: native English speaker or satisfactory TOEFL scores, 2.75 minimum g.p.a., sophomore standing at time of application, and good academic and disciplinary standing.

ABRD:4001 Lancaster University Exchange **arr.**

Reciprocal exchange programs between the University of Iowa and Lancaster University in Lancaster, England; full integration with British students in student housing and regular classes. Semester or academic year. Requirements: 3.00 cumulative g.p.a., junior or senior standing, declared major, and good understanding of requirements for major.

ABRD:4002 University of Strathclyde Exchange **arr.**

Reciprocal exchange program between the University of Iowa and the University of Strathclyde in Glasgow, Scotland; full integration with British students in student housing and regular classes. Semester or academic year. Requirements: 3.00 cumulative g.p.a., junior or senior standing, declared major, and good understanding of requirements for major.

ABRD:4005 University of Kent Exchange **arr.**

Reciprocal exchange program between the University of Iowa and the University of Kent in Canterbury, England; full integration with British students in student housing and regular classes. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

ABRD:4055 Vienna Exchange Program **arr.**

Regular degree course work in business administration and economics at Wirtschatsuniversit  t in Vienna, Austria; taught in English and German. Semester or academic year. Arranged through Tippie College of Business. Requirements: one year of college German, g.p.a. of at least 2.75, and relevant academic background.

ABRD:4057 Aalborg University Exchange **12 s.h.**

Reciprocal exchange agreement between the University of Iowa and Aalborg University; students study in Denmark alongside local students in regular classes and standard student housing; language of instruction is Danish and there is a commitment to use of other languages of instruction where relevant, including a number of offerings taught in English (Spanish, German, and French) in various subjects and disciplines; particularly suitable for students interested in globalization, communication studies, political science, and psychology, who have a firm commitment to their major. Semester or academic year. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

ABRD:4059 Dortmund University Exchange **arr.**

Direct exchange program between the Technical University of Dortmund and the University of Iowa; students remain registered at their own institution and receive student status at the guest university; unique blend of courses that combine language and culture courses with academic work in student's major and minor subjects; university studies and life outside the classroom are synthesized in a holistic learning process. Requirements: German language proficiency and cumulative g.p.a. of 2.80.

ABRD:4063 University of Iceland Exchange **arr.**

Reciprocal exchange program between the University of Iowa and the University of Iceland; a year of study in Reykjavik alongside local students in regular classes; option of selecting classes from those taught in English in different departments, or an academic year of intensive Icelandic language study; science majors interested in geophysics are encouraged to explore English-taught classes in geography, geology, and geophysics. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

ABRD:4065 Tilburg University Exchange **arr.**

Tilburg University in the Netherlands offers English-language courses in business administration (accounting, applied microeconomics, finance, production management, international marketing, and electronic commerce) and other subjects; suitable for upper-level business majors and students pursuing an international business certificate. Requirements: 3.00 g.p.a. and junior or higher standing.

ABRD:4066 Radboud University Nijmegen Exchange arr.

Reciprocal exchange agreement between the University of Iowa and Radboud University Nijmegen; students study in the Netherlands alongside local students in regular classes; language of instruction is Dutch and a number of classes throughout the curriculum are taught in English; particularly suitable for students interested in American studies, European studies, and pre-Law, as well as majors in German, linguistics, and political science; Dutch language not required for participation. Semester or academic year. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

ABRD:4067 Bogazici University Exchange arr.

Exchange program with Bogazici University in Istanbul, Turkey allows students to study in Turkey while fully integrating with Turkish students in student housing and regular classes; courses taught in English. Semester or academic year. Requirements: 3.00 minimum g.p.a. and junior or senior standing.

ABRD:4068 WHU-Otto Beisheim School of Management Exchange arr.

WHU-Otto Beisheim School of Management is a privately financed business school founded in 1984 near Koblenz, Germany; cities of Cologne, Mainz, and Frankfurt can be reached in under an hour; WHU maintains a network of more than 150 partner universities worldwide and has consistently high national and international rankings; areas of study include economics, finance, accounting, management, marketing, and entrepreneurship; courses taught in English; a variety of courses are offered for students who wish to continue study of German. Requirements: completion of at least one year of university study, good academic standing, and sufficient command of English to follow selected course of study; and minimum 2.75 g.p.a. for undergraduates.

ABRD:4069 Oslo and Akershus University Exchange arr.

Study at Oslo and Akershus University College of Applied Sciences in Oslo, Norway; UI students direct enroll in courses from the Faculty of Education and International Studies; courses are taught in English and are taken alongside local students; students live in student housing while studying in Oslo. Summer, semester, or academic year. Requirements: good academic and disciplinary standing, sophomore standing, and g.p.a. of 2.80.

ABRD:4300 Curitiba Exchange Program 12 s.h.

Reciprocal exchange to study at FAE Centro Universitario (Curitiba, Brazil); courses from regular curriculum for local students, in any one of their undergraduate programs in economics, business, mechanical/environmental engineering, or letters; students must have sufficient Portuguese language ability to follow courses taught in Portuguese. Semester or calendar year. Requirements: 2.80 g.p.a. and advanced-level Portuguese.

ABRD:4422 Kanda University of International Studies Exchange arr.

Reciprocal exchange program between the University of Iowa and Kanda University of International Studies; year of study at the Japanese Language and Culture Program at Kanda; small, ultramodern university; facilities designed to promote cross-cultural experience; Multilingual Communication Center has resources and equipment pertaining to Japanese, Korean, Spanish, Portuguese, Indonesian, Vietnamese, and Thai. Requirements: 3.00 minimum g.p.a. and completion of at least one semester in residence at the University of Iowa. Recommendations: strong record in Japanese.

ABRD:4424 Meiji University Exchange arr.

Reciprocal exchange program between the University of Iowa and Meiji University; study in Tokyo as visiting foreign student in a department of one of Meiji's various academic divisions; for undergraduates and graduate students with an appropriate research interest; the Japanese academic calendar runs late March through late January the following year, which involves spring through fall semesters at the University of Iowa. Requirements: 3.00 minimum g.p.a., sophomore standing or higher at time of enrollment in Meiji, and enrollment in fourth-year Japanese at time of application; graduate students intending to do research must have an appropriate project and proficiency at third-year level Japanese; graduate students participating in English-taught curriculum of the Special Graduate Student Exchange Program, Department of Political Science and Economics, must have sufficient Japanese to function in everyday living.

ABRD:4425 Nagoya University of Foreign Studies Exchange arr.

Language instruction at all levels and Japanese studies taught in English at Nagoya University of Foreign Studies. Semester or year.

ABRD:4426 University of Nanzan Exchange arr.

Reciprocal exchange program between the University of Iowa and Nanzan University in Nagoya; study at Nanzan's Center for Japanese Studies; living options include a home stay program that places students in a Japanese home as a family member or residence hall accommodations; for students interested in developing fluency in Japanese language. Semester or year. Requirements: 3.00 minimum g.p.a. and completion of at least one semester in residence at the University of Iowa. Recommendations: strong record in Japanese.

ABRD:4432 Ewha Womans University Exchange arr.

The Ewha Womans University Exchange program offers a coeducational international program and welcomes all students, male and female, to study for one or two semesters as a nondegree seeking exchange or visiting student; variety of high-quality courses in various fields, including studies on Asia and Korea. Requirements: cumulative g.p.a. of 2.50.

ABRD:4436 Sungkyunkwan University Exchange 12 s.h.

Sungkyunkwan University Exchange program designed for students to enroll at a Korean university; challenging academic experience and unique cultural opportunity; plethora of courses in foreign languages provided to meet academic needs of international students; intriguing cultural activities where students can experience Korean culture and history. Requirements: 2.70 g.p.a. and sophomore or higher standing.

ABRD:4437 University of Seoul Exchange arr.

The University of Iowa and the University of Seoul (UOS) maintain a bilateral exchange agreement that allows UI students to study abroad in Korea at UOS; wide range of English-taught classes in a number of different colleges, including liberal arts, humanities, social science, business, and engineering. Requirements: good academic and disciplinary standing at the University of Iowa.

ABRD:4438 Business and Culture in China 3 s.h.

Exploration of business and cultural environment through a University of Iowa faculty-led study program in China; lectures, readings, case studies, company visits, and immersion in cultural experiences; development of greater awareness of Chinese history, politics, business, economics, and culture; topics may include Chinese business culture and relationships, local companies going global; business strategies of multinational companies in Chinese market; United States-China trade relations; entrepreneurship, Chinese consumer, sustainability, and social responsibility. Requirements: 2.75 cumulative and UI g.p.a., and minimum of 30 s.h. completed prior to program.

ABRD:4439 Chinese University of Hong Kong Exchange 12 s.h.

The Chinese University of Hong Kong (CUHK) Accounting Exchange Program provides University of Iowa accounting students the ability to integrate a unique international experience with their academic program. Semester. Requirements: 3.00 UI and cumulative g.p.a., completion of one semester toward UI accounting major, and good academic standing.

ABRD:4440 Hong Kong University of Science and Technology Engineering Exchange arr.

The University of Iowa and Hong Kong University of Science (HKUST) maintain a bilateral exchange agreement that allows engineering undergraduate students to study abroad in Hong Kong at HKUST; courses taught in English alongside with local students and other exchange students. Requirements: 2.70 g.p.a. and engineering major.

ABRD:4441 City University of Hong Kong Exchange 12 s.h.

The University of Iowa and the City University of Hong Kong (CityU) have initiated an agreement allowing the schools to exchange students on a one-to-one ratio; one of the leading universities in Asia, CityU has a wide range of English-taught classes; originally targeted toward science and engineering majors, this agreement is open to students in all majors; wide range of courses that meet academic needs of students in liberal arts and science, business, and engineering. Requirements: good academic and disciplinary standing.

ABRD:4443 Peking University Engineering Exchange 3 s.h.

College of Engineering partnership with Peking University; wide range of engineering classes offered; intensive summer session. Requirements: engineering major and good academic standing.

ABRD:4444 Hong Kong University of Science and Technology Business Exchange arr.

The Hong Kong University of Science and Technology (HKUST) Business Exchange program HKUST is consistently ranked as one of the top schools in both Asia and in the world, and offers UI students the opportunity to study while paying UI tuition rates; designed specifically for business and management students. Semester or academic year. Summer. Requirements: undergraduate standing, g.p.a. of 2.70 or higher, and good academic and disciplinary standing. Recommendations: enrollment in Tippie College of Business.

ABRD:4445 Kyung Hee University Exchange arr.

Reciprocal exchange program between the University of Iowa and Kyung Hee University in Seoul, South Korea; wide range of English-taught courses in various disciplines including business, humanities, natural sciences, social sciences, engineering, and applied sciences. Summer, semester, or year. Requirements: 3.00 cumulative g.p.a. and good academic and disciplinary standing.

ABRD:4446 East China Normal University Exchange arr. Students take Chinese language courses and English language courses on a variety of topics, most of which pertain to China's culture, philosophy, history, and business landscape. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

ABRD:4510 International Student Exchange Program arr.

Study on reciprocal exchange at foreign universities worldwide; some instruction in English. Year-long, one semester, and summer options. Requirements: 40 s.h. of credit, g.p.a. of at least 3.00, and in some cases, command of a foreign language.

ABRD:6064 Erasmus/Rotterdam School of Management Exchange arr.

Reciprocal exchange program between the University of Iowa and Erasmus University Rotterdam; full-time students in M.B.A. and M.Ac. programs study for a semester in Rotterdam, The Netherlands; students from Tippie School of Management take courses in Rotterdam School of Management during fall semester, students from M.Ac. program take courses offered through Rotterdam School of Management's Master Programme in Accounting and Control during spring semester. Requirements: completion of at least one year of graduate study prior to participation in exchange and good academic standing; at least three years of work experience and non-Dutch citizen for M.B.A. student.

International Activities Courses

INTL:3001 Public Health Activities Abroad 0 s.h.

Volunteering, non-credit service learning, non-credit internships, academic competitions, or other non-credit academic related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the College of Public Health.

INTL:3005 Entrepreneurship Activities Abroad 0 s.h.

Volunteering, non-credit service learning, and non-credit internships, academic competitions, or other non-credit academic-related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the John Pappajohn Entrepreneurial Center.

Sustainability

Coordinator

- Jennifer L. Stacy-Adams

Advisory Committee

- David Bennett (Geographical and Sustainability Sciences), Charles Connerly (History/Urban and Regional Planning), Bradley D. Cramer (Earth and Environmental Sciences), Kajsa E. Dalrymple (Journalism and Mass Communication), Barbara J. Eckstein (English), Andrew A. Forbes (Biology), Sara Maples (Office of Sustainability), Corey D. Markfort (Civil and Environmental Engineering/Mechanical Engineering), Ion Bogdan Vasi (Management and Organizations/Sociology)

Undergraduate certificate: sustainability

Faculty: <https://sustainability.uiowa.edu/teaching-and-research/certificate/advisory-committee-members/>

Website: <https://sustainability.uiowa.edu/teaching-and-research/certificate/>

For decades, world leaders have defined sustainability as the implementation of policies, processes, and practices that meet the needs of the present without compromising the ability of future generations to meet their own needs. Achievement of sustainability requires an understanding of human and environmental systems and the complex interactions between them.

The Certificate in Sustainability provides students with the knowledge and skills they will need in order to contribute to sustainable systems and their interactions, especially those related to energy, society, culture, economics, the built environment, health, and public policy. The program helps students become effective leaders and agents of change for sustainability in a wide range of vocations, such as academic researcher, teacher, corporate officer, technology specialist, farmer, grassroots advocate, or government official.

The Certificate in Sustainability is administered by University College.

Programs

Undergraduate Program of Study Certificate

- Certificate in Sustainability [p. 1858]

Sustainability, Certificate

The undergraduate Certificate in Sustainability requires 24 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Work for the certificate includes three introductory core courses, four courses from the breadth area electives, and one project course. Students may be able to count some certificate courses toward requirements for other majors, minors, or other certificates. They may count a maximum of three courses in a single department or program toward the certificate. A maximum of 6 s.h. of approved transfer credit may be counted toward the certificate. Certificate courses may not be taken pass/nonpass. A course may be used to satisfy only one certificate requirement.

Individuals must declare their intent to earn the certificate; see the Certificate in Sustainability website for details.

Sustainability embraces many disciplines, methodologies, and institutional practices. Certificate students must have knowledge of the interdisciplinary nature of the field, which is represented by the program's breadth electives: dynamics of natural systems; dynamics of human systems; and communication, ethics, and interpretation. They also must have experience with analyzing real-life problems in and outside of the classroom and in working collaboratively to solve such problems.

The Certificate in Sustainability requires the following course work.

Introductory Core

Code	Title	Hours
Both of these:		
ENGL:1510	Introduction to Environmental Literature	3
GEOG:2013/ BUS:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
EES:1085/ ENVS:1085	Fundamentals of Environmental Science	4
GEOG:1070	Contemporary Environmental Issues	3

Breadth Electives

Students complete at least 3 s.h. in each of the following three breadth areas.

Dynamics of Natural Systems

Code	Title	Hours
One of these:		
BIOL:1260	Plants and Human Affairs	3
BIOL:2374/ GEOG:2374	Biogeography	3
BIOL:2673/ ENVS:2673	Ecology	3
CEE:4102	Groundwater	3

CEE:4103	Water Quality	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
EES:1040	Evolution and the History of Life	3-4
EES:1290	Energy and the Environment	3
EES:1400	Natural Disasters	3
EES:2310/ GEOG:2310	Introduction to Climatology	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080 & ENVS:3000	Introduction to Oceanography - Environmental Sciences Seminar	3
EES:4630	Hydrogeology	3
GEOG:1020	The Global Environment	3
GEOG:2950	Environmental Conservation	3
GEOG:3310	Landscape Ecology	3
GEOG:3340	Ecosystem Services: Human Dependence on Natural Systems	3
IALL:3131	Ecology	4

Dynamics of Human Systems

Code	Title	Hours
One of these:		
AMST:1154	Food in America	3
AMST:3047	American Disasters	3
AMST:3063	American Ruins	3
ANTH:1046/ GEOG:1046/ GWSS:1046	Big Ideas: People and the Environment - Technology, Culture, and Social Justice	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:3090	Contemporary Architecture	3
CBE:2030	Energy and Society	3
CBE:4459/ CEE:4159/IGPI:4159	Air Pollution Control Technology	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:4158/ OEHS:4920	Solid and Hazardous Wastes	3
CEE:4788/ GHS:4126/ PHAR:8788/ THTR:4265	International Perspectives: Xicotepec	2
CHEM:1050	Technology and Society	3

CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2	NAIS:3276/ RELS:3976	American Indian Environmentalism	3
CPH:3500/ GHS:3500	Global Public Health	3	OEH:4240	Global Environmental Health	3
ECE:5630	Sustainable Energy Conversion	3	POLI:1400	Introduction to Comparative Politics	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3	POLI:1500	Introduction to International Relations	3
ECON:3770/ URP:3360	Urban Transportation	3	POLI:2417	Comparative Environmental Policy	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3	POLI:3424	Global Development	3
EES:4790	Engineering Geology	3	TDSN:3200	Product Design	4
GEOG:1090	Globalization and Geographic Diversity	3	TDSN:3210	Furniture Design I	4
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3	URP:6253	Designing Sustainable and Healthy Cities	3
GEOG:2410	Environment and Development	3	URP:6257	Environmental Management	3
GEOG:2910	The Global Economy	3	Communication, Ethics, and Interpretation		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3	Code	Title	Hours
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3	One of these:		
GEOG:3420	Sustainable Development and Green Building Concepts	3	ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
GEOG:3750	Environmental Quality: Science, Technology, and Policy	3	CNW:2740	The Art and Craft of Writing about the Environment	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3	CW:3210/ INTD:3210	Creative Writing and the Natural World	3
GEOG:3800	Environmental Economics and Policy	3	ENGL:2329	Topics in Modern British Literature Before 1900 (when topic is British literature and environmental history)	3
GEOG:3920/ URP:3001	Planning Livable Cities	3	ENGL:3105	Topics in Popular Culture (when topic is food studies)	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3	ENGL:3510	Topics in Transnational Literature (when topic is rivers and rivals)	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	4	ENGL:3570/ CL:3570/ GWSS:3570	Transnational and Postcolonial Writing by Women (when topic is women gone wild)	3
GHS:3560	Global Garbage and Global Health	3	ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century (when topic is becoming human: literature, culture, environment)	3
GHS:4162/ HIST:4162	History of Global Health	3	ENGL:4195	Interdisciplinary Studies (when topic is animal stories)	3
GHS:4605/ HIST:4605	Disease, Politics, and Health in South Asia	2-4	ENTR:3500	Social Entrepreneurship	3
IE:4550	Wind Power Management	3	FREN:1007	Nature/Ecology French Philosophy and Fiction	3
IS:3200	Sustainable Development	3	GEOG:4770/ GHS:4770	Environmental Justice	3
ME:4048	Energy Systems Design	4	HIST:3230	American Environmental History	3
MSCI:3030	Business Process Analysis	3	JMC:3185	Topics in Mass Communication (when topic is risk communication)	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3	LAW:8622	International Environmental Law	3

RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
SCLP:3895	Topics in Sculpture (when topic is art at the edge of the landfill)	4
URP:6273	Community Development in the Upper Midwest	3

Additional Breadth Elective

Students select an additional 3 s.h. from one of the three breadth areas above: dynamics of natural systems; dynamics of human systems; or communication, ethics, and interpretation.

Project/Integrative Systems

Code	Title	Hours
One of these (3 s.h.):		
ABRD:3445	India Winterim (when topic is approved)	arr.
ANTH:2261	Human Impacts on the Environment	3
CBE:4410/CEE:4107	Sustainable Systems	3
CNW:3660	Multimedia Writing (when topic is environmental writing and filmmaking)	3
EES:3150	Sustainability Project	arr.
ENGL:4000	English Honors Seminar (when topic is becoming human: literature, culture, environment)	3
ENGL:4195	Interdisciplinary Studies (when topic is animal stories)	3
ENTR:3700	Sustainable Product Innovation and Management	3
GEOG:2930	Water Resources	3
GEOG:3001	Special Topics (when topic is sustainability)	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GHS:4100	Topics in Global Health (when topic is sustainability)	1-3
GHS:4180	Climate Change and Health	3
INTM:3750	Art and Ecology	4
MKTG:4250	Marketing and Sustainability	3
TDSN:6295	Design for Production and Business (when topic is special issues and topics in design)	4
URP:6273	Community Development in the Upper Midwest	3

Undergraduate Research Experiences

Director

- Tanya M. Uden-Holman

Undergraduate Research Experiences includes areas of study that serve to enhance science, research, and laboratory experiences for undergraduate students: Research Experience for Undergraduates in Microbiology and the Summer Undergraduate MSTP Research Program.

Research Experience for Undergraduates in Microbiology

Website: <https://medicine.uiowa.edu/microbiology/education/summer-research-experience-undergraduates-reu-microbiology>

The Department of Microbiology and Immunology offers URES:4130 Research Experience for Undergraduates in Microbiology, a 10-week summer program for qualified undergraduate students who are studying microbiology or other biological sciences and are interested in pursuing careers in science. Participants conduct research on a project they select, under the direct supervision of a faculty member.

Each participant receives a stipend and an allowance for incidental expenses. The program also pays for travel expenses and provides housing.

Applicants must be U.S. citizens or permanent residents who are enrolled in a university, college, or community college, and have at least one semester of undergraduate study remaining toward a bachelor's degree in the biological sciences. Application materials must include a completed online application, transcript, and two letters of recommendation. Application deadline is mid-February for the following summer.

Visit the program's website or contact the Department of Microbiology and Immunology (Carver College of Medicine), for more information.

Summer Undergraduate MSTP Research Program

Website: <https://medicine.uiowa.edu/mstp/sumr>

The Summer Undergraduate MSTP Research Program is an intensive 8-week experience for undergraduates interested in becoming physician scientists. Participants gain experience in research laboratories and exposure to clinical medicine and medically relevant research in preparation for careers in academic medicine.

Students conduct research in any one of a variety of research areas, including the biomedical sciences, public health, and biomedical engineering. In addition, students shadow physician scientists in clinical settings, participate in career development seminars, and attend a weekly seminar series focusing on the intersection of science and medicine.

Participants receive a stipend and are reimbursed for most of their travel expenses. The program provides lodging on campus in University housing.

Applicants must be U.S. citizens or permanent residents who will have completed their junior year in a bachelor's degree program in the biological or physical sciences by the summer

of entry. Applicants should submit an application (available on the program's website), an official college transcript, a curriculum vitae, and two letters of recommendation. Application deadline is mid-January for the following summer.

Contact the Medical Scientist Training Program (Carver College of Medicine), for more information.

Courses

Undergraduate Research Experiences Courses

URES:3100 Iowa Center for Research by Undergraduates Research Ambassador 0-1 s.h.

Promotion of undergraduate research from all disciplines within campus community; hosting various on-campus events, leading workshops, presentations at student organization meetings and in-class; leadership and public speaking; regular meetings with ICRU staff.

URES:3200 Topics in Undergraduate Research 1-3 s.h.

Upper-level, interdisciplinary seminar and undergraduate research leadership; discussion of research and creative work on a broad level. Requirements: current involvement in research or creative project with UI faculty or staff member for at least one full semester or one summer session prior to start of course.

URES:3992 Undergraduate Research and Creative Projects 0 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

URES:3993 Undergraduate Research and Creative Projects 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

URES:3994 Undergraduate Research and Creative Projects 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

URES:3995 ICRU Research Fellow 0 s.h.

Recognition of undergraduates involved in scholarly efforts of UI faculty and research staff; work on specific research and/or creative projects under selected mentors; funded annually by the Iowa Center for Research by Undergraduates (ICRU) through a competitive application process. Requirements: selection as ICRU Fellow.

URES:4130 Research Experience for Undergraduates in Microbiology 0 s.h.

URES:4150 Undergraduate MSTP Research 0 s.h.

URES:4170 Research Experience for Undergraduates in Nanoscience and Nanotechnology 0 s.h.

University Libraries

Director

- John P. Culshaw

Website: <http://www.lib.uiowa.edu/instruction/>

University Libraries offers these courses intended for undergraduates: ULIB:1001 Library Research in Context, ULIB:2001 Being Responsible Online: From Facebook to Academic Research, ULIB:2022 Special Topics in Library Research, and ULIB:3011 Library Strategies for International Research.

Library Research in Context (ULIB:1001) is an activity-based course that helps students integrate information skills and concepts into their academic tool kit, enabling them to develop habits of critical inquiry and to accomplish course goals. Designed primarily for sophomores and juniors, the course introduces students to the basic research process and helps them formulate research questions and evaluate information. It also touches on the social and ethical contexts of information. Subject-specialist librarians teach the course, using in-class activities and assignments and class discussion. Most sections of the course are offered online.

Being Responsible Online: From Facebook to Academic Research (ULIB:2001) introduces students to ethical issues that surround online information, especially in the context of social media. Discussion topics include issues of privacy, security, free versus fee-based information, censorship, one's digital footprint, and academic integrity.

Special Topics in Library Research (ULIB:2022) meets the varying needs of students. The course may address a current or timely topic, focus on a particular content area not currently addressed by course offerings from the University Libraries, or serve as a pilot/trial offering for a course prior to becoming part of the permanent course offerings.

Library Strategies for International Research (ULIB:3011) teaches skills for gathering and using information that are required for international jobs, for upper-level international studies course work, and for individual international research. Students develop a familiarity with a variety of research and popular materials (such as government information or human rights resources); become experts in at least one academic research database (such as journal, newspaper, or statistical databases); and enhance their critical thinking skills. The class features small group activities, short student presentations, and an individual research consultation with the instructor.

Courses

University Libraries Courses

ULIB:1001 Library Research in Context 1 s.h.

Academic research, effective use of the library and its resources, basic research methods, process of scholarly communication; content may be keyed to a discipline-specific course; students apply concepts and processes to their research projects; transferable skills.

ULIB:2001 Being Responsible Online: From Facebook to Academic Research 1 s.h.

Introduction to ethical issues surrounding online information; using information as researchers or creating information on a social networking site; issues of privacy, reliability, and intellectual property; skills to navigate online information responsibly and knowledgeably.

ULIB:2022 Special Topics in Library Research 1 s.h.

Activity-based course that explores specialized content, selected research areas, or current/emerging issues in the context of information literacy and library resources; designed for sophomores and juniors; introduces students to the basic research process, helps them to develop critical thinking skills and evaluate information; topics may vary by semester.

ULIB:3011 Library Strategies for International Research 1 s.h.

Skill development in international research; academic projects; work with research librarian; activity-based introduction to article, statistical, and governmental databases; research and popular materials; information discovery process (tools and search strategies); enhancement of critical thinking skills. Same as IS:3011.

ULIB:3022 Advanced Special Topics in Library Research 1 s.h.

Activity-based exploration of specialized content, selected research areas, or current/emerging issues in context of information literacy and library resources; introduction to basic research process, development of critical thinking skills, and evaluation of information; topics vary.

ULIB:6313 Studio Summer Fellowship 1 s.h.

Investigation of and reflection on digital scholarly collaboration, production, and promotion. Same as GRAD:6313.

University of Iowa Honors Program

Director

- Art L. Spisak

Associate Director

- Robert F. Kirby

Website: <https://honors.uiowa.edu/>

The University of Iowa Honors Program enriches the undergraduate experience by cultivating intellectual curiosity and practical skill through challenging course work, creative engagement, and experiential learning to nurture a deeper understanding of one's discipline and self.

Honors at Iowa challenges students and helps them make connections and develop self-authorship through self-discovery. For example, honors students learn from some of the top professors on campus when they enroll in the University's many honors courses. They also make lasting connections and learn from each other through the honors community in the Honors House residence hall.

With support from numerous programs, honors students engage in a wide variety of academic and cocurricular activities. They enjoy extended library privileges, including longer loan periods. Honors Writing Fellows refine their own writing skills while they mentor other student writers. Some students investigate topics for Iowa communities and the Iowa Legislature through the Iowa Policy Research Organization. Those who need to find mentors and funding for research may request help from the Iowa Center for Research by Undergraduates.

All honors students may take part in programs that offer opportunities in the arts, sciences, politics, international relations, cultural explorations, and a variety of field trips.

The honors staff helps students tailor their honors curricula to enrich their majors. The staff also helps arrange internships, service learning, study away, teaching, and other experiences for students exploring their interests in and beyond the classroom.

Academic Activities

Honors Ambassadors earn academic credit for acquiring and then sharing knowledge of honors opportunities by organizing events around campus and meeting with prospective students and their families.

Honors Writing Fellows are trained and paid to assist in undergraduate courses by mentoring a dozen students each semester on two major writing assignments.

The **ICRU Research Ambassadors** earn academic credit for showing how and why research with faculty mentors is an important aspect of education at the University of Iowa.

The **Iowa Policy Research Organization** selects a dozen honors students each year to earn academic credit by learning how to conduct policy analysis and then writing policy papers for Iowa communities and the Iowa Legislature.

Study abroad in foreign countries enables students to earn academic credit for course work, research, or service.

Learn more about honors activities and Experiential Learning on the honors program website.

Cocurricular Programs

Honors at Iowa offers students a rich variety of activities outside the classroom. Many honors students find cocurricular programming a good way to meet people, get involved, and learn more about themselves and the world around them. Some of the programs are volunteer-based, some offer pay, and some award honors credit. These opportunities provide peak educational experiences, especially extensive and intensive interactions with faculty mentors and other talented students.

Honors newsletters inform readers on and beyond the campus about honors at the University of Iowa.

The **Honors student staff** earn pay to make the Blank Honors Center useful to students. They also produce most honors cocurricular programs.

Honors Summer Ambassadors earn pay to orient entering students to the honors program by informing them of academic opportunities and activities.

ICRU Fellows receive scholarships from the Iowa Center for Research by Undergraduates to conduct research and creative projects with faculty mentors in professional fields of study.

The **Iowa City Foreign Relations Council** hosts luncheon dialogues on current international issues. Past speakers include award-winning journalists, Nobel Peace Prize laureates, seasoned diplomats, prominent politicians, and policy analysts. Listening to and talking with these expert speakers allow honors students to become better informed about world affairs.

The **Presidential Scholars Program** engages recipients of the University of Iowa's top merit scholarships in shared classes, opportunities for research in the first year, and service. Scholars participate in legacy projects, events with faculty and key administrators, scholarship and fellowship mentoring programs, and volunteer projects.

To learn more, visit Programs and Events on the honors program website.

Financial Support

Honors at Iowa helps students apply for scholarships, fellowships, awards, and prizes. The program offers its own scholarships to continuing honors students selected from academic programs throughout the University. Honors scholarships are not available to incoming first-year or transfer students.

Iowa students win major national and international scholarships each year. Honors provides advising and nominations for Rhodes, Marshall, Gates Cambridge, Churchill, Truman, Udall, Goldwater, Humanity in Action, National Science Foundation, and other prominent scholarships and fellowships. The Iowa Center for Research by Undergraduates provides research scholarships for students who pursue research or creative projects under the mentorship of University of Iowa faculty members. Announcements about scholarships and other awards appear in honors program emails and on the program's website. Learn more at UI Undergraduate Scholarships and Fellowships on the honors program website.

Programs

Undergraduate Program of Study University Honors

Honors at Iowa helps students tailor opportunities to different educational needs and goals. Honors students may take honors courses each semester that they are enrolled at the University. Honors courses are generally small and interactive. They connect students with distinguished professors and offer new topics each semester. Honors courses also are part of the GE CLAS Core [p. 459] curriculum and do not add requirements for graduation.

Students are encouraged to begin honors work early. In HONR:1100 Honors Primetime, entering students earn 1 s.h. of honors credit by taking a short course a few days before fall classes begin. Students who enter the honors program directly from high school take HONR:1300 Honors First-Year Seminar with selected professors on current topics, earning 1 s.h. in the fall semester. Honors students may fulfill GE CLAS Core [p. 459] requirements by completing honors sections such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, and CHEM:1110 Principles of Chemistry I.

Upper-level students may take honors courses in their majors or pursue individual instruction with faculty members through honors courses such as HONR:3994 Honors Research Practicum. Students also may earn honors credit for a non-honors course by developing an honors contract with the course instructor; the student and instructor negotiate a unique project for the course and develop the honors contract around the project.

Additional academic opportunities include honors advanced seminars, honors major seminars, graduate courses, honors studies, and honors practicums in teaching and service.

Students learn about honors opportunities in weekly emails from the honors program. Honors professional staff members and peer advisors offer guidance in personal meetings and group presentations. In addition, the honors staff helps students design individualized curricula for their special interests. To learn more, visit University Honors Requirements on the honors program website.

Joining the Honors Program

Honors at Iowa offers membership based on grades and test scores to students entering the University directly from high school.

New transfer students who have a cumulative g.p.a. of at least 3.50 and have earned at least 24 s.h. of college credit are offered membership to the honors program. Transfer students with fewer than 24 s.h. of college credit are considered for honors on the same basis as students who enter the University directly from high school.

Continuing University of Iowa students who earn a UI cumulative g.p.a. of at least 3.50 are eligible to join the honors program.

To remain in the honors program and to graduate with University Honors, students must maintain a University of Iowa cumulative g.p.a. of at least 3.33 and complete specific honors program requirements. For more information about joining the University of Iowa Honors Program, see Eligibility on the program's website.

Honors in the Major

In addition to graduating with University Honors through the University of Iowa Honors Program, students may graduate with honors in their major. Each college and/or major sets its own requirements for graduation with honors. Graduation with honors in the major are recognized at commencement and are noted on the student's transcript. Visit the individual Catalog sections to learn about requirements for honors in the major.

Graduation with University Honors

Students must accept a formal invitation from the University of Iowa Honors Program in order to become members; see "Joining the Honors Program" above.

All students who enter the honors program must attend an honors orientation.

Graduation with University Honors through the University of Iowa Honors Program is recognized at commencement and is noted on the student's diploma and transcript. Honors program students completing degree programs in the Colleges of Education, Engineering, Liberal Arts and Sciences, Nursing, and the Tippie College of Business may graduate with University Honors.

Graduation with University Honors requires the following work.

University Honors Curriculum

Students earning bachelor's degrees at the University of Iowa must complete honors course work and experiential learning in order to graduate with University Honors. Students are not required to complete all honors course work requirements before they begin experiential learning.

Honors Course Work

Students earn 12 s.h. of credit in honors course work during their first four full semesters in the program. Students may count a maximum of one honors contract course toward the course work requirement; under preapproved circumstances, they may count up to 6 s.h. of honors contract course credit. The following honors course work must be completed.

Complete an honors First-Year Seminar during the first semester at the University of Iowa (for students who enter the honors program directly from high school).

Complete an honors course or an honors contract course during the first full semester in the honors program.

Complete additional honors course work to total at least 12 s.h.

Experiential Learning

Students complete 12 s.h. of honors credits in approved experiential learning activities. Students may satisfy the requirement with one of the options below, or they may combine two or more of these options.

Earn honors in the major; this option fulfills the entire experiential learning requirement.

Earn up to 12 s.h. in honors credits in mentored research; this fulfills the entire experiential learning requirement. Students who earn less credit for mentored research may combine it with another option to fulfill the experiential learning requirement.

Study abroad and internships can earn up to 12 s.h. in honors credits depending on the length of the experience and the satisfactory completion of a pre- and post-experience questionnaire, a personal narrative, and

an optional independent project. Students who earn the maximum 12 s.h. in honors credits fulfill the entire experiential learning requirement; those who earn less credit with the study abroad and internships option may combine it with another option to fulfill the experiential learning requirement.

Earn up to 9 s.h. in honors credits serving as an Honors Writing Fellow.

Earn up to 4 s.h. in honors credits participating in the Iowa Policy Research Organization.

Earn up to 6 s.h. in honors credits for preapproved honors course work. See Experiential Learning on the honors program website for details.

Facilities

Blank Honors Center

Honors at Iowa makes its home in the Blank Honors Center, a modern facility that fosters community among honors students. The Blank Honors Center is located at the center of the University's main campus, next to residence halls and classroom buildings. It offers social areas, a kitchenette, quiet study areas, wireless internet access, a computer lab, and classrooms for students. The center also houses the honors staff and has rooms for meetings, events, presentations, and conversation.

Honors Residential Communities

The honors program sponsors living-learning communities. Each community hosts its own social events, and all community members have access to the full range of honors academic and cocurricular opportunities. Honors housing is for first-year honors students and is located near the Blank Honors Center.

Students must apply to live in the honors residential communities. See Communities on the University Housing and Dining website for information about how to apply. Visit Honors House on the honors program website to learn more about the honors living-learning communities.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

University Honors

Course	Title	Hours
Academic Career		
Any Semester		
Honors: To remain in the honors program and to graduate with University Honors, students must maintain a University of Iowa cumulative GPA of at least 3.33.		
Hours		0
First Year		
Fall		
HONR:1100	Honors Primetime	1
HONR:1300	Honors First-Year Seminar ^a	1

Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs ^b

Meet with an Honors Peer Mentor by the end of the year

Select Honors courses for spring semester

Study Abroad: attend Study Abroad Fair (explore experiential learning options) ^c

Research: attend Fall Undergraduate Research Festival (FURF) (explore experiential learning options)

Consider applying to become an Honors Outreach Ambassador (explore experiential learning options) ^d

Consider Honors Program scholarship opportunities ^e

Sign up to attend an Iowa City Foreign Relations Council lunch/presentation ^f

Hours

2

Spring

Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs

Meet with an Honors Peer Mentor by the end of the year

Select Honors courses for fall semester

Consider applying for an Honors Writing Fellow position (explore experiential learning options)

Research: attend Spring Undergraduate Research Festival (SURF) (explore experiential learning options)

Research: explore research opportunities for summer or second year (explore experiential learning opportunities) ^g

Consider joining Phi Eta Sigma (PES) honor society ^h

Consider applying for an Honors Student Staff position for summer or second year ⁱ

Hours

0

Second Year

Fall

Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs

Research: attend Marshall Undergraduate Research Conference ^j

Meet with an Honors Peer Mentor by the end of the year ^k

Study Abroad: attend Study Abroad Fair (explore experiential learning options) ^c

Research: attend Fall Undergraduate Research Festival (FURF) (explore experiential learning options)

Consider applying to become an Honors Outreach Ambassador (explore experiential learning options) ^d

Select Honors courses for spring semester

Consider Honors Program scholarship opportunities ^e

Hours

0

Spring

Honors section of a GE course or a contract course in your major/department

Check University Honors degree audit ^m

Meet with the Honors Advisor for your major: is Honors in the Major right for you?

Research: attend SURF; consider what research questions you might pursue

Research: explore research opportunities for summer or third year ^g

Consider applying for an Honors Student Staff position for summer or third year ⁱ

Hours 0

Third Year**Fall**

Check University Honors degree audit ^m

Explore HONR experiential coursework (e.g. Honors Teaching Practicum, Honors Service Learning, etc.)

Attend FURF

Consider Honors Program scholarship opportunities ^e

Hours 0

Spring

Check University Honors degree audit ^m

Consider applying for an Honors Summer Orientation Ambassador position; share your wisdom with new students

Hours 0

Fourth Year**Fall**

Check University Honors degree audit ^m

Hours 0

Spring

Check University Honors degree audit ⁿ

Sign up to attend the Honors Commendation Ceremony held during finals week; families welcome.

Graduate with University Honors

Hours 0

Total Hours 2

- a Required except for students whose majors or programs require a different first-year seminar, e.g. Tippie Direct Admits.
- b An Honors course must be completed in the first semester of Honors membership.
- c To earn honors credit for study abroad students complete questionnaires and a narrative piece. See details on the Experiential Learning pages on the Honors at Iowa website.
- d Typically advertised in Honorable Messenger or email honors-advisor@uiowa.edu for more information.
- e Submit by deadline which is typically early in the spring semester. Successful recipients in the past have consulted web resources at <https://honors.uiowa.edu/honors-scholarships>.
- f Advertised weekly via the Honorable Messenger email update. Honors students eat for free.
- g Consult ICRU Ambassadors or visit <https://uiowa.edu/icru/>
- h Eligibility is determined by GPA and class ranking. Membership is by invitation.
- i See Student Employment page on Honors at Iowa website. Usually advertised early in the spring semester.
- j Advertised in Honorable Messenger and at <https://uiowa.edu/icru/>
- k Optional for students who have completed the 12 s.h. University Honors coursework requirement.
- l Students must complete the 12 s.h. University Honors coursework requirement by the end of second year spring semester.

- m Report missing research credit via the Honors Research Verification Form. Plan for remaining experiential learning credit; check plan with an honors advisor.
- n Students must complete the experiential learning requirement by graduation. Report missing research credit via the Honors Research Verification Form.

Courses**University of Iowa Honors Program Courses****HONR:1100 Honors Primetime 1 s.h.**

Preparation for honors opportunities, especially activities and courses; teamwork on projects that develop skills of invention and communication; presentation of products and performances; connect honors students, honors teachers, and staff members.

HONR:1300 Honors First-Year Seminar 1-2 s.h.

Small discussion classes taught by faculty members on special topics; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

HONR:1350 Honors Seminar for Incoming Presidential Scholars 1 s.h.

Designed to help students know themselves and one another better through participation in selected events and structured experiences; students attend events selected from the University and Iowa City's rich intellectual and cultural offerings, such as art workshops, literary readings, presentations in the sciences and humanities, hands-on engineering demonstrations, dance recitals, political forums, plays, and music performances (students decide as a group which events they attend); in-class discussion, small-group work, and guest presentations; for first-year Presidential Scholars. Requirements: Presidential Scholarship award received when admitted to the University of Iowa.

HONR:1610 Honors Seminar in Historical Perspectives 3 s.h.

Small-class learning with a faculty member to explore and explain historical developments. GE: Historical Perspectives.

HONR:1620 Honors Seminar in International and Global Issues 3 s.h.

Small-class learning with a faculty member to introduce perspectives of other nations and cultures through international or global issues. GE: International and Global Issues.

HONR:1630 Honors Seminar in Literary, Visual, and Performing Arts 3 s.h.

Small-class learning with a faculty member to appreciate, analyze, create, or perform art. GE: Literary, Visual, and Performing Arts.

HONR:1640 Honors Seminar in Natural Sciences 3 s.h.

Small-class learning with a faculty member on natural science topics. GE: Natural Sciences without Lab.

HONR:1660 Honors Seminar in Social Sciences 3 s.h.

Small-class learning with a faculty member on social science topics. GE: Social Sciences.

HONR:1670 Values and Culture 3 s.h.

Asking fundamental questions about human experience and its meaning while becoming more aware of what, exactly, defines culture and values; students have a chance to consider their own values and beliefs, and the importance to their lifelong goals.

HONR:1680 Honors Seminar in Diversity and Inclusion**3 s.h.**

Small-class learning with a faculty member to broaden student perspectives on social and cultural differences and introduce concepts in the structural bases of inequality and the benefits of diversity. Requirements: member of the University of Iowa Honors Program.

HONR:1850 Honors Seminar in Communication and Literacy**3 s.h.**

Small-class learning with a faculty member; focus on writing, speaking, and critical reading skills or analysis of fiction, poetry, drama, essays.

HONR:1883 War**3 s.h.**

Emotions soldiers have as they fight, what makes them continue voluntarily to face death, and how modern society memorializes these experiences; how literature and art transform the experience of war; human responses to war in Homer's *Iliad* and select Greek tragedies. GE: Values and Culture. Same as CLSA:1883.

HONR:1885 Reading the Ancient City**3 s.h.**

How ancient Mediterranean and Near Eastern peoples from third millennium B.C.E. to fourth century C.E. described, celebrated, and deplored life in their great cities (Babylon, Jerusalem, Athens, Rome); readings selected from ancient literary prose, poetry, drama, and religious writings; study of popular writing (e.g., ancient inscriptions, graffiti, letters, and magic spells). GE: Interpretation of Literature.

HONR:2600 Honors Special Topics**1-3 s.h.**

Small-class learning with a faculty member on special topics.

HONR:2800 The Green Room**1-3 s.h.**

Exploring and broadening interests outside of one's academic discipline; follow innate curiosity and go beyond the traditional boundaries of the college curriculum. Requirements: member of the honors program and in good standing (UI cumulative g.p.a. of 3.33 or higher).

HONR:3050 Honors Studies**arr.**

Independent studies arranged with faculty members who certify satisfactory completion of study plans and performance for topics not covered by other UI courses.

HONR:3100 Honors Teaching Practicum**1-3 s.h.**

Teaching internship in first- and second-year courses; may include providing tutorial assistance, conducting review sessions, aiding course organization.

HONR:3150 Honors Service Learning**arr.**

Service learning projects arranged with faculty members who certify satisfactory completion of study plans and service.

HONR:3160 Honors Internship**0-3 s.h.**

Independent service internship arranged with faculty members, who certify satisfactory performance and completion of project.

HONR:3170 Honors Outreach Ambassadors**1-2 s.h.**

Experience sharing knowledge and experiences of the honors program with other students in meetings during office hours, online chats, other venues; outreach ambassadors; answer questions, provide information, help students find honors opportunities in and out of class.

HONR:3210 Honors Policy Research Practicum**1 s.h.**

Theory and practice of public policy research; development of policy-research skills; production of policy-research papers. Requirements: sophomore or junior standing.

HONR:3220 Honors Writing Fellows: Writing Theory and Practice**3 s.h.**

Preparation of honors students selected as writing fellows to serve as peer tutors in writing-intensive courses; theories of writing, evaluation of drafts, peer tutoring with students. Requirements: sophomore or junior honors standing, admission to Writing Fellows Program, and availability to work as a writing fellow in subsequent semesters.

HONR:3250 Fieldwork in Social Innovation**3 s.h.**

Entrepreneurial skills necessary to actualize ideas in the community; students work with local partners to brainstorm, prototype, and build an original community-based venture involving needs assessment, social history of problem, and concept mapping; students learn soft skills such as interviewing, networking, collaboration, and building trust. Requirements: enrollment in engaged social innovation plan of study and membership in UI honors program in good standing. Same as INTD:3250.

HONR:3994 Honors Research Practicum**1-3 s.h.**

Individual research performed in conjunction with a faculty member's research.

HONR:4990 Honors Thesis or Project**1-3 s.h.**

Culminating project of research or artistic creation; preparation and completion of the final product associated with graduation with honors in the student's major. Requirements: member of the University of Iowa Honors Program and junior or senior standing.

University of Iowa Upward Bound

Executive Director, Center for Diversity and Enrichment

- Nadine C. Petty

Director, Upward Bound

Website: <https://diversity.uiowa.edu/unit/trio-upward-bound>

Precollege Program of Study

The University of Iowa TRiO Upward Bound Project is a federally funded college preparatory program for income qualified and/or first-generation college students who are motivated to pursue a college degree. The program serves eligible high school students from three southeastern Iowa community high schools: Columbus Community High School, Muscatine High School, and West Liberty High School.

Students participate during the academic year in weekly after school programming at their local high school. They participate in science, technology, engineering, and math (STEM) related educational opportunities, American College Testing (ACT) preparation, community service, cultural programs, field trips, and college visits.

During the summer, students attend a six-week residential program on the University of Iowa campus from mid-June through July. Participants take mathematics, science, language arts, and world language courses to prepare them for classes they will take at their local high school in the fall. In addition, students take STEM workshops to expose them to a broader range of career opportunities and an ACT preparation course to ready them for college admissions exams.

Upward Bound Bridge students (those who will enter college in the fall) enroll in a University of Iowa course during the six-week summer session. Bridge students participate in an on-campus job shadow and take a college transition seminar.

Upward Bound provides services to students during high school through enrollment in postsecondary education. All services received are at no cost to students.

Other postsecondary institutions in Iowa and across the nation sponsor Upward Bound programs. High school students who do not attend schools served by the University of Iowa program should ask their counselors whether an Upward Bound program serves their area.

For more information, contact the TRiO Upward Bound Project.

Admission

- Participants must reside in the target area and attend a target school.
- Students must be in grades 9 through 11.
- Family income must meet U.S. Department of Education low-income guidelines.
- Students are potential first-generation college students.

Courses

University of Iowa Upward Bound Course

UIUB:0018 Upward Bound Project

0 s.h.

Administrative Officers

Board of Regents, State of Iowa

The Board of Regents, State of Iowa, governs the University of Iowa, Iowa State University of Science and Technology, the University of Northern Iowa, the Iowa Braille and Sight-Saving School, and the Iowa School for the Deaf.

President: Michael Richards, West Des Moines

President pro tem: Patty Cownie, Des Moines

Sherry Bates, Scranton

Nancy Boettger, Harlan

Milt Dakovich, Waterloo

Nancy Dunkel, Dyersville

Rachael Johnson, Cedar Falls

Jim Lindenmayer, Ottumwa

Larry McKibben, Marshalltown

Executive director: Mark Braun

Central Administration

President: J. Bruce Harreld

Senior advisor to the president and vice president for external relations: Peter Matthes

Senior advisor to the president and associate vice president for external relations: Laura McLeran

Chief human resources officer and associate vice president: Cheryl Reardon

Interim chief diversity officer and associate vice president: Melissa S. Shivers

University ombudspersons: Cynthia Joyce, Rachel Williams

Interim vice president for research and economic development: John C. Keller

Vice president for student life: Melissa S. Shivers

Senior vice president for finance and operations: Rod Lehnertz

Interim executive vice president and provost: Susan J. Curry

Vice president for medical affairs and dean of the Carver College of Medicine: Jay Brooks Jackson

Vice president for legal affairs and general counsel: Carroll J. Reasoner

Chief financial officer and treasurer: Terry Johnson

Office of the Provost

Interim executive vice president and provost: Susan J. Curry

Associate provost for faculty: Kevin C. Kregel

Associate provost for graduate education: John C. Keller

Associate provost for outreach and education: Linda Snetselaar

Associate provost for undergraduate education: Tanya M. Uden-Holman

Associate provost and dean of international programs: Downing Thomas

Associate vice president for enrollment management: Brent Gage

Associate vice president and director of administration and planning: Don J. Szeszycki

CIO and director, ITS: Steven Fleagle

Roy J. and Lucille A. Carver College of Medicine
Vice president for medical affairs and dean: Jay Brooks Jackson

Henry B. Tippie College of Business
Dean: Sarah Gardial

College of Dentistry
Dean: David C. Johnsen

College of Education
Dean: Daniel L. Clay

College of Engineering
Dean: Alec B. Scranton

Graduate College
Dean: John C. Keller

College of Law
Dean: Kevin K. Washburn

College of Liberal Arts and Sciences
Interim dean: Joseph K. Kearney

College of Nursing
Dean: Julie Zerwic

College of Pharmacy
Dean: Donald E. Letendre

College of Public Health
Dean: Edith A. Parker

University College
Dean: Tanya M. Uden-Holman

Libraries
University librarian: John P. Culshaw

Museum of Art
Director: Lauren Lessing

Assistant provost and director of academic advising: Lisa Ingram

Assistant provost and director of the career center: David Baumgartner

Assistant provost and university registrar: Lawrence J. Lockwood

Finance and Operations

Senior vice president, finance and operations, and university architect: Rod Lehnertz

Associate vice president and director, facilities management: Donald Guckert

Assistant vice president and director, purchasing and business services: Deborah J. Zumbach

Assistant vice president and director, public safety: Scott Beckner

Director, financial management and budget, and university secretary: Susan Klatt

University chief financial officer and treasurer: Terry L. Johnson

Chief investment officer and director, treasury operations: Cynthia Bartels

University Business Manager: David Kieft

Health Care

Vice president for medical affairs and dean, Carver College of Medicine: Jay Brooks Jackson

Associate vice president and chief executive officer, UIHC: Kenneth P. Kates

Executive dean, Carver College of Medicine: Patricia L. Winokur

Executive director, UI physicians: Douglas J. Van Daele

Research and Economic Development

Interim vice president for research and economic development: John C. Keller

Senior associate vice president for research: Richard D. Hichwa

Senior assistant vice president for research: Ann Ricketts

Senior assistant vice president for research: Jennifer Lassner

Student Life

Vice president for student life: Melissa S. Shivers

Director, strategic communications and external relations: Bret Gothe

Associate vice president for student life: Sarah Hansen

Assistant vice president for student life and senior director, University housing and dining: Von Stange

Faculty

The following persons hold University of Iowa faculty appointments with the rank of professor, associate professor, assistant professor, instructor, or lecturer and are updated daily on the following list. The year of first appointment appears first and the year of current rank is given in parentheses. Degrees obtained and institutions where the degrees were obtained also are listed.

A

A'Hearn, Amy K., Adjunct Instructor, University College Courses, 2006 (2006); BA 2001 University of Iowa; MS 2004 Western Illinois

Aalderks, Andrew, Adjunct Lecturer, Finance, 2017 (2017); BBA 2003 University of Iowa; MBA 2008 University of Iowa

Abbas, Alexandra L., Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 2008 Drake University

Abbas, Emily, Adjunct Lecturer, Nursing, 2018 (2018);

Abbas, Paul J., Emeritus Professor, Communication Sciences and Disorders, 1974 (1984); BS 1969 Massachusetts Inst of Technolo; PHD 1974 Johns Hopkins

Abbott, Linda I., Clinical Adjunct Instructor, Nursing, 2000 (2000); BSN 1980 University of Iowa; MSN 1996 University of Iowa; DNP 2015 The University of Minnesota-Twin Cities

Aboud, Francois, Professor, Internal Medicine/Molecular Physiology Biophysics, 1961 (1968); BS 1948 Christian Brothers' Schl-Egypt; PNS 1949 Cairo; MBCH 1955 Ain Chams-Egypt; MBCHB 1955 Ain Chams-Egypt

Abdel-Malek, Karim, Professor, Biomedical Engineering/Mechanical Engineering, 1994 (2005); BS 1988 Jordan; MS 1990 Pennsylvania; PHD 1993 Pennsylvania

Abdelaal, Maged Mohamed Elsayed, Assistant Professor, Prosthodontics, 2016 (2016); BDS 2004 Cairo University; MS 2011 Cairo University; MDS 2015 University of Iowa

Abdulbaki, Abdulrahman, Clinical Adjunct Assistant Professor, Internal Medicine, 2018 (2018); MD 2004 Damascus University

Abel, Dean Stuart, Adjunct Asst In Instruction, Biology, 2011 (2011); BA 1967 DePauw Univ; MA 1986 Kansas

Abel, Edwin G., Professor, Biochemistry/Psychiatry/ Psychological and Brain Sciences, 2016 (2016); BA 1985 Swarthmore College; MPHIL 1987 University of Cambridge; PHD 1993 Harvard University

Abel, Evan Dale, Professor, Biochemistry/Biomedical Engineering/Internal Medicine, 2013 (2013); MBBS 1985 West Indies

Abernathy, M. Glenn, Clinical Assistant Professor, Family Medicine, 2008 (2011); BS 1972 South Carolina; MD 1978 South Carolina

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Abramowitz, Paul W., Emeritus Professor, Pharmacy, 1998 (1998); BA 1972 Indiana University-Bloomington; BSPH 1977 Toledo; PHARMD 1979 University of Michigan-Ann Arbor

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Atienza, Salvador Dimapasok, Clinical Adjunct Assistant Professor, Family Dentistry, 1999 (2000); BS 1990 University of Iowa; DDS 1994 University of Iowa

Atkins, Dianne Lee, Emeritus Professor, Pediatrics, 1983 (2002); BA 1974 Johns Hopkins; MD 1977 Johns Hopkins

Atkinson, Alice M., Emeritus Associate Professor, Teaching and Learning, 1973 (1995); BS 1961 Iowa State; MS 1963 University of Wisconsin-Madison; PHD 1982 University of Iowa

Atkinson, Kendall E., Emeritus Professor, Computer Science, 1972 (1975); BS 1961 Iowa State; MS 1963 University of Wisconsin-Madison; PHD 1966 University of Wisconsin-Madison

Attanasio, Massimo, Associate Professor, Internal Medicine, 2017 (2017); MD 1990 University of Naples "Federico

Aubrey, Elizabeth, Emeritus Professor, Music, 1982 (1998); BA 1973 Grinnell; MM 1975 University of Maryland-College Park; PHD 1982 University of Maryland-College Park

Augeri, Matthew, Adjunct Instructor, University College Courses, 2013 (2013); BA 2009 Connecticut; MA 2011 University of Iowa

Augsburger, Michael Jason, Lecturer, Mechanical Engineering, 2018 (2018); PHD 2018 University of Iowa

Augustine, Emily L., Adjunct Assistant Professor, Pharmacy Practice and Science, 2013 (2013); PHARM 2012 Drake

Aul, Edward, Clinical Assistant Professor, Neurology, 1998 (2000); BS 1988 Pittsburgh; MD 1992 Pittsburgh

Aunan, Carol Diane, Adjunct Assistant Professor, Nursing, 1997 (2004); BSN 1993 University of Iowa; MSN 2001 University of Iowa

Aungst, Gerald W., Adjunct Lecturer, Teaching and Learning, 2017 (2017); BA 1989 Penn State University; MED 1991 Widener University

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Auslender, Marcelo Jorge, Clinical Associate Professor, Pediatrics, 2016 (2016); MD 1983 University of Buenos Aires

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Avila Ortiz, Gustavo, Professor, Periodontics, 2011 (2018); DDS 2003 Granada, Spain; DPHIL 2006 Granada, Spain; MS 2009 University of Michigan-Ann Arbor

Avritscher, Elenir B. C., Adjunct Assistant Professor, Pediatrics, 2016 (2016); MD 1994 University of Sao Paulo Med Sc; MBA 2002 University of Houston; PHD 2010 University of Texas HSC

Awelewa, Temitope Modupe, Clinical Assistant Professor, Pediatrics, 2015 (2015); MBCHB 2005 Obafemi Awolowo University; MPH 2010 The University of Minnesota-Twin Cities

Axelrod, David, Clinical Professor, Surgery, 2018 (2018); MD 1996 Duke University School

Ayati, Bruce, Professor, Mathematics/Orthopaedics and Rehabilitation, 2007 (2017); BA 1993 University of California-San Diego; MS 1994 University of Illinois at Chicago; PHD 1998 University of Illinois at Chicago

Aykin-Burns, Nukhet, Adjunct Associate Professor, Radiation Oncology, 2008 (2017); BS 1995 Middle East Technical Univ; PHD 2002 Missouri-Rolla,

Ayoob, Abdur Rafa, Clinical Adjunct Assistant Professor, Pediatrics, 2017 (2017); MBBS 2008 Rampure Medical College

Ayres, Lioness, Associate Professor, Nursing, 2005 (2011); MSN 1992 University of Illinois at Chicago; PHD 1998 University of Illinois at Chicago

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Baalrud, Scott David, Associate Professor, Physics Astronomy, 2012 (2018); BS 2006 University of Wisconsin-Madison; MS 2008 University of Wisconsin-Madison; PHD 2010 University of Wisconsin-Madison

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Bacon, Robert A., Adjunct Lecturer, Public Policy Center/Teaching and Learning, 1997 (1997); BA 1969 Stanford University; MA 1978 University of Iowa

Badberg, Amy M., Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BS 1995 Wayne St College, Wayne, NE; MD 1999 Univ of Nebraska MedCenter, NE

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Baek, Seungyeob, Assistant Professor, Industrial Engineering, 2015 (2015); PHD 2013 Seoul National University

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Baeth, Austin Tyler, Clinical Adjunct Assistant Professor, Internal Medicine, 2017 (2017); HS 2003 Hoover High School; MD 2012 Carver College of Medicine

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Bagley, Robin K., Adjunct Assistant Professor, Biology, 2018 (2018); BS 2010 Kean University; MA 2011 Kean University; PHD 2017 University of Kentucky

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Bair, Heather Lucy, Clinical Assistant Professor, Nursing, 2000 (2012); BSN 1997 University of Iowa; MSN 2005 University of Iowa

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Baker, Charity Dara, Clinical Adjunct Assistant Professor, Family Medicine, 2017 (2017); BS 2001 Univ of Wisconsin, LaCrosse WI; DO 2005 Des Moines Univ; Iowa

Baker, David Lee, Adjunct Lecturer, Law-Faculty, 2011 (2011); BA 1975 University of Iowa; JD 1979 University of Iowa

Baker, Gerald Gilbert, Clinical Adjunct Instructor, Surgery, 2017 (2017); MD 1980 University of Iowa

Baker, Joshua Paul, Clinical Adjunct Assistant Professor, Family Medicine, 2017 (2017); BA 2001 Wartburg College, Waverly, IA; DO 2005 Des Moines Univ; Iowa

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Barnhill, William Keith, Clinical Adjunct Assistant Professor, Nursing, 2015 (2015); PHD 2014 Capella University

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Baron, Robert S., Emeritus Professor, Psychological and Brain Sciences, 1970 (1982); BS 1965 Cornell; PHD 1970 The University of Minnesota-Twin Cities

Baron, Robert Jacob, Emeritus Professor, Computer Science, 1970 (1993); AB 1963 San Diego State; MS 1965 Cornell; PHD 1968 Cornell

Barragan, Eloy, Associate Professor, Dance, 2005 (2012); MFA 2018 Hollins University

Barrash, Joseph, Clinical Professor, Neurology/Psychological and Brain Sciences, 1998 (2017); PHD 1988 University of Iowa

Barrett, Timothy D., Professor, Interdisciplinary Programs, 1993 (2005); BA 1973 Antioch

Barron, Sheila, Adjunct Assistant Professor, Psych Quant Foundations/Statistics Actuarial Science, 2001 (2001); BA 1989 University of Iowa; MA 1991 University of Iowa; PHD 1993 University of Iowa

Barta, Gary Allen, Adjunct Instructor, University College Courses, 2011 (2014); BS 1987 North Dakota State

Bartachek, Amy Lynn, Adjunct Instructor, University College Courses, 2005 (2016); MA 2001 University of Iowa

Barth Leick, Marcia Ann, Adjunct Instructor, Communication Sciences and Disorders, 1999 (1999); MA 1996 Northern Iowa

Bartholomay, Lyric C., Adjunct Associate Professor, Epidemiology, 2014 (2014); BA 1998 Colorado State; PHD 2004 University of Wisconsin-Madison

Bartlett, Larry D., Emeritus Professor, Educ Policy Leadership Studies, 1985 (1994); BA 1964 Northern Iowa; JD 1974 University of Nebraska-Lincoln; PHD 1983 Iowa State

Bartlett, Luke Joseph, Adjunct Assistant Professor, Pharmacy Practice and Science, 2008 (2008); PHARM 2000 University of Iowa

Barwacz, Christopher Andrew, Associate Professor, Family Dentistry, 2008 (2018); DDS 2007 University of Iowa

Bashir, Amani, Clinical Assistant Professor, Pathology, 2011 (2011); MBBS 1998 Jordan

Bashir, Mohammad, Clinical Associate Professor, Surgery, 2013 (2018); MBBS 2003 Jordan

Basile, Monica Reese, Adjunct Assistant Professor, Gender, Women's and Sexuality Studies, 2013 (2013); PHD 2012 University of Iowa

Baskerville, Steven Luvern, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BA 1986 Wartburg College, Waverly, IA; MD 1990 Univ of IA CCOM, Iowa City

Bassingthwaite, Brenda Jean, Adjunct Assistant Professor, Pediatrics/Psych Quant Foundations, 2010 (2010); BA 1995 North Dakota State; MS 1998 Iowa State; PHD 2007 University of Iowa

Bassuk, Alexander G., Professor, Neurology/Pediatrics, 2007 (2016); MD 1999 University of Illinois at Chicago

Basu, Hriden Narayan, Clinical Adjunct Assistant Professor, Internal Medicine, 2000 (2000); MD 1964 Calcutta Medical

Batcheler, Carolyn Jean, Adjunct Assistant Professor, Pharmacy Practice and Science, 2017 (2017); PHARM 2016 The University of Iowa

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Bates, David Scott, Professor, Finance, 1996 (2006); BS 1978 Massachusetts Inst of Technolo; MPA 1981 Princeton; MA 1985 Princeton; PHD 1988 Princeton

Bates, James N., Associate Professor, Anesthesia, 1984 (1990); BA 1972 University of California-Santa Barbara;

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Bates, Melissa, Assistant Professor, Health and Human Physiology/Pediatrics, 2014 (2014); BS 2001 University of California-Riverside; PHD 2008 Pennsylvania State University

Bathke, Josey, Adjunct Assistant Professor, Management Organizations, 2005 (2005); BA 1997 William Penn; JD 2003 University of Iowa; MBA 2003 University of Iowa

Bathla, Girish, Clinical Assistant Professor, Radiology, (2018); MBBS 2014 Maulana Azad Medical College

Batz, Lindsey Michelle, Adjunct Assistant Professor, Pharmacy Practice and Science, 2017 (2017); PHARM 2015 University of Iowa

Bauder, Stephanie Rene, Adjunct Lecturer, Marketing, 2012 (2012); MBA 2003 University of Iowa

Bauer, Patrick B., Professor, Law-Faculty, 1979 (1985); BA 1972 Wesleyan; JD 1975 University of Illinois at Chicago

Baumbach, Gary Lynn, Professor, Pathology, 1980 (1996); BA 1971 Wartburg; MD 1976 University of Iowa

Baumert, Paul Willard, Adjunct Instructor, Family Medicine, 2004 (2013); BS 1983 University of Iowa; MD 1987 University of Iowa

Baumgart, Christina Marie Gaard, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2015); PHARM 2011 University of Iowa

Baumgartner, David, Adjunct Instructor, University College Courses, 2004 (2013); BA 1984 Northern Iowa; MA 1987 Northern Iowa; PHD 1990 Iowa State

Baumgartner, David, Clinical Adjunct Assistant Professor, Emergency Medicine, 2017 (2017); BS 1998 US Air Force Academy; MBA 2013 University of Colorado; MD 2013 University of Colorado

Baxter, Leslie, Emeritus Professor, Communication Studies, 1994 (1994); BS 1971 Lewis and Clark; MS 1972 Oregon; PHD 1975 Oregon

Baxter, Sarah Emily, Adjunct Instructor, Health and Human Physiology, 2011 (2011); BS 2006 Samford; MA 2010 University of Iowa

Baybayan, Amber Lea, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2011); PHARM 2010 University of Iowa

Bayer, Diana Kay, Clinical Assistant Professor, Internal Medicine/Pediatrics, 2014 (2016); MD 2009 Des Moines

Bayless, John D., Emeritus Professor, Psychiatry, 1999 (2008); BS 1974 University of Wisconsin-Oskosh; MS 1977 University of Wisconsin-Oskosh; PHD 1986 University of Iowa

Bayman, Emine Ozgur, Associate Professor, Anesthesia/Biostatistics, 2008 (2017); BA 1999 Hacettepe, Turkey; MS 2002 Bursa, Turkey; MS 2004 University of Iowa; PHD 2008 University of Iowa

Baynton, Douglas Cameron, Professor, History, 1993 (2016); BS 1986 Western Oregon State; MA 1988 University of Iowa; PHD 1993 University of Iowa

Bayon, Rodrigo, Clinical Associate Professor, Otolaryngology-Head Neck Surgery, 2010 (2018); MD 2004 South Florida Med

Bayouth, John E., Adjunct Associate Professor, Biomedical Engineering/Radiation Oncology, 2004 (2004); BS 1988

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Bazavov, Alexei, Adjunct Assistant Professor, Physics Astronomy, 2015 (2015); BS 1997 Kiev State University; PHD 2007 Florida State University

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Bear, Phillip A., Clinical Adjunct Assistant Professor, Internal Medicine, 1990 (2007); DO 1981 Osteopathic Med Hlth

Beard, Julie Michele, Clinical Adjunct Assistant Professor, Emergency Medicine, 2012 (2012); DO 2005 DMU-COM

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Bechtel, Theresa Jane, Lecturer, Nursing, 2016 (2015); BSN 2008 Mercy College of Health Scienc; MSN 2012 University of Iowa

Beck, Deann Jolene, Adjunct Assistant Professor, Pharmacy Practice and Science, 2017 (2017); PHARM 2016 University of Iowa

Beck, Margaret, Associate Professor, Anthropology, 2007 (2013); BA 1992 Kansas; MA 1995 Kansas; PHD 2003 University of Arizona

Beck, Mary Gwen, Clinical Professor, Internal Medicine, 1997 (2010); MD 1994 University of Iowa

Beck, Robert A., Clinical Adjunct Assistant Professor, Family Medicine, 2011 (2011); BA 1983 Johns Hopkins; MD 1988 UMDNJ

Becker, Marcie Lynn, Clinical Assistant Professor, Physical Therapy Rehab Science, 2010 (2017); DPT 2001 Creighton

Becker, Nicole M., Assistant Professor, Chemistry, 2014 (2014); PHD 2012 Purdue University Main Campus

Becker, Pamela Bhalla, Clinical Adjunct Instructor, Preventive Community Dentistry, 2017 (2017); BA 1995 Biology; DDS 1999 University of Iowa

Becker, Shea Lee, Adjunct Instructor, Communication Sciences and Disorders, 2012 (2012); BA 1998 University of Iowa; MA 2000 University of Iowa; DAUD 2005 Florida

Becker, Thomas Edward, Clinical Adjunct Assistant Professor, Pediatrics, 1999 (1999); MD 1987 University of Iowa

Beckermann, Christoph, Professor, Mechanical Engineering, 1987 (1996); MS 1984 Purdue University Main Campus; PHD 1987 Purdue University Main Campus

Beckett, Andrew, Adjunct Assistant Professor, Educ Policy Leadership Studies, 2011 (2011); BS 1994 Truman State; MA 1996 University of Arizona; PHD 2006 Missouri-Columbia

Beckett, Emily Ann, Clinical Assistant Professor, Pharmacy Practice and Science, 2013 (2013); PHARM 2007 University of Iowa

Beckley, Nicole Marie, Adjunct Lecturer, Teaching and Learning, 2014 (2014); BA 2006 University of Iowa; MA 2014 University of Iowa

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Becraft, Mallory Colleen, Adjunct Instructor, University College Courses, 2015 (2015); BA 2011 University of Iowa; MED 2014 Colorado State University

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Bedell, David A., Clinical Associate Professor, Family Medicine, 1995 (2004); BA 1975 Colorado College; MD 1982 Washington

Bednar, Thomas Michael, Adjunct Lecturer, Management Sciences, 2009 (2009); BBA 1973 University of Iowa

Beebe, Megan, Clinical Adjunct Instructor, Pediatrics, 2017 (2017); MD 2003 University of Iowa

Beebout, Susan, Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2008); BS 1997 Iowa State; MD 2001 University of Iowa

Beecher, Jill M., Adjunct Instructor, Communication Sciences and Disorders, 2016 (2016); DAUD 2008 University of Utah

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Behnke, Aimee, Clinical Adjunct Assistant Professor, Pediatrics, 2014 (2014); BS 1999 Georgia; MD 2003 Georgia

Behrendt, Douglas M., Emeritus Professor, Surgery, 1986 (1986); AB 1959 Amherst; MD 1963 Harvard

Behrens, Anna Marie, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2009); PHARM 2008 University of Iowa

Behrens, Robert J., Clinical Adjunct Assistant Professor, Internal Medicine, 2005 (2005); BS 1992 Iowa State; MD 1997 University of Iowa

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Bell, Greg Russell, Clinical Associate Professor, Emergency Medicine, 2007 (2013); MD 1988 The Ohio State University

Bell, Marvin H., Emeritus Professor, Creative Writing, 1965 (1975); BA 1958 Alfred; MA 1961 University of Illinois at Chicago; MFA 1963 University of Iowa

Bell, Tyler R., Assistant Professor, Electrical-Computer Engineering, 2018 (2018); BS 2012 Iowa State University; MS 2014 Iowa State University; PHD 2018 Purdue University

Bell, William E., Emeritus Professor, Pediatrics, 1962 (1972); BA 1951 West Virginia; MS 1951 West Virginia; MS 1953 West Virginia; MD 1955 Virginia

Belli, Meriam N., Associate Professor, History, 2008 (2015); BA 1994 Inalco, Paris, France; MA 1995 Inalco, Paris, France; PHD 2005 Georgetown

Bellizzi, Andrew M., Clinical Associate Professor, Pathology, 2011 (2014); MD 2004 Northwestern University

Bellman, Suzanne Beth, Lecturer, Management Organizations, 2010 (2010); BA 1984 Hampshire College; MA 2004 University of Iowa; DPHIL 2012 University of Iowa

Bellus, Paul, Adjunct Instructor, Communication Studies, 2001 (2001); BS 1993 University of Nebraska-Lincoln; MA 1995 University of Nebraska-Lincoln

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Beltz, Elizabeth A., Clinical Assistant Professor, Pharmacy Practice and Science, 1991 (1991); BSPH 1983 Purdue University Main Campus; PHARM 1984 Purdue University Main Campus

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Benda, Jo Ann, Emeritus Professor, Pathology, 1979 (1996); BS 1971 Iowa State; MD 1975 University of Iowa

Bender, David Paul, Clinical Professor, Obstetrics Gynecology, 2004 (2018); BA 1991 Maine; MD 1995 University of Illinois at Urbana Champaign

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Bennett, Darus Lee, Clinical Professor, Radiology, 2001 (2013); BS 1984 Arkansas; MA 1986 Washington; MD 1990 Arkansas

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Bennett, Matthew, Adjunct Instructor, University College Courses, 2018 (2018); BS 2018 University of Iowa

Benoit, Gena Lou Rose, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 1995 St. Ambrose; MD 1999 University of Iowa

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Bernard, Kyle Steven, Adjunct Associate, Physical Therapy Rehab Science, 2017 (2017); BA 2013 University of Northern Iowa; DPT 2015 University of Iowa

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Borgwardt, Derek S., Clinical Adjunct Assistant Professor, Periodontics, 2011 (2011); DDS 2008 University of Iowa

Borgwardt, Michelle Renay, Adjunct Associate, Physical Therapy Rehab Science, 2015 (2011); DPT 2008 University of Iowa

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Bourjaily, Pamela Gibbs, Adjunct Lecturer, Management Organizations, 2009 (2009); MA 1984 University of Illinois at Urbana Champaign

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Bowdler, Noelle Clare, Clinical Professor, Obstetrics Gynecology, 1988 (2009); BA 1978 Michigan State University; MD 1982 University of Michigan-Ann Arbor

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Brown, James Andrew, Professor, Biomedical Engineering/Urology, 2009 (2011); BA 1986 Colorado State; BS 1986 Colorado State; MD 1991 Baylor

Brown, Jennifer Erin, Associate Professor, English as Second Language/Linguistics, 2004 (2018); MA 2004 University of Iowa

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Cantrell, Matthew A., Clinical Associate Professor, Pharmacy Practice and Science, 2005 (2013); BS 2000 Mount Mercy; PHARM 2005 University of Iowa

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Caplan, Richard M., Emeritus Professor, Dermatology, 1961 (1969); BS 1949 Iowa State; MA 1951 University of Iowa; MD 1955 University of Iowa

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Carder, Jacqueline Christine, Adjunct Assistant Professor, Communication Sciences and Disorders, 2018 (2018); BS 2007 University of Iowa; MA 2011 University of Iowa; DAUD 2012 University of Iowa

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Carlson, Jonathan C., Professor, International Programs/Law-Faculty/Public Policy Center, 1983 (1987); BA 1976 McGill; JD 1979 University of Illinois at Chicago

Carlson, Wayne R., Emeritus Professor, Biology, 1968 (1993); BA 1962 Rockford; MA 1966 Indiana University-Bloomington; PHD 1968 Indiana University-Bloomington

Carlstein, Andres Augustine, Lecturer, Health and Human Physiology, 2012 (2016); MFA 2012 University of Iowa

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Cooper, Christopher Scott, Professor, Pediatrics/Urology, 1999 (2008); BA 1987 University of Iowa; MD 1991 University of Iowa

Cooper, Lynette Patrice, Lecturer, Nursing, 2018 (2018); BSN 2003 University of Iowa

Cooper, Reginald R., Emeritus Professor, Orthopaedics and Rehabilitation, 1962 (1971); BA 1952 West Virginia; BS 1953 West Virginia; MD 1955 Med College of Virginia; MS 1960 University of Iowa

Cooper-Brown, Linda Jo, Clinical Professor, Pediatrics, 2000 (2018); BA 1984 Miami; EDS 1988 University of Iowa; PHD 1991 University of Iowa

Cooperrider, Tricia Lynn Larson, Clinical Adjunct Instructor, Pediatrics, 2017 (2017); DO 2008 Des Moines University

Cordle, Angela R., Adjunct Asst In Instruction, Biology, 2012 (2012); BS 2004 University of Iowa; PHD 2012 University of Iowa

Coretsopoulos, Chris, Professor, Chemical Biochemical Engineering, 1992 (2018); BS 1981 Massachusetts; PHD 1989 University of Illinois at Urbana Champaign

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Corkery, Julie M., Adjunct Assistant Professor, Psych Quant Foundations/University College Courses, 2002 (2002); BA 1983 Mount Mercy; EDS 1987 Iowa State; PHD 1991 Iowa State

Cornell, Anna-Maria P., Lecturer, English as Second Language, 2016 (2016); HS 1989 Vladimir Majder Kurt, Sisak; BA 1995 Maharishi; MA 2016 University of Iowa

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Coryell, William H., Professor, Psychiatry, 1977 (1986); BS 1970 Georgia; MD 1973 Medical College of Georgia

Cosner, Justin, Lecturer, Rhetoric, (2018); PHD 2017 University of Iowa

Cossman, George W., Emeritus Associate Professor, Teaching and Learning, 1966 (1970); AB 1952 Shimer; BS 1954 University of Illinois at Urbana Champaign; MED 1955 University of Illinois at Urbana Champaign; PHD 1967 University of Iowa

Cotter, Thomas, Adjunct Professor, Law-Faculty, 2015 (2018); BS 1982 Univ. of Wisconsin-Madison; MS 1984 Univ. of Wisconsin-Madison; JD 1987 University of Wisconsin

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Dagle, John Michael, Professor, Biochemistry/Epidemiology/Pediatrics, 1998 (2013); BS 1984 Creighton; MD 1991 University of Iowa; PHD 1991 University of Iowa

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Dahmouh, Laila, Clinical Professor, Pathology/Urology, 2001 (2015); MBCHB 1983 Univ. Alexandria Fac Med-Egypt; MD 1999 THE UNIVERSITY OF MARYLAND-COLLEGE PARK

Dai, Dao-Fu, Assistant Professor, Pathology/Radiation Oncology, 2017 (2017); MD 1999 Kaohsiung Medical University; PHD 2009 University of Washington

Dai, Donghai, Research Associate Professor, Obstetrics Gynecology, 2009 (2009); MD 1987 Shanghai Medical; PHD 1998 Medical of Georgia

Dai, Yuan, Adjunct Assistant Professor, Occupational Environmental Health, 2018 (2018); BS 1997 Fudan University; PHD 2006 Duke University

Dailey, Dana Leigh, Adjunct Associate, Physical Therapy Rehab Science, 2015 (2014); BA 1984 Northern Illinois University; BS 1986 Northern Illinois University; MS 1993 College of St. Francis

Dailey, Michael E., Associate Professor, Biology, 1996 (2002); BS 1985 Geneva; PHD 1990 Washington

Dailey, Morris O., Emeritus Associate Professor, Pathology, 1984 (1989); BS 1971 University of California-Davis; PHD 1976 University of Illinois at Chicago; MD 1977 University of Illinois at Chicago

Dailey, Scott Alan, Adjunct Assistant Professor, Communication Sciences and Disorders, 2010 (2010); BS 1988 Iowa State; MA 1993 Northern Iowa; PHD 2009 University of Iowa

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Daly, Scott R., Assistant Professor, Chemistry, 2014 (2014); PHD 2010 University of Illinois at Urbana Champaign

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Damico, Sandra Bowman, Emeritus Professor, Educ Policy Leadership Studies, 1999 (1999); BA 1962 The Ohio State University; MA 1969 The Ohio State University; PHD 1973 Florida

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Dang, Trung, Clinical Adjunct Instructor, Preventive Community Dentistry, 2011 (2011); BA 1989 Colorado; DDS 1993 Colorado

Daniel, Brian Phillip, Clinical Assistant Professor, Internal Medicine, 2004 (2005); BA 1987 Carson-Newman-TN; MD 1991 Vanderbilt

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Daniel-Ulloa, Jason Dwight, Clinical Assistant Professor, Community Behavioral Health/Gender, Women's and Sexuality Studies, 2013 (2016); MPH 2006 San Diego State; PHD 2011 San Diego State

Daniels, Sara Marie, Lecturer, English as Second Language, 2014 (2014); MA 2014 Southern Illinois Univ-Carbond

Daniels, Timothy K., Clinical Adjunct Assistant Professor, Family Medicine, 1979 (2002); MD 1973 University of Iowa

Danielson, Stanton L., Clinical Adjunct Assistant Professor, Family Medicine, 1982 (1984); MD 1976 University of Iowa

Daniolos, Peter T., Clinical Professor, Psychiatry, 2010 (2015); BS 1984 Denver; MD 1989 North Dakota

Danley, Dana L., Clinical Adjunct Associate Professor, Family Medicine, 2004 (2015); BA 1993 Grinnell; MD 1998 University of Iowa

Darbro, Benjamin Will, Associate Professor, Pediatrics, 2011 (2018); BS 1999 Nebraska Wesleyan; MD 2007 University of Iowa; PHD 2007 University of Iowa

Darcy, Isabel K., Associate Professor, Mathematics, 2003 (2008); BS 1987 University of California-Los Angeles; MS 1989 University of California-Los Angeles; PHD 1997 Florida State

Darjania, Vakhtangi, Lecturer, Art Art History, 2018 (2018); MFA 2018 University of Iowa

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Davis, Steven G., Adjunct Lecturer, Management Organizations, (2016); BS 2001 University of Iowa; MS 2003 University of Iowa

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Ford, Donald Lehman, Adjunct Lecturer, Law-Faculty, 2016 (2007); BA 1980 American; JD 1985 Virginia; AMLS 2002 Pittsburgh

Ford, Krista Marie, Lecturer, Nursing, 2013 (2013); BSN 2006 Bradley; MSN 2011 University of Iowa; DNP 2013 University of Iowa

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Gardner, Robb Michael, Adjunct Associate, Physical Therapy Rehab Science, 2014 (2014); BA 1994 Luther College; MPT 1996 University of Iowa; MHA 2006 The University of Minnesota-Twin Cities

Gardner, Sue Ellen, Professor, Nursing, 2000 (2015); BSN 1981 University of Iowa; MA 1990 University of Iowa; PHD 1999 University of Iowa

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Garr, Valerie Susanne, Adjunct Instructor, University College Courses, 2002 (2011); BA 1987 University of Iowa; MA 1995 University of Iowa

Garrett, Britte Lee, Adjunct Lecturer, Rehabilitation and Counselor Education, 2016 (2016); BA 2003 University of Iowa; MA 2013 University of Iowa

Garrett, Kathryn Ann, Adjunct Instructor, University College Courses, 2016 (2016); BA 2008 University of Iowa; MA 2010 University of Iowa

Garrett, Robert E., Emeritus Associate Professor, Family Medicine, 1997 (1997); BA 1971 Trinity; MA 1974 Johns Hopkins; MD 1981 University of California-San Diego; MS 1986 Case Western Reserve

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Gehl, Brian Kenneth, Adjunct Assistant Professor, Psychological and Brain Sciences, 2009 (2010); BA 1999 Jamestown; PHD 2010 University of Iowa

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Giudici, Paula Annechino, Clinical Assistant Professor, Dermatology, 2012 (2012); MD 1982 University of Iowa

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Givler, Hannah, Lecturer, Art History, 2015 (2015); BFA 2009 The Ohio State University; MFA 2012 Art Institute of Chicago

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Glasgow, Robert O., Emeritus Professor, Interdisciplinary Programs, 1985 (2006); BFA 1967 Wittenberg; MA 1968 University of Wisconsin-Madison; MFA 1969 University of Wisconsin-Madison

Glass, Loren Daniel, Professor, English, 2004 (2014); BA 1988 University of California-Berkeley; MA 1990 University of California-Davis; PHD 1997 Duke

Glaviano, Michael Vincent, Adjunct Assistant Professor, Interdisciplinary Programs, 2016 (2015); MFA 2015 University of Iowa

Gleason, Cristi A., Professor, Accounting, 2003 (2017); BS 1990 Brigham Young; MAC 1992 Brigham Young; PHD 1998 Cornell

Gleason Limoges, Nicole Diane, Lecturer, Nursing, 2015 (2015); MSN 2011 University of Iowa

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Glenn, Kevin A., Clinical Associate Professor, Internal Medicine, 2002 (2016); MD 1998 University of Illinois at Urbana Champaign

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Goerd, Christopher John, Clinical Professor, Internal Medicine, 1994 (2007); BA 1983 University of Iowa; MD 1988 University of Iowa; MPH 1994 The University of Minnesota-Twin Cities

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Greteman, Blaine, Associate Professor, English, 2009 (2015); BA 1998 Oklahoma State; MPHIL 2001 Oxford; PHD 2008 University of California-Berkeley

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Grobe, Justin L., Associate Professor, Pharmacology, 2010 (2017); BA 2001 Hope College; BS 2001 Hope College; PHD 2006 Florida

Groben, Lucas Paul, Clinical Adjunct Assistant Professor, Internal Medicine, 2014 (2014); DO 2006 Des Moines College of Osteop

Groeltz, Amy Rebecca, Clinical Adjunct Assistant Professor, Family Dentistry, 2016 (2016); DDS 2004 University of Iowa

Groen, Amy, Clinical Adjunct Assistant Professor, Pediatrics, 2012 (2012); DO 2005 Des Moines

Grooms, Ain A., Assistant Professor, Educ Policy Leadership Studies, 2016 (2016); BA 1997 Emory University; MED 2008 Vanderbilt University; PHD 2013 University of Georgia

Groos, Jennifer A., Clinical Adjunct Assistant Professor, Pediatrics, 2005 (2005); BS 1997 Loras College; MD 2001 University of Iowa

Gros-Louis, Julie J., Lecturer, Psychological and Brain Sciences, 2008 (2017); BS 1992 University of Michigan-Ann Arbor; MA 1995 Pennsylvania; MA 1996 Pennsylvania; PHD 2001 Pennsylvania

Grose, Charles, Professor, Pediatrics, 1984 (1987); BA 1963 Beloit; MD 1967 University of Illinois at Chicago

Grosland, Nicole Marie, Professor, Biomedical Engineering/Orthopaedics and Rehabilitation, 1998 (2012); BSE 1994 University of Iowa; PHD 1998 University of Iowa

Gross, Gregory Joseph, Adjunct Instructor, Social Work, 2012 (2012); BA 2003 Drake; MSW 2012 University of Iowa

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Gross, Molly Elizabeth, Clinical Adjunct Instructor, Surgery, 2017 (2017); MD 2008 Mayo Medical School

Gross, Thomas J., Professor, Internal Medicine, 1991 (2015); BS 1980 University of Michigan-Ann Arbor; MD 1983 University of Michigan-Ann Arbor

Grossman, Nicholas Aaron, Lecturer, Public Policy Center, 2013 (2013); BA 2003 Wesleyan; MA 2009 THE UNIVERSITY OF MARYLAND-COLLEGE PARK; PHD 2013 THE UNIVERSITY OF MARYLAND-COLLEGE PARK

Groth, Christopher Lee, Clinical Assistant Professor, Neurology, 2018 (2018); MD 2012 University of Iowa

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Gruca, Thomas S., Professor, Marketing, 1991 (2006); BS 1983 University of Illinois at Urbana Champaign; MBA 1985 University of Illinois at Urbana Champaign; PHD 1989 University of Illinois at Urbana Champaign

Grueter, Chad, Assistant Professor, Internal Medicine, 2012 (2012); PHD 2006 Vanderbilt

Grumbach, Isabella, Professor, Internal Medicine/Radiation Oncology, 2006 (2018); MD 1992 Ruhr Univ Germany

Grunder, Richard W., Clinical Adjunct Associate Professor, Operative Dentistry, 1995 (2012); DDS 1984 University of Iowa

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Gudavalli, Maruti Ram, Adjunct Associate Professor, Biomedical Engineering, 2016 (2014); BS 1970 Andhra, India; MS 1980 McMaster, Canada; PHD 1989 Cincinnati

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Guernsey, Alison Klare, Clinical Associate Professor, Law-Faculty, (2017); BA 2001 Univ. of Michigan; JD 2008 University of Iowa

Guerra, Jorge Oswaldo, Lecturer, Interdisciplinary Programs, 2014 (2018); MFA 2014 University of Iowa

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Guillory, J. Keith, Emeritus Professor, Pharmacy, 1964 (1971); BS 1956 Loyola-Louisiana; MS 1960 University of Wisconsin-Madison; PHD 1961 University of Wisconsin-Madison

Gullickson, Gregory Leo, Clinical Assistant Professor, Psychological and Brain Sciences, 2000 (2001); BA 1979

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Gunderson, Alan Eric, Clinical Assistant Professor, Internal Medicine, 2014 (2014); MD 2007 New York Medical

Gunderson, Carissa B., Clinical Assistant Professor, Psychiatry, 2014 (2014); MD 2009 University of Wisconsin-Madison

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Guo, Junfeng, Adjunct Associate Professor, Biomedical Engineering/Radiology, 2010 (2010); BS 1988 Xi'an Jiaotong, China; MS 1991 Xi'an Jiaotong, China; PHD 1995 Xi'an Jiaotong China

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Gurung, Prajwal, Assistant Professor, Internal Medicine, 2016 (2016); BS 2005 Winona State University; PHD 2011 University of Iowa

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Gussin, Gary N., Emeritus Professor, Biology, 1969 (1980); BS 1961 University of Michigan-Ann Arbor; PHD 1966 Harvard

Gutierrez, Santiago Ortega, Clinical Assistant Professor, Neurology/Neurosurgery/Radiology, 2014 (2014); MD 2002 Universidad de Alcalá, Alcalá

Gutierrez Perez, Jeydith Adriana, Clinical Assistant Professor, Internal Medicine, 2015 (2015); MD 2008 Central Univ of Venezuela

Gutmann, Laurie, Clinical Professor, Neurology, 2013 (2013); MD 1986 West Virginia

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Gutu, Stephen T. H., Clinical Adjunct Assistant Professor, Pediatrics, 2017 (2017); MD 2000 St. George's University

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Guzman, Elizabeth Eunice, Adjunct Instructor, Spanish Portuguese, 2007 (2007); BA 1977 Santiago; MA 1985 West Virginia

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Jensen, Anna Rose, Lecturer, Health and Human Physiology, 2015 (2015); BA 1994 Central College; MA 2014 Ohio University

Jensen, Brittany D., Clinical Adjunct Assistant Professor, Emergency Medicine, (2018); BS 2008 North Carolina State University; MD 2013 University of North Carolina

Jensen, Chris S., Clinical Professor, Pathology, 1999 (2010); BS 1985 Iowa State; MD 1989 University of Iowa

Jensen, Duane Mark, Clinical Adjunct Assistant Professor, Pediatrics, 2017 (2017); MD 1997 University of Nebraska

Jensen, Paul Jonathan, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BA 1989 Dana College, Blair, NE; PHARM 1993 UNMC Coll of Pharmacy, NE; MD 1997 UNMC Col of Med, Omaha, NE

Jensen, Sarah, Adjunct Lecturer, Marketing, 2014 (2014); MBA 2003 Webster

Jepsen, David A., Emeritus Professor, Rehabilitation and Counselor Education, 1970 (1982); BA 1960 Northern Iowa; MS 1963 University of Wisconsin-Madison; PHD 1970 University of Wisconsin-Madison

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Jeronimo, Selma M., Adjunct Professor, Internal Medicine, 2015 (2002); PHD 1994 Paulista DE Medicina-Sao Paulo

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Jesudoss, Randhir, Clinical Assistant Professor, Internal Medicine, 2014 (2014); MBBS 1995 Madurai Medical College

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Jhun, Hye Yeon, Clinical Assistant Professor, Internal Medicine, 2017 (2017); MD 2008 Inha University, College of Me

Jiang, Bing-Hua, Professor, Pathology, 2017 (2017); PHD 1994 Mississippi State University

Jicinsky, Judith K., Adjunct Associate, Physical Therapy Rehab Science, 2010 (2010); BS 1982 University of Wisconsin-Madison; BSPT 1989 University of Wisconsin-Madison

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Jochimsen, Peter R., Emeritus Professor, Surgery, 1974 (1983); BA 1961 Ripon; MD 1965 Marquette

Jogerst, Gerald John, Emeritus Professor, Family Medicine, 1993 (2005); BA 1969 Loras; MD 1976 University of Iowa

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Johanns, Patrick Joseph, Lecturer, Management Sciences, 2014 (2014); BS 1986 University of Iowa; MBA 1991 University of Iowa; PHD 1995 University of Iowa

Johlin, Frederick C., Professor, Internal Medicine, 1986 (2004); BS 1976 Toledo; MD 1980 Toledo Medical College

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Johnson, Alan K., Professor, Health and Human Physiology/ Psychological and Brain Sciences, 1973 (1982); BS 1964 Pennsylvania State University; MA 1966 Temple; PHD 1970 Pittsburgh

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Johnson, Burgundy June, Clinical Assistant Professor, Psychiatry, (2018); DO 2016 Lake Erie College of Osteopath

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Johnson, David Cassels, Associate Professor, Teaching and Learning, 2013 (2016); MA 2001 Northern Iowa; PHD 2007 Pennsylvania

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Johnson, Nicholas, Adjunct Lecturer, Law-Faculty, 1981 (2003); BA 1956 The University of Texas at Austin; BSL 1958 The University of Texas at Austin; LHD 1971 Windham

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Juguilon, Sean Alex, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BS 1997 Univ of Iowa, Iowa City, IA; MD 2001 Case Western Reserve, Univ, OH

Juhlin, Jon Jeffrey, Clinical Adjunct Assistant Professor, Endodontics, 2010 (2010); BS 1978 Iowa State; DDS 1991 University of Iowa; MSD 1991 University of Iowa

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Kaboli, Peter John, Professor, Epidemiology/Internal Medicine, 2000 (2012); BS 1989 University of Iowa; MD 1994 University of Iowa; MS 2000 University of Iowa

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Kaczka, David Walter, Associate Professor, Anesthesia/Biomedical Engineering/Radiology, 2014 (2014); MD 2000 Boston

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Kaduce, Ryan Louis, Lecturer, English as Second Language, 2011 (2011); BA 2008 University of Iowa; MA 2010 University of Iowa

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Kair, Laura Rachael, Adjunct Assistant Professor, Pediatrics, 2013 (2013); BS 2006 Midwestern State; MD 2010 University of Iowa

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Kaldjian, Lauris Christopher, Professor, Internal Medicine, 2000 (2012); BS 1984 University of Michigan-Ann Arbor; BA 1986 Oxford; MD 1989 University of Michigan-Ann Arbor; MDIV 1994 Yale; PHD 2004 Yale

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Kalnins, Arturs, Associate Professor, Management Organizations, 2017 (2017); BA 1988 Swarthmore College; MBA 1991 Lehigh University; PHD 1998 University of Michigan

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Kane, Mackenzie Renee, Lecturer, Nursing, 2014 (2014); BS 2004 University of Iowa; MSN 2010 University of Iowa

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Kanner, Lauren Amanda, Clinical Assistant Professor, Pediatrics, (2018); BA 2008 Carleton College; MD 2012 Rush Medical College

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Karacay, Bahri, Adjunct Associate Professor, Pediatrics, 2005 (2011); MS 1987 Ataturk ,Turkey; MS 1992 The Ohio State University; PHD 1996 The Ohio State University

Karam, Matthew, Clinical Associate Professor, Orthopaedics and Rehabilitation, 2011 (2016); BS 2001 University of Iowa; MD 2005 Chicago Medical

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Kardon, Randy Herbert, Professor, Ophthalmology Visual Science, 1989 (2004); BS 1975 University of Iowa; MD 1982 University of Iowa; PHD 1982 University of Iowa

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Katz, David A., Associate Professor, Epidemiology/Internal Medicine, 2003 (2003); BA 1982 Oberlin College; MD 1987 Jefferson Med College; MS 1995 Harvard - Public Health

Katz, Louis Mayer, Clinical Adjunct Professor, Internal Medicine, 2011 (2011); MD 1976 University of Iowa

Kauer, Aaron John, Clinical Assistant Professor, Psychiatry, 2014 (2014); BS 2004 University of South Dakota; MD 2009 The University of South Dakota

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Kearns, David L., Clinical Associate Professor, Family Medicine, 2016 (1995); BS 1973 Fort Hays State; MA 1979 Wichita State; PHD 1990 Georgia State

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Kemp, John D., Emeritus Professor, Pathology, 1982 (1990); BA 1971 Indiana University-Bloomington; MD 1975 Indiana University-Bloomington

Kemp, Kathleen Marie, Adjunct Instructor, Social Work, 2007 (2007); MSW 1990 University of Iowa

Kemp, Pavlina S., Clinical Assistant Professor, Ophthalmology Visual Science/Pediatrics, 2015 (2015); BSE 2004 University of Iowa; MD 2010 University of Iowa

Kemp, Skylar Robert, Adjunct Instructor, Radiology, 2018 (2018); BS 2016 University of Iowa

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Koleva, Hristina K., Clinical Associate Professor, Psychiatry, 2010 (2016); MD 2003 Sofia, Bulgaria

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Kolker, Patrick, Clinical Adjunct Assistant Professor, Dental Clinic Administration, 2017 (2017); BA 2013 Iowa State University; DDS 2017 University of Iowa

Kollmorgen, Daniel Robert, Clinical Adjunct Associate Professor, Surgery, 2004 (2012); MD 1990 University of Iowa

Komenda, Kevin, Adjunct Associate, Physical Therapy Rehab Science, 2014 (2014); BS 1999 Nebraska Wesleyan University; MPT 2001 Mayo School of Health; DPT 2010 St. Catherine University

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Kopelman, Todd G., Clinical Associate Professor, Pediatrics/ Psychiatry, 2010 (2017); BA 1996 Grinnell; MSW 1998 University of Iowa; PHD 2005 University of Iowa

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Kraushaar, Paul Olinger, Adjunct Associate, Physical Therapy Rehab Science, 2010 (2010); BS 1976 University of Iowa

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Little, Amy Sue, Adjunct Associate, Physical Therapy Rehab Science, 2012 (2012); DPT 2009 University of Iowa

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Litwiller, Douglas Paul, Adjunct Instructor, University College Courses, 2016 (2016); BS 1981 Iowa State University

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Liu, Ling-Zhi, Associate Professor, Pathology, 2017 (2017); PHD 2000 China Medical University

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Livorsi, Daniel Joseph, Assistant Professor, Internal Medicine, 2015 (2015); MD 2005 University of Illinois at Urbana Champaign

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Madsen, Mark T., Emeritus Professor, Radiology, 1988 (2003); BS 1973 University of Wisconsin-Kenosha; MS 1975 University of Wisconsin-Madison; MS 1976 University of Wisconsin-Madison; PHD 1979 University of Wisconsin-Madison

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Malichky, Kimberly, Adjunct Assistant Professor, Pharmacy Practice and Science, 2004 (2004); BA 1996 Hastings-NE; PHARM 2002 University of Iowa

Malik, Norbert R., Emeritus Professor, Electrical-Computer Engineering, 1967 (1980); BS 1959 University of Iowa; MSEE 1960 University of Iowa; PHD 1964 Iowa State

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Malone, Robert E., Emeritus Professor, Biology, 1985 (1993); BS 1970 University of California-Los Angeles; PHD 1976 Oregon

Malwitz, Kari A., Clinical Adjunct Assistant Professor, Psychiatry, 2017 (2017); MD 2012 American University of Antigua

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Martins, James B., Emeritus Professor, Internal Medicine, 1975 (1991); BA 1966 North Park; MD 1970 University of Illinois at Urbana Champaign

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Mcmains, Kenneth Dean, Adjunct Associate Professor, Occupational Environmental Health, 2004 (2004); BA 1971 Northern Iowa; MD 1976 U of Autonoma de Guadalajara

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Mcnew, Brandon R., Clinical Adjunct Assistant Professor, Pediatrics, 2016 (2016); MD 2009 Michigan State University

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McNutt, Stephen Bishop, Lecturer, Rhetoric, 2014 (2014); BA 1995 Bucknell University; MFA 2007 University of Iowa

Mcquistan, Michelle, Associate Professor, Preventive Community Dentistry, 2004 (2013); BA 1997 Notre Dame; DDS 2001 University of Iowa; MS 2004 University of Iowa

Mcveigh, Sarah, Lecturer, Nursing, 2018 (2018); BS 2006 Pennsylvania State Univ; MS 2008 Pennsylvania State Univ

Mcwhorter, Brian Carl, Adjunct Instructor, Chemical Biochemical Engineering, 2016 (2018); BS 2001 University of Iowa

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Melloy, Michael Joseph, Adjunct Lecturer, Law-Faculty, 2012 (2018); BA 1970 Loras; JD 1974

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Nelson, Julie Renee, Adjunct Instructor, University College Courses, 2014 (2014); MA 2002 George Washington

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Parker, Wesley Alan, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BS 1980 Cornell College, MtVernon, IA; MD 1986 Univ of IA CCOM, Iowa City

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Parratt, Catriona, Associate Professor, American Studies, 1989 (2001); BA 1977 Birmingham; MHK 1984 Windsor; PHD 1994 The Ohio State University

Parrish, Heather, Assistant Professor, Art Art History, 2018 (2018); BA 1999 University of Texas at Austin; MFA 2014 Uneristy of Nortre Dame

Parrish, Jeremy, Lecturer, Health and Human Physiology, (2018); BBA 2015 University of Iowa; MA 2017 University of Iowa; MBA 2017 Upper Iowa University; MSL 2018 University of Iowa

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Paulsen, Joseph John, Adjunct Assistant Professor, Pharmacy Practice and Science, 2014 (2014); BA 2007 University of Iowa; PHARM 2012 University of Iowa

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Peck, Robert Henry, Lecturer, Rhetoric, (2018); BA 2015 Yale; MFA 2018 University of Iowa

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Pelzel, Kelly E., Clinical Assistant Professor, Psychiatry, (2018); BA 1998 University of Northern Iowa; MS 2002 University of Utah

Pelzer, Daniel Edward, Adjunct Assistant Professor, Pediatrics, 2018 (2018); MD 2012 University of Iowa

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Petersen, Christine Ann, Associate Professor, Internal Medicine, 2016 (2016); PHD 2004 Harvard

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Peterson, Andrew Robert, Clinical Associate Professor, Orthopaedics and Rehabilitation/Pediatrics, 2010 (2015); BA 2000 Lawrence; MD 2004 University of Wisconsin-Madison

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Peterson, Grant Eugene, Clinical Adjunct Assistant Professor, Internal Medicine, 2015 (2015); MD 2010 University of Iowa

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Peterson, Stewart Norman, Adjunct Assistant Professor, Pharmacy Practice and Science, 2002 (2002); PHARM 2001 University of Iowa

Peterson, Teri Lynn, Adjunct Instructor, Pharmacy Practice and Science, 2015 (2015); BSN 2013 University of Iowa

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Pezzulo Colmenares, Alejandro Antonio, Assistant Professor, Internal Medicine, (2017); MD 2005 Univer Central De Venezuela

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Phelps, Michael Allen, Clinical Adjunct Assistant Professor, Surgery, 1999 (2000); MD 1988 University of Iowa

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Phillips, Bryan T., Associate Professor, Biology, 2009 (2017); BS 1998 University of Illinois at Urbana Champaign; DPHIL 2004 Texas AM

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Plapp, Bryce V., Emeritus Professor, Biochemistry, 1970 (1979); BS 1961 Michigan State University; PHD 1966 University of California-Berkeley

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Plumert, Jodie M., Professor, Psychiatry/Psychological and Brain Sciences, 1990 (2004); BA 1985 Kalamazoo; PHD 1990 The University of Minnesota-Twin Cities

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Pollock, Zach J., Adjunct Assistant Professor, Pharmacy Practice and Science, 2013 (2013); PHARM 2007 University of Iowa; MS 2012 The University of Minnesota

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Poock, James Joseph, Clinical Adjunct Assistant Professor, Family Medicine, 2009 (2009); BS 1995 Upper Iowa Univ, Fayette, IA; BS 1999 Upper Iowa; MD 1999 University of Iowa

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Porter, Rebecca Blanche, Clinical Adjunct Assistant Professor, Nursing, 1997 (2016); BSN 1977 University of Calgary; MSN 1996 Simmons College; PHS 2010 University of Iowa

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Portman, Tarrell Aweagahe, Emeritus Associate Professor, Rehabilitation and Counselor Education, 1999 (2005); BS 1981 Southeast Missouri State; MA 1988 Southeast Missouri State; PHD 1999 Arkansas

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Resler, Katherine Jean, Adjunct Instructor, University College Courses, 2015 (2015); BA 2003 Northern State University; MA 2005 Murray State University

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Reynolds, Julie Christine, Assistant Professor, Preventive Community Dentistry/Public Policy Center, 2014 (2014); DDS 2011 University of Iowa

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Roof, John Dean, Clinical Adjunct Assistant Professor, Family Medicine, 1995 (2002); BS 1976 Iowa State; MD 1985 University of Iowa

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Schilling, Keith Edwin, Adjunct Assistant Professor, Earth and Environmental Sciences, 2010 (2010); PHD 2009 University of Iowa

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Schmidt, Gregory Alan, Professor, Internal Medicine, 2006 (2006); BA 1977 St. Louis; MD 1981 University of Illinois at Chicago

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Schmidt, Megan Elizabeth, Adjunct Lecturer, Teaching and Learning, 2017 (2017); BA 2004 Wartburg College; MED 2011 University of South Carolina; MPH 2018 Univ of Minnesota-Twin Cities

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Schmidt, Warren, Professor, Internal Medicine, 1992 (2007); BA 1973 Augustana; MS 1974 University of Illinois at Urbana Champaign; PHD 1978 University of Illinois at Urbana Champaign; MD 1989 Tennessee

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Schmit, Cheri Rochelle Rockhold, Adjunct Assistant Professor, Pharmacy Practice and Science, 2005 (2005); BSPH 1993 University of Iowa

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Smelser, Jamie Michelle, Adjunct Associate Professor, Pharmacy Practice and Science/Physical Therapy Rehab Science, 2008 (2008); BSPH 1994 University of Iowa; PHARM 1996 University of Iowa

Smelser, Lauryn, Adjunct Instructor, Pharmacy Practice and Science, 2018 (2018); PHARM 2018 University of Mississippi

Smidt, Gary L., Emeritus Professor, Physical Therapy Rehab Science, 1969 (1977);

Smith, Alecia Ann, Adjunct Instructor, Social Work, 2018 (2018); BS 1999 Iowa State University; MSW 2006 University of Iowa

Smith, Amanda Marie, Adjunct Assistant Professor, Pharmacy, 2007 (2007); PHARM 2005 University of Iowa

Smith, Amanda Sue, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2014); PHARM 2013 University of Iowa

Smith, Andrew Clifford, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BA 1976 Illinois Wesleyan Univ, IL; MD 1980 Univ of Iowa Coll of Medicine

Smith, Ann Erin, Adjunct Assistant Professor, Nursing, 2004 (2004); BSN 1989 Mount Mercy; MSN 2000 MN School of Anesthesia

Smith, Brian Joseph, Professor, Biostatistics, 2001 (2017); BA 1993 St. Louis; MS 1995 The University of Texas at Austin; PHD 2001 University of Iowa

Smith, Brian John, Clinical Adjunct Instructor, Preventive Community Dentistry, 2018 (2018); BS 2009 University of Iowa; DDS 2013 University of Iowa

Smith, Carol Marie, Clinical Associate Professor, Rehabilitation and Counselor Education, 2008 (2014); BS 1986 North Dakota State; MS 1992 Western Illinois; PHD 2007 University of Iowa

Smith, Dana P., Adjunct Assistant Professor, Pharmacy Practice and Science, 2016 (2016); PHARM 2013 University of Minnesota

Smith, Dustin Ralph, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BA 1992 Grinnell College, Iowa; MD 1997 Univ of Iowa College of Medicine

Smith, Edgar, Clinical Adjunct Associate Professor, Preventive Community Dentistry, 2007 (2010); DDS 1965 University of Iowa

Smith, Elaine M., Emeritus Professor, Epidemiology/Obstetrics Gynecology/Preventive Community Dentistry, 1979 (1998); BA 1968 The Ohio State University; MPH 1971 University of Michigan-Ann Arbor; PHD 1977 State Univ of New York-Buffalo

Smith, Frederick M., Professor, Asian Slavic Languages Literature/International Programs/Religion, 1989 (2008); BA 1969 Coe; MA 1976 Poona-India; PHD 1984 Pennsylvania

Smith, Hayden Lee, Clinical Adjunct Assistant Professor, Internal Medicine, 2012 (2012); BS 2003 University of Iowa;

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Smith, Hayley Anne, Adjunct Lecturer, Nursing, 2016 (2016); BSN 2005 Luther College

Smith, J. Christopher, Adjunct Instructor, University College Courses, 2002 (2014); BA 1973 Saginaw Valley State; MA 1984 University of Iowa; MSW 1993 University of Iowa

Smith, Jeffrey J., Emeritus Associate Professor, Pediatrics, 1988 (1995); BA 1972 The University of Minnesota-Twin Cities; MD 1976 Mayo Medical

Smith, Jennifer S., Adjunct Assistant Professor, Pharmacy Practice and Science, 2017 (2017); PHARM 2014 Purdue University

Smith, Jessica Purcell, Adjunct Assistant Professor, Pharmacy Practice and Science, 2008 (2008); MPH 2006 University of Iowa

Smith, Jessica, Clinical Associate Professor, Surgery, 2009 (2016); MD 2003 University of California-Davis

Smith, Jill Kay, Associate Professor, Management Organizations, 2007 (2007); BGS 1983 University of Iowa; MA 2002 University of Iowa; PHD 2010 University of Iowa

Smith, Jordan Andrew, Lecturer, Religion, 2008 (2008); BA 2000 Memphis; MA 2002 Florida State; PHD 2008 Florida State

Smith, Julie Cobb, Adjunct Instructor, Interdisciplinary Programs, 2004 (2006); BA 1995 North Carolina State; MA 1997 University of Illinois at Chicago

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Smith, Leighton A., Adjunct Lecturer, Finance, 2012 (2012); AB 2004 University of Illinois at Chicago; JD 2008 University of Iowa; MBA 2008 University of Iowa

Smith, Marianne, Associate Professor, Nursing, 1984 (2013); BSN 1978 University of Iowa; MS 1983 Colorado; PHD 2006 University of Iowa

Smith, Mark Charles, Clinical Associate Professor, Radiation Oncology, 2004 (2012); BS 1993 Iowa State; MD 1999 University of Iowa

Smith, Michael Joseph, Adjunct Instructor, University College Courses, 2017 (2017); MA 1990 Univ of Northern Iowa

Smith, Rachel Kristin, Adjunct Instructor, Communication Sciences and Disorders, 2017 (2017); MA 2009 University of Iowa

Smith, Rachel Ichiko, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2015); PHARM 2013 University of Iowa

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Smith, Robert E., Emeritus Associate Professor, Psychiatry, 2001 (2001); BS 1964 Iowa State; MD 1969 University of Iowa

Smith, Ryan Matthew, Assistant Professor, Pharmaceutical Sciences and Experimental Therapeutics, 2016 (2017); PHS 2010 The Ohio State University

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Smith, Theodore F., Emeritus Professor, Mechanical Engineering, 1971 (1981); BSME 1963 University of Illinois at Urbana Champaign; MSME 1965 University of Illinois at Urbana Champaign; PHD 1972 University of Illinois at Urbana Champaign

Smock, Justin Wade, Clinical Associate Professor, Internal Medicine, 2011 (2017); BA 2003 Northwestern University; MD 2007 University of Iowa

Smoker, Wendy Rue, Emeritus Professor, Neurosurgery/Radiology, 2001 (2001); BS 1971 University of Iowa; MS 1972 University of Iowa; MD 1977 University of Iowa

Smolikove, Sarit, Associate Professor, Biology, 2009 (2016); BS 1998 Tel Aviv; MS 2000 Tel Aviv; PHD 2004 Tel Aviv

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Spangler, Steven R., Professor, Physics Astronomy, 1982 (1988); BA 1972 University of Iowa; MS 1972 University of Iowa; PHD 1975 University of Iowa

Spannagel, Angela Michelle, Adjunct Assistant Professor, Pharmacy Practice and Science, 2010 (2010); PHARM 2009 University of Iowa

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Sperry, Steven Matthew, Clinical Assistant Professor, Otolaryngology-Head Neck Surgery, 2014 (2014); BA 2003 University of Virginia; MD 2008 Washington U in St. Louis

Spicer, Laura, Adjunct Instructor, Pharmacy Practice and Science, 2015 (2000); BS 1987 North Dakota State-Fargo

Spieker, Ruth D., Emeritus Assistant Professor, Oral Path, Radiology Medicine, 2002 (2002); BA 1979 Toronto; DDS 1983 Toronto

Spies, Leon Fred, Adjunct Lecturer, Law-Faculty, 2005 (2005); BBA 1972 University of Iowa; JD 1975 University of Iowa

Spies, Maria, Professor, Biochemistry/Radiation Oncology, 2011 (2018); PHD 2000 Osaka

Spies, Michael Ashley, Associate Professor, Biochemistry/Pharmaceutical Sciences and Experimental Therapeutics, 2011 (2015); BA 1991 Kansas; MA 1994 Kansas; PHD 1997 Kansas

Spisak, Arthur Louis, Professor, Classics, 2011 (2011); BA 1966 Youngstown State; BA 1979 Youngstown State; MA 1985 John Carroll; PHD 1992 Loyla

Spitz, Douglas R., Professor, Pathology/Radiation Oncology, 2000 (2006); BA 1978 Grinnell; PHD 1984 University of Iowa

Spitzer, Alan B., Emeritus Professor, History, 1957 (1963); BA 1948 Swarthmore; MA 1949 Columbia; PHD 1955 Columbia

Spitzer, John Herbert, Emeritus Professor, Finance, 1995 (1997); BS 1966 Stanford; MS 1967 University of Iowa; PHD 1975 Duke

Spragg, Matthew Thomas, Clinical Assistant Professor, Emergency Medicine, 2011 (2012); DO 2000 Des Moines

Sprince, Nancy L., Emeritus Professor, Nursing/Occupational Environmental Health, 1990 (1999); BA 1971 Boston; MD 1971 Boston; MPH 1980 Harvard

Spurgeon, Eric James, Clinical Adjunct Assistant Professor, Dental Research, 2016 (2016); BS 2006 University of Iowa; DDS 2014 University of Iowa

Spurgeon, Sharon, Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 2015 University of Iowa; PHARMD 2015 University of Iowa

Squier, Christopher A., Emeritus Professor, International Programs/Oral Path, Radiology/Medicine, 1975 (1980); BA 1963 Cambridge - England; MA 1967 Cambridge - England; PHD 1967 London Hospital - England

Squiers, Meagan Michele, Adjunct Lecturer, Nursing, 2016 (2016); BSN 2000 Clarke College; MSN 2009 University of Iowa

Squire, Larry J., Emeritus Associate Professor, Family Dentistry, 1978 (1983); BS 1972 St. Ambrose; DDS 1976 University of Iowa

Srinivasan, Padmini, Professor, Computer Science/Nursing, 1989 (2005); MSC 1978 Birla Inst of Tech and Science; PHD 1985 Syracuse

Srivastava, Sanvesh, Assistant Professor, Statistics Actuarial Science, 2015 (2015); PHD 2013 Purdue University Main Campus

St Marie, Barbara Jean, Assistant Professor, Nursing, 2014 (2016); MA 1989 U of St. Thomas, St Paul, MN; MA 1995 St. Catherine Univ, St Paul MN; PHD 2012 University of Wisconsin-Milwaukee

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Staab, David B., Clinical Adjunct Assistant Professor, Surgery, 2016 (2016); MD 1985 University of Nebraska

Staber, Janice Marie Rose, Assistant Professor, Pediatrics, 2010 (2013); BS 2000 University of Iowa; MD 2004 University of Iowa

Stachovic, Gail C., Adjunct Instructor, Pharmacy Practice and Science, 2015 (2015); BSPH 1998 University of Iowa

Stachowiak, James Robert, Adjunct Lecturer, Rehabilitation and Counselor Education, 2010 (2010); BSE 2003 University of Michigan-Ann Arbor; MSE 2004 University of Michigan-Ann Arbor

Staffey, Kimberly, Clinical Associate Professor, Internal Medicine/Radiology, 2007 (2015); MD 2001 University of Illinois at Urbana Champaign

Stafford, Haraldine A., Clinical Professor, Internal Medicine, 2001 (2010); BA 1975 Case Western Reserve; PHD 1981 Case Western Reserve; MD 1983 Case Western Reserve

Stahle, Rebecca S., Adjunct Assistant Professor, Pharmacy Practice and Science, 2002 (2002); PHARMD 2000 University of Iowa

Stahlin, Robert, Adjunct Lecturer, Marketing, 2000 (2000); MBA 1999 University of Iowa

Stahly, Donald P., Emeritus Professor, Microbiology and Immunology, 1966 (1979); BS 1959 The Ohio State University; MS 1961 The Ohio State University; PHD 1964 University of Illinois at Urbana Champaign

Staley, John H., Adjunct Professor, Health Management Policy, 1973 (2005); BA 1966 Cornell-Iowa; MA 1969 University of Iowa; PHD 1974 University of Iowa

Staley, Robert N., Emeritus Professor, Orthodontics, 1970 (1985); BS 1957 The University of Minnesota-Twin Cities; DDS 1959 The University of Minnesota-Twin Cities; MA 1967 University of Illinois at Chicago; MA 1970 State Univ of New York

Stallman, Susan Kay, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2015); PHARMD 1999 University of Iowa

Stalter, Timothy John, Professor, Music, 1999 (2012); BA 1985 Goshen College; MM 1989 University of Illinois at Urbana Champaign; DMA 1996 University of Wisconsin-Madison

Stamnes, Mark, Associate Professor, Internal Medicine/Molecular Physiology Biophysics, 1997 (2004); BS 1986 Washington; PHD 1992 University of California-San Diego

Standiford, Nicole Marie, Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 2015 The University of Iowa

Standish, Dominic, Adjunct Lecturer, Communication Studies, 2008 (2009); MA 2002 Kent, UK; PHD 2007 Kent, UK

Stanford, Clark Mitchell, Emeritus Professor, Dental Research/Orthopaedics and Rehabilitation, 1992 (2001); BS 1984 University of Iowa; DDS 1987 University of Iowa; PHD 1992 University of Iowa

Stanford, William, Emeritus Professor, Radiology, 1985 (1991); BSPH 1952 University of Iowa; MD 1956 University of Iowa

Stange, Von, Adjunct Assistant Professor, Educ Policy Leadership Studies, 2004 (2004); BS 1983 South Dakota; MED 1987 Texas Tech; EDD 2002 South Dakota

Stanier, Charles O., Professor, Chemical Biochemical Engineering, 2004 (2018); BSE 1994 Princeton; ME 1998 Johns Hopkins; PHE 2003 Carnegie Mellon

Stanik-Hutt, Julie Ann, Clinical Professor, Nursing, 2016 (2016); MSN 1984 University of California-Los Angeles; PHD 1994 University of Maryland-College Park

Stanton, Zachary Kane, Lecturer, Music, 2013 (2015); BA 2006 Arkansas; MM 2009 The University of Texas at Austin; DMA 2012 The University of Texas at Austin

Stapleton, Anne Mckee, Associate Professor, English, 2001 (2017); BS 1979 Kansas; BA 1991 University of Iowa; MA 1997 University of Iowa; PHD 2001 University of Iowa

Stapleton, Jack T., Professor, Internal Medicine/Microbiology and Immunology, 1986 (1996); BA 1977 University of Iowa; MD 1980 Kansas

Starck, Kenneth, Emeritus Professor, Journalism Mass Communication, 1974 (1976); BA 1956 Wartburg; MA 1960 Missouri; PHD 1968 Southern Illinois

Stark, Craig A., Clinical Adjunct Associate Professor, Internal Medicine, 1987 (2018); MD 1982 Wayne State

Stark, Thomas Michael, Clinical Adjunct Assistant Professor, Orthodontics, 2006 (2006); BS 1980 Iowa State; DDS 1983 University of Iowa; MS 1985 Baylor College of Dentistry

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Starner, Timothy Duane, Associate Professor, Pediatrics, 2001 (2010); BS 1987 Colorado State; BS 1991 Colorado State; MD 1995 Colorado-Denver

Starry, Mary J., Adjunct Assistant Professor, Pharmacy Practice and Science, 2014 (2010); BSPH 1980 University of Iowa; PHD 2010 The University of Florida

Stauffer, George V., Emeritus Professor, Microbiology and Immunology, 1978 (1989); BS 1969 Pennsylvania State University; MS 1974 Pennsylvania State University; PHD 1976 Pennsylvania State University

Stauffer, Stephanie Lael, Clinical Assistant Professor, Pathology, 2016 (2016); BS 2006 Millersville University of PA; MD 2011 University of Iowa

Stauss, Harald Martin, Emeritus Associate Professor, Health and Human Physiology, 2002 (2008); MD 1991 Heidelberg; PHD 1999 Humboldt

Stay, Barbara A., Emeritus Professor, Biology, 1967 (1977); BA 1947 Vassar; MA 1949 Radcliffe; PHD 1953 Radcliffe

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Steckler, Taylor, Adjunct Instructor, Pharmacy Practice and Science, 2017 (2017); PHARM 2017 University of Iowa

Stecopoulos, Harilaos, Associate Professor, English, 1999 (2008); BA 1986 Oberlin; PHD 1999 Virginia

Steele, Oliver, Emeritus Professor, English, 1967 (1974);

Steelman, Victoria Jean, Associate Professor, Nursing, 1989 (2001); BSN 1979 University of Iowa; PHD 1997 University of Iowa

Steen, Sven William, Clinical Assistant Professor, Emergency Medicine, 2018 (2018); BA 2010 Augusta College; MD 2014 University of Iowa

Steenblock, Douglas F., Clinical Adjunct Assistant Professor, Psychiatry, 2001 (2001); MD 1992 Creighton

Steenhoek, Wade, Lecturer, Management Organizations, 2015 (2015); BA 2005 Simpson College; MS 2010 Drake University

Stefani, Andrew James, Clinical Adjunct Assistant Professor, Internal Medicine, 2015 (2015); HS 2001 CR Washington HS; DO 2010 Des Moines University Osteopat

Steffen, Angela Lynn, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2012); PHARM 2007 University of Iowa

Steffen, Sherry, Adjunct Associate, Physical Therapy Rehab Science, 2015 (2015); MPT 1991 University of Iowa

Steffensmeier, Andrew Clyde, Adjunct Assistant Professor, Ophthalmology Visual Science, 2011 (2011); BA 2000 Luther; MD 2004 University of Iowa

Steffensmeier, Gary John, Adjunct Lecturer, Psych Quant Foundations, 2017 (2017); BS 1992 University of Northern Iowa; MA 1998 Kansas State University; PHD 2016 University of Iowa

Stehbens, James A., Emeritus Professor, Pediatrics, 1967 (1984); BS 1962 Iowa State; PHD 1967 University of Iowa

Stein, Kayla J., Adjunct Instructor, Pharmacy Practice and Science, 2016 (2016); PHARM 2016 Drake University

Stein, Kyle Matthew, Clinical Assistant Professor, Oral Maxillofacial Surgery, 2013 (2013); DDS 2009 University of Iowa

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Steinitz, Joseph, Lecturer, Business Administration-Undergraduate/Rhetoric, 2016 (2016); BA 2000 The Open University of Israel; MA 2003 DePaul University; PHD 2015 University of Iowa

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Stensvaag, John-Mark, Professor, Law-Faculty, 1987 (1987); BA 1969 Augsburg; JD 1974 Harvard

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Stephens, Ralph I., Emeritus Professor, Mechanical Engineering, 1965 (1972); BS 1957 University of Illinois at Urbana Champaign; MS 1960 University of Illinois at Urbana Champaign; PHD 1965 University of Wisconsin-Madison

Stephens, Samuel Brandon, Assistant Professor, Internal Medicine, 2016 (2016); PHD 2007 Duke University

Stephenson, Cher M., Adjunct Lecturer, Rehabilitation and Counselor Education, 2016 (2016); BA 1996 Coe College; MS 1998 UNC- Chapel Hill

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Stevenson, Andrew Richard, Clinical Adjunct Assistant Professor, Family Dentistry, 2017 (2017); DDS 2016 University of Iowa

Stevenson, Chad Bruce, Clinical Adjunct Associate Professor, Family Dentistry, 2010 (2018); DDS 1988 University of Iowa

Stevenson, Lisa M., Adjunct Lecturer, Educ Policy Leadership Studies, 2017 (2017); MA 2001 Northeastern Illinois Univ; MA 2004 University of Iowa; PHD 2014 University of Iowa

Stevenson, Richard A., Emeritus Professor, Finance, 1967 (1976); BBA 1961 St. Bonaventure; MBA 1962 Syracuse; PHD 1965 Michigan State University

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Stewart, Kathleen, Adjunct Associate Professor, Geographical and Sustainability Sciences, 2015 (2010); BA 1982 McMaster; MS 1984 British Columbia; PHD 1999 Maine

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Stone, R. Eric, Associate Professor, Theatre Arts, 2008 (2011); BA 1989 Lewis Clark; MFA 1994 Ohio

Stoner, James, Emeritus Associate Professor, Civil-Environmental Engineering, 1974 (1981); BS 1966 Iowa State; MS 1972 University of Iowa; PHD 1977 Northwestern University

Stong, Steven Todd, Lecturer, Economics, 2015 (2017); BS 2008 Brigham Young University; MA 2011 University of Iowa; PHD 2014 University of Iowa

Storey, Glenn R., Associate Professor, Anthropology/Classics, 1994 (2002); BA 1980 Trinity-Oxford; MA 1985 Pennsylvania State University; MA 1986 Oxford; PHD 1992 Pennsylvania State University

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Stormoen, Doris J., Clinical Adjunct Assistant Professor, Psych Quant Foundations, 2009 (2009); BS 1975 Wisconsin Stevens Pt; MS 1984 Wisconsin - Madison; PHD 1992 Wisconsin - Madison

Storrs, Landon, Professor, History, 2012 (2015); BA 1983 Yale College; MA 1989 University of Wisconsin-Madison; PHD 1994 University of Wisconsin-Madison

Story, William Thomas, Assistant Professor, Community Behavioral Health, 2015 (2015); MPH 2004 University of Michigan-Ann Arbor; PHD 2013 University of Michigan-Ann Arbor

Stover, Peggy Elizabeth, Associate Professor, Marketing, 2013 (2018); BBA 1988 St. Mary's University; MS 2011 University of Denver

Strack, Stefan, Professor, Pathology/Pharmacology, 2000 (2012); BS 1985 Wurzburg; MS 1988 State Univ of New York-Albany; PHD 1991 State Univ of New York-Albany

Stramer, Osnat, Associate Professor, Statistics Actuarial Science, 1994 (2000); BSC 1979 Hebrew-Israeli; MA 1984 Haifa; PHD 1993 Colorado State

Strand, Kendra, Assistant Professor, Asian Slavic Languages Literature, 2016 (2016); BA 2004 University of Montana; MA 2008 University of Michigan-Ann Arbor; PHD 2014 University of Michigan-Ann Arbor

Stras, David R., Adjunct Lecturer, Law-Faculty, 2014 (2014); BA 1995 Kansas; JD 1999 Kansas; MBA 1999 Kansas

Strathearn, Lane, Professor, Pediatrics, 2015 (2015); MBBS 1992 University of Queensland; PHD 2009 University of Queensland

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Subramaniam, Umashankar, Clinical Adjunct Assistant Professor, Pediatrics, 2011 (2011); MBBS 2002 Stanley Med, India; MBBS 2002 Stanley Medical College, India

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Subramanian, Ramaswamy, Adjunct Professor, Biochemistry, 2000 (2010); MS 1987 Bharathidasan; PHD 1992 Indian Inst of Science

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Sullivan, Sean Patrick, Associate Professor, Law-Faculty, (2017); MA 2007 University of Virginia; PHD 2011 University of Virginia; JD 2013 University of Virginia

Sullivan, Shannon J., Emeritus Associate Professor, Pediatrics, 2000 (2007); BS 1980 University of Wisconsin-Madison; MD 1985 University of Wisconsin-Madison

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Swenson, Erik Dean, Clinical Adjunct Assistant Professor, Internal Medicine, 2014 (2014); MD 2003 University of Iowa

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Takacs, Michael Edward, Clinical Professor, Emergency Medicine, 2006 (2017); MS 1989 SUNY @ Buffalo; MD 2001 Loyola

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Tan, Kai, Adjunct Associate Professor, Biomedical Engineering, 2008 (2013); PHD 2004 Washington, St. Louis

Tanaka, Tomohiro, Clinical Assistant Professor, Internal Medicine, 2015 (2015); MD 2005 Nagoya University

Tanas, Munir Raja, Assistant Professor, Pathology, 2014 (2014); BS 1999 Whitworth College; MD 2004 Washington

Tang, Qihe, Professor, Statistics Actuarial Science, 2006 (2012); BS 1995 Anhui Univ; MS 1998 Anhui Univ; PHD 2001 U of Science Tech - China

Tang, Wenfang, Professor, International Programs/Political Science, 2009 (2009); BA 1982 Peking; MA 1985 Kansas; PHD 1990 University of Illinois at Chicago

Tannous, Raymond, Emeritus Associate Professor, Pediatrics, 1977 (1982); MD 1971 France

Tansey, Janeta Fong, Clinical Adjunct Associate Professor, Psychiatry, 1999 (2004); MD 1995 Loyola

Tansey, Michael J., Clinical Professor, Pediatrics, 2001 (2012); BS 1991 Creighton; MD 1995 Loyola

Tarbox, Mary P., Adjunct Assistant Professor, Nursing, 1988 (1988); BSN 1974 Mt. Mercy; MSN 1977 The University of Minnesota-Twin Cities; EDD 1986 Columbia

Tardy, Dwight C., Emeritus Professor, Chemistry, 1969 (1980); BA 1962 San Diego State; PHD 1967 Washington

Tarkett, Natalie Arlene, Adjunct Assistant Professor, Pharmacy Practice and Science, 2013 (2013); PHARMD 2010 University of Iowa

Tarvydas, Vilija Marie, Emeritus Professor, Rehabilitation and Counselor Education, 1991 (2002); BA 1971 Northwestern University; MS 1975 University of Wisconsin-Milwaukee; PHD 1987 University of Wisconsin-Madison

Tate, Eric, Associate Professor, Civil-Environmental Engineering/Geographical and Sustainability Sciences, 2011 (2017); BS 1994 Rice; MS 1999 The University of Texas at Austin; PHD 2011 South Carolina

Tate, Jodi, Clinical Professor, Psychiatry, 2001 (2013); BS 1992 North Dakota State; MD 1996 North Dakota

Tawhai, Merryn Howatson, Adjunct Professor, Biomedical Engineering, 2006 (2013); BE 1994 Auckland; ME 1996 Auckland; PHD 2001 Auckland

Taylor, Alexander, Adjunct Lecturer, Management Organizations, 2015 (2009); BA 1988 University of Iowa; MA 1989 University of Iowa

Taylor, Alexandria Carol, Adjunct Instructor, Pharmacy Practice and Science, 2017 (2017); PHARMD 2017 Loma Linda University

Taylor, Amy M., Adjunct Assistant Professor, Pharmacy Practice and Science, 2005 (2005); PHARMD 2000 University of Iowa

Taylor, Christina Linn Harless, Clinical Adjunct Assistant Professor, Internal Medicine, 2008 (2008); MD 2003 University of Iowa

Taylor, Eric Benjamin, Associate Professor, Biochemistry/Molecular Physiology Biophysics, 2012 (2018); PHD 2005 Brigham Young

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Taylor, Rebecca J., Adjunct Assistant Professor, Pharmacy Practice and Science, 2014 (2014); PHAR 2005 University of Iowa

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Temple, Sheila Diane, Clinical Adjunct Instructor, Preventive Community Dentistry, 2017 (2017); AASC 1984 Hawkeye Community College

Templin, Jonathan, Professor, Psych Quant Foundations, (2019); MA 2002 Univ. Illinois - Urbana-Champ; MS 2002 Univ. Illinois - Urbana-Champ; PHD 2004 University of Illinois

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Tenev, Vesselin Tenkov, Clinical Assistant Professor, Psychiatry, 2015 (2016); MD 1999 Medical University Sofia, Bulg

Tennapel, Mindi Joy, Adjunct Instructor, Radiation Oncology, 2010 (2010); BS 2001 University of Iowa; MBA 2004 University of Iowa; MS 2010 University of Iowa; PHD 2015 University of Iowa

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Thiel, William, Research Assistant Professor, Internal Medicine, 2015 (2015); BS 2000 Emory University; PHD 2008 Vanderbilt University

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Thomas, Barrett, Professor, Management Sciences, 2002 (2018); BA 1996 Grinnell; MS 1999 University of Michigan-Ann Arbor; PHD 2002 University of Michigan-Ann Arbor

Thomas, Brady J'Nee A'Hearn, Clinical Assistant Professor, Pediatrics, 2016 (2016); BS 2006 University of Iowa; MD 2010 SUNY Downstate Medical Center

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Thomas, Larry Dean, Adjunct Instructor, Pharmacy Practice and Science, 2014 (2014); BSPH 1980 University of Iowa

Thomas, Margaret Catherine Daly, Adjunct Associate, Physical Therapy Rehab Science, 2013 (2013); MPT 1991 University of Iowa

Thomas, Syeda, Lecturer, Nursing, 2014 (2014); MSN 2009 Allen College; PHD 2016 Capella University

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Thunhorst, Robert Louis, Adjunct Assistant Professor, Psychological and Brain Sciences, 1993 (1998); BA 1979 University of Iowa; PHD 1987 Washington

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Tierney, Kate E., Lecturer, Earth and Environmental Sciences, 2016 (2016); PHD 2010 The Ohio State University

Tierney, Luke, Professor, Statistics Actuarial Science, 2002 (2002); BA 1977 Johns Hopkins; MA 1977 Johns Hopkins; MA 1979 Cornell; PHD 1980 Cornell

Tierney, Sarah Beth, Adjunct Associate Professor, Pharmacy Practice and Science, 2007 (2018); BS 1999 Iowa State; PHARM D 2007 University of Iowa

Tiffany, Jennifer K., Adjunct Instructor, Pharmacy Practice and Science, 2017 (2017); BSPH 1999 Drake University

Tigges, Cody Ryan, Clinical Assistant Professor, Pediatrics, 2015 (2015); BA 2004 Luther College; DO 2008 Des Moines University; BA 2015 Luther College

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Tilley, Cristina Carmody, Associate Professor, Law-Faculty, (2017); JD 1999 Northwestern University

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Timmons, Jeffrey William, Adjunct Instructor, Health and Human Physiology, 2015 (2015); MS 2002 Western Illinois University

Timmons, Jennifer L., Adjunct Instructor, University College Courses, 2016 (2016); BS 1998 Western Illinois University; MS 2001 Western Illinois University

Timmons, Sherry Rene, Clinical Associate Professor, Oral Path, Radiology Medicine, 2002 (2016); BA 1991 Augustana; DDS 1995 University of Iowa; PHD 2001 University of Iowa

Timofeyev, Oleg Vitalyevich, Adjunct Assistant Professor, Asian Slavic Languages Literature, 1998 (1999); MS 1985 MOSCOW CHEMICAL ENGINEERING; MA 1993 SOUTHERN CALIFORNIA; PHD 1999 DUKE

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Van Stippen, Josh, Lecturer, Art Art History, 2014 (2014); MFA 2014 University of Iowa

Van Thournout, Nicole Renae, Adjunct Assistant Professor, Pharmacy Practice and Science, 2005 (2005); PHARMD 2004 Kansas

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Vandenbosch, Daniel Todd, Clinical Adjunct Assistant Professor, Family Medicine, 1999 (2002); BA 1988 Dordt; MD 1992 University of Iowa

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Vandyke, Don C., Emeritus Professor, Epidemiology/Pediatrics, 1987 (2001); BS 1968 Villanova; MD 1975 Pennsylvania State University

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Vansickel, Katherine Joy, Adjunct Instructor, Social Work, 2018 (2018); BS 2011 Upper Iowa University; MSW 2013 University of Iowa

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Wadwekar, Devendra, Clinical Adjunct Assistant Professor, Internal Medicine, 2007 (2007); MD 1996 B.J. Medical College, India

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Wagenknecht, Candance, Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 2016 The University of Iowa

Wagner, Allison Nicole, Clinical Assistant Professor, Anesthesia, (2018); MD 2013 University of Iowa

Wagner, Jordan J., Adjunct Assistant Professor, Pharmacy Practice and Science, 2016 (2016); PHARMD 2015 University of Iowa

Wagner, Michele Louise, Clinical Adjunct Instructor, Nursing, 2000 (2000); MSN 1998 University of Iowa

Wagoner, Michael D., Emeritus Professor, Ophthalmology Visual Science, 1999 (1999); BS 1975 The University of Texas at Austin; MD 1978 Baylor

Wahle, Steven M., Clinical Adjunct Assistant Professor, Urology, 1999 (1999); MD 1985 Indiana University-Bloomington

Wahls, Terry Lynn, Clinical Professor, Epidemiology/Internal Medicine/Neurology, 2000 (2003); BFA 1976 Drake; MD 1982 University of Iowa; MBA 2001 St. Thomas

Wald, Moshe, Associate Professor, Urology, 2005 (2011); MD 1999 The Hebrew Univ

Walder, Joseph A., Adjunct Professor, Biochemistry, 1978 (1988); PHD 1978 Northwestern University

Waldschmidt, Thomas J., Professor, Pathology, 1988 (1997); BS 1977 Marquette; PHD 1984 The University of Texas at Dallas

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Walker, Kimberlee A., Clinical Adjunct Instructor, Nursing, 2007 (2004); BSN 1996 Marycrest International; BN 1999 Clarkson; MN 1999 Clarkson

Walker, Kristy Platz, Lecturer, Health Management Policy/Management Sciences, 2012 (2012); BS 1983 University of Iowa; MBA 1992 University of Iowa

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Walker, Robert Bruce, Lecturer, Management Organizations, 2014 (2014); PHB 1983 Miami University; MBA 1991 University of Iowa; PHD 2011 Iowa State University

Walker, Roger Dale, Adjunct Professor, Community Behavioral Health, 2014 (2014); BS 1968 Oklahoma; MD 1972 Oklahoma

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Watson, David B., Emeritus Professor, Psychological and Brain Sciences, 1993 (1993); BS 1975 Santa Clara; PHD 1982 The University of Minnesota-Twin Cities

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Weir, Robert F., Emeritus Professor, Pediatrics, 1988 (1988); BA 1965 McMurry; BD 1968 Emory; MA 1970 Princeton; PHD 1972 Princeton

Weirich, Frank H., Associate Professor, Civil-Environmental Engineering/Earth and Environmental Sciences, 1988 (1988); BSC 1973 Toronto-Canada; MSC 1979 McMaster; PHD 1982 Toronto

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Weismann, Douglas N., Emeritus Associate Professor, Pediatrics, 1977 (1984); AB 1968 Occidental; MD 1972 University of Arizona; MS 1977 University of Iowa

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Weiss, Doyle L., Emeritus Professor, Marketing, 1987 (1987); BS 1957 Kansas; MS 1960 Carnegie Mellon; PHD 1965 Carnegie Mellon

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Weiss, Jerrold P., Professor, Internal Medicine/Microbiology and Immunology, 1997 (1997); BS 1973 State Univ of New York; PHD 1981 New York University

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Welch, Catherine Jo, Professor, Psych Quant Foundations, 2007 (2007); BBA 1980 University of Iowa; MA 1984 University of Iowa; PHD 1990 University of Iowa

Welch, Kelly, Adjunct Lecturer, Finance, 2013 (2013); PHD 1999 University of Illinois at Chicago

Welch, Myron D., Emeritus Professor, Music, 1980 (1984); BM 1965 Michigan State University; MM 1966 Michigan State University; EDD 1973 University of Illinois at Urbana Champaign

Welch, Tara S., Adjunct Associate Professor, Classics, 2015 (2015); BA 1990 University of So California; BA 1993 Oxford University; PHD 1999 University of California-Los Angeles

Welker, Angela Maria, Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 1999 University of Iowa; PHARMD 1999 University of Iowa

Weller, Paul A., Emeritus Professor, Finance, 1990 (1994); BA 1968 Oxford-England; MA 1973 Essex-Oxford; PHD 1981 Essex-Oxford

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Wells, Ashley, Lecturer, Rhetoric, 2016 (2016); MFA 2012 California State Fresno

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Wells, Tammy Jo, Clinical Adjunct Assistant Professor, Family Medicine, 2014 (2014); BS 1988 Iowa State University; MD 1993 University of Iowa

Welsh, Katrina Schnoebelen, Adjunct Assistant Professor, Psychiatry, 2014 (2014); BA 2004 Yale; MA 2007 University of California-Santa Barbara; PHD 2010 University of California-Santa Barbara

Welsh, Michael James, Professor, Internal Medicine/ Molecular Physiology Biophysics/Neurology/Neurosurgery, 1981 (1987); BS 1970 University of Iowa; MD 1974 University of Iowa

Welter, Trisha Lynn, Adjunct Instructor, Health and Human Physiology/University College Courses, 2010 (2010); BA 2006 University of Iowa; MPH 2008 University of Iowa

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Wendt, David A., Adjunct Lecturer, Teaching and Learning, 1999 (2012); BS 1983 Southern Illinois; MA 1996 University of Iowa

Wentzell, Emily Anne, Associate Professor, Anthropology, 2010 (2016); BA 2003 Johns Hopkins; MA 2006 University of Michigan-Ann Arbor; PHD 2009 University of Michigan-Ann Arbor

Wertz, Christopher A., Emeritus Associate Professor, Russian, 1977 (1980); BA 1963 Columbia; MA 1969 University of Michigan-Ann Arbor; PHD 1971 University of Michigan-Ann Arbor

Wertz, Philip W., Emeritus Professor, Oral Path,RadiologyMedicine, 1990 (1993); BA 1971 Rutgers University-New Brunswick; PHD 1976 University of Wisconsin-Madison

Wesely, Pamela Mary, Associate Professor, Teaching and Learning, 2009 (2015); BA 1996 Yale; MA 1998 New York; PHD 2009 The University of Minnesota-Twin Cities

Wesemann, Daniel Edward, Clinical Assistant Professor, Nursing, 2015 (2015); MN 2006 University of Iowa; MSN 2008 University of Iowa; DNP 2015 Rush University

Wessel, Jan Reinhold, Assistant Professor, Neurology/ Psychological and Brain Sciences, 2015 (2015); PHD 2011 University of Cologne, Germany

Wessels, Caitlin Marie, Adjunct Assistant Professor, Pharmacy Practice and Science, 2017 (2017); PHARMD 2014 University of Iowa

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Westermann, Shawna Jane, Clinical Associate Professor, Internal Medicine, 2003 (2018); BA 1994 Augustana; MD 1998 University of Iowa

Westfall, Ruth Ellen, Lecturer, Spanish Portuguese, 2005 (2012); BA 1984 University of Iowa; MA 1987 Indiana University-Bloomington; PHD 1995 The University of Texas at Austin

Westlund, Erik, Adjunct Assistant Professor, Sociology, 2015 (2017); BA 2006 THE UNIVERSITY OF MARYLAND-COLLEGE PARK; MA 2007 Johns Hopkins; MSC 2007 University of Oxford; MA 2013 Johns Hopkins

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Wettach, Matthew B., Clinical Adjunct Assistant Professor, Family Dentistry, 2016 (2016); BA 2012 Luther; DDS 2016 University of Iowa

Wetzel, James William, Adjunct Assistant Professor, Physics Astronomy, 2017 (2017); PHD 2014 University of Iowa

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Williams, Katlyn Earl, Lecturer, Rhetoric, (2018); PHD 2018 University of Iowa

Williams, Kimberly S., Adjunct Instructor, University College Courses, 2016 (2016); BS 1994 University of Iowa; MA 1997 University of Iowa

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Williams, Madison Brianne, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2015); PHARM 2014 University of Iowa

Williams, Michele, Assistant Professor, Management Organizations, 2016 (2016); BA 1988 Johns Hopkins University; MA 2001 Columbia University; PHD 2001 U of Michigan-Ann Arbor

Williams, Nancy Ann, Clinical Professor, Psychiatry, 1998 (2011); BS 1989 Iowa State; MD 1990 University of Iowa

Williams, Patrick G., Clinical Adjunct Assistant Professor, Physician Assistant, 2017 (2017); BS 1998 Michigan State University; MD 2003 Howard University

Williams, Rachel Marie-Crane, Associate Professor, Art Art History/Gender, Women's and Sexuality Studies/Teaching and Learning, 1999 (2005); BFA 1993 East Carolina; MFA 1995 Florida State; PHD 1999 Florida State

Williams, Vincent D., Emeritus Professor, Family Dentistry, 1972 (1991);

Williamson, Anne Elizabeth, Associate Professor, Endodontics, 2003 (2007); BS 1984 University of Nebraska-Lincoln; DDS 1988 University of Nebraska-Lincoln; CER 2003 University of Iowa; MSD 2004 University of Iowa

Williamson, H. E., Emeritus Professor, Pharmacology, 1960 (1970); BS 1953 University of Wisconsin-Madison; PHD 1959 University of Wisconsin-Madison

Williamson, Megumi Aita, Assistant Professor, Periodontics, 2018 (2018); DDS 1999 Niigata University - Japan; PHD 2005 Niigata University - Japan; MS 2018 UNC - Chapel Hill

Williamson, Richard Alan, Clinical Associate Professor, Prosthodontics, 2001 (2008); BS 1976 Texas A M; DDS 1980 The University of Texas at Austin; MS 2001 University of Nebraska-Lincoln

Williamson, Roger A., Emeritus Professor, Obstetrics Gynecology, 1981 (1990); BS 1966 Colorado State; MD 1971 Baylor; MS 1971 Baylor

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Wilson, Jessica Hope, Adjunct Lecturer, Management Organizations, 2012 (2012); BA 2004 Brown; MFA 2011 University of Iowa

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Winn, Richard, Adjunct Professor, Neurosurgery, 2015 (2010); MD 1968 Pennsylvania

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Wu, Yu-Fen, Adjunct Assistant Professor, Mathematics, 2016 (2016); BS 1988 National Kaohsiung Normal Univ; MS 1994 U of Illinois@Urbana-Champaign; PHD 1998 U of Illinois@Urbana-Champaign

Wu, Yu-Hsiang, Associate Professor, Communication Sciences and Disorders, 2010 (2018); PHD 2007 University of Iowa

Wunder, Charles C., Emeritus Professor, Molecular Physiology Biophysics, 1954 (1971); AB 1949 Washington and Jefferson; MS 1952 Pittsburgh; PHD 1954 Pittsburgh

Wurster, Dale Eric, Professor, Pharmaceutical Sciences and Experimental Therapeutics, 1982 (1996); BS 1974 University of Wisconsin-Madison; PHD 1979 Purdue University Main Campus

Wurth, Michael Gerard, Adjunct Assistant Professor, Pharmacy Practice and Science, 2008 (2008); PHARMD 1999 University of Illinois at Chicago

Wyatt, Mark A., Adjunct Instructor, University College Courses, 2008 (2014); AA 1997 Kirkwood Community College

Wyeth, Mark C., Adjunct Lecturer, Law-Faculty, 2015 (2015); LLM 1988 University of London

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Xiao, Qian, Assistant Professor, Epidemiology/Health and Human Physiology, 2016 (2016); MPH 2001 University of Michigan-Ann Arbor; BS 2003 University of Science and Tech; BSC 2003 University of Science and Tech; PHD 2009 University of California-Los Angeles; MPH 2011

Xiao, Shaoping, Associate Professor, Mechanical Engineering, 2003 (2008); BS 1995 Univ of Science and Tech China; MS 1998 Univ of Science and Tech China; PHD 2002 Northwestern University

Xie, Jian, Research Assistant Professor, Internal Medicine, 2017 (2017); PHD 2002 UT Southwestern

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Xiong, Jinhu, Associate Professor, Biomedical Engineering/Radiology, 2003 (2003); MEE 1986 Tsinghua Beijing; PHD 1995 The University of Texas at Austin

Xu, Jun, Clinical Assistant Professor, Surgery, (2017); MBBCH 2003 Tongji University

Xu, Jun, Clinical Assistant Professor, Surgery, 2017 (2017); MD 2010 Case Western Reserve Univ

Xu, Weiyu, Associate Professor, Electrical-Computer Engineering, 2011 (2018); MS 2005 Tsinghua, (Beijing); MS 2006 Cal Tech; PHD 2008 Cal Tech

Xue, Hai-Hui, Professor, Microbiology and Immunology, 2006 (2017); MD 1991 China Medical; MS 1994 China Medical; PHD 2000 Hamamatsu

Y

Yablon, Nicholas, Associate Professor, American Studies/History, 2003 (2009); BA 1994 Birmingham, England; PHD 2002 University of Illinois at Chicago

Yack, H. John, Emeritus Associate Professor, International Programs/Physical Therapy Rehab Science, 1994 (1994); BS 1973 New Hampshire; MS 1981 University of North Carolina at Chapel Hill; PHD 1987 Waterloo-Canada

Yaddanapudi, Sridhar, Clinical Assistant Professor, Radiation Oncology, 2016 (2016); PHD 2015 University of MO-Columbia

Yager, Robert E., Emeritus Professor, Teaching and Learning, 1956 (1967); BA 1950 Iowa State; MS 1953 University of Iowa; PHD 1957 University of Iowa

Yahr, Timothy Lee, Professor, Microbiology and Immunology, 2001 (2013); BS 1991 University of Wisconsin-Stevens Point; MS 1995 Medical College of Wisconsin; PHD 1998 Medical College of Wisconsin

Yale, Elizabeth Esther, Lecturer, History, 2014 (2017); BS 2002 Yale; AM 2004 Harvard; PHD 2008 Harvard

Yamada, Thoru, Emeritus Professor, Neurology, 1975 (1984); MD 1966 Nagoya

Yamaguchi, Satoshi, Assistant Professor, Neurosurgery, 2017 (2017); MD 1994 Hiroshima University

Yan, Ziying, Research Associate Professor, Anatomy Cell Biology, 2015 (2015); BS 1986 Sun Yat-Sen, China; MS 1989 Sun Yat-Sen, China; PHD 1995 Chinese Academy, China

Yang, Jingzhen, Adjunct Associate Professor, Community Behavioral Health, 2004 (2010); BA 1982 Suzhou, China; MPH 1999 Indiana University-Bloomington; PHD 2004 University of North Carolina at Chapel Hill

Yang, Limin, Clinical Associate Professor, Radiology, 2010 (2015); MD 1987 Beijing Medical, China; MS 1990 Peking Union, China; PHD 1996 Univ of TX Hlth Sci Cntr S.A.

Yang, Ling, Assistant Professor, Anatomy Cell Biology, 2014 (2014); BS 1995 Lanzhou Univ (China); MS 1998 Lanzhou Univ (China); PHD 2007 Kent State University

Yang, Shujie, Research Assistant Professor, Obstetrics Gynecology, 2013 (2013); PHD 2009 New Mexico

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Yankowitz, Jerome, Emeritus Professor, Obstetrics Gynecology, 1993 (2003); BS 1980 Yale; MD 1986 State U of NY-Dwnst Med Cntr

Yannelis, Nicholas C., Professor, Economics, 2011 (2011); MA 1977 London-Economics; MA 1979 Rochester; PHD 1983 Rochester

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Yates, Jonathan, Adjunct Instructor, Health and Human Physiology, 2017 (2017); BA 1982 John Hopkins University; JD 1990 Georgetown University Law Cent; EDM 1992 Harvard University

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Yeager, Anson, Clinical Adjunct Assistant Professor, Surgery, 2004 (2004); BA 1976 Augustana; BS 1978 South Dakota MED; MD 1980 Tufts Med, MA

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Yeh, Malcolm H., Clinical Associate Professor, Neurology, 1992 (2004); BA 1980 University of California-Berkeley; MD 1985 University of California-Davis

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Yoder, Franklin Lee, Adjunct Assistant Professor, History, 2000 (2000); BA 1988 University of Iowa; MA 1989 Chicago; PHD 1999 Chicago

Yoder, Holly Blosser, Adjunct Lecturer, University College Courses, 2010 (2010); BA 1985 Eastern Mennonite; MA 2009 University of Iowa

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Zhang, You-Kuan, Emeritus Professor, Earth and Environmental Sciences, 1993 (2006); BS 1978 Changchun Institute-China; MS 1982 Nanjing-China; PHD 1990 University of Arizona

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Zhao, Kang, Associate Professor, Management Sciences, 2012 (2018); BE 2003 Beijing Inst of Tech, China; MS 2006 Eastern Michigan U; PHD 2012 Pennsylvania State University

Zhorne, Derek James, Clinical Assistant Professor, Pediatrics, 2014 (2014); MD 2008 University of Iowa

Zhorne, Leah Marie, Clinical Assistant Professor, Neurology/ Pediatrics, 2014 (2014); MD 2008 University of Iowa

Zhou, Xun, Assistant Professor, Management Sciences, 2014 (2014); BS 2007 Harbin Institute of Technology; MS 2009 Harbin Institute of Technology; PHD 2014 The University of Minnesota-Twin Cities

Zhu, Xi, Associate Professor, Health Management Policy, 2011 (2017); BS 2000 East China Univ; MS 2003 East China Univ; PHD 2011 The University of Minnesota-Twin Cities

Zhu, Xiaodong, Adjunct Assistant Professor, Internal Medicine, 2012 (2012); PHD 1987 Pittsburgh

Zhu, Xueyu, Assistant Professor, Mathematics, 2016 (2016); BS 2003 Zhejiang University, China; MS 2007 Royal Institute of Technology;; PHD 2013 Brown University

Zhupanska, Olesya I., Adjunct Professor, Mechanical Engineering, 2016 (2016); MS 1996 Kiev Taras Shevchenko; PHD 2000 Kiev Taras Shevchenko

Ziegler, Ekhard E., Emeritus Professor, Pediatrics, 1973 (1981); MD 1964 Innsbruck-Austria

Zihlman, Kevin, Adjunct Instructor, Health and Human Physiology, 2015 (2015); BA 1999 Western Illinois University; MA 2005 University of Iowa

Zike, Wilbur L., Emeritus Associate Professor, Surgery, 1969 (1975); AB 1953 Houghton; MD 1957 McGill

Zimmer, John, Clinical Adjunct Instructor, Preventive Community Dentistry, 2012 (2012); BS 1979 Mankato State; DDS 1984 Marquette

Zimmerman, Dale, Professor, Biostatistics/Statistics Actuarial Science, 1986 (1999); BS 1980 Iowa State; MS 1982 The University of Minnesota-Twin Cities; PHD 1986 Iowa State

Zimmerman, Jill M., Adjunct Assistant Professor, Pharmacy Practice and Science, 2016 (2016); PHARMD 2001 University of Wisconsin-Madison

Zimmerman, Kimberly Rae Heckroth, Clinical Adjunct Assistant Professor, Family Dentistry, 2016 (2016); DDS 2007 University of Iowa

Zimmerman, Margaret Sullivan, Assistant Professor, Library Information Science, (2017); MS 2012 Drexel University; PHD 2017 University of South Carolina

Zimmerman, Miriam Bridget, Clinical Professor, Biostatistics, 2003 (2008); BS 1978 Philippines; MS 1982 Philippines; MS 1984 Iowa State; PHD 1987 Iowa State

Zimmermann, Gerald Neal, Adjunct Associate Professor, Communication Sciences and Disorders, 1977 (1982); PHD 1973 University of Iowa

Zingman, Leonid, Associate Professor, Internal Medicine, 2007 (2014); MD 1984 First Leningrad Medical

Zink, Katelyn, Adjunct Instructor, Pharmacy Practice and Science, 2018 (2018); PHARMD 2017 University of Kansas

Zittergruen, Lisa Ann, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); BS 2004 Valparaiso Univ, Indiana; MD 2009 Univ of IA CCOM, Iowa

Zlatnik, Frank J., Emeritus Professor, Obstetrics Gynecology, 1975 (1984); BA 1962 Carleton; MD 1966 Cornell

Zmolek, Michael A., Lecturer, History/Interdisciplinary Programs, 2013 (2014); BA 1988 University of Iowa; MA 1994 York; PHD 2009 York

Zukin, Jane, Adjunct Instructor, University College Courses, 2007 (2014); BA 1970 Wayne State; MA 1997 Eastern Michigan

Zurbruggen, Thomas L., Clinical Adjunct Instructor, Internal Medicine, 1982 (1988); MD 1978 University of Iowa

Zweig, Rebecca Claire, Adjunct Assistant Professor, Creative Writing, 2018 (2018); BA 2013 Kenyon College; MFA 2018 Iowa

Iowa Administrative Code

The Code of Iowa contains information about admission and residency rules common to Iowa's three state universities —the University of Iowa, Iowa State University, and the University of Northern Iowa. It also provides supplemental information about application to the University of Iowa. Visit Iowa Code on the Iowa Legislature website to search and read the Iowa Administrative Code.

University Calendar

Some University Calendar dates may change; see Calendars and Deadlines on the Office of the Registrar website for the most up-to-date academic calendar.

2018 Fall Semester

August 20	Opening of classes
September 3	University holiday, no classes, offices closed
November 18-25	Thanksgiving recess (consult Dentistry and Medicine collegiate offices for recess dates)
November 22-23	University holidays, offices closed
November 26	Classes resume
December 7	Close of classes
December 10-14	Final examination week
December 13-16	Commencement ceremonies*
December 24-25	University holidays, offices closed

*Fall commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar website.

2018-19 Winter Session

December 26	Opening of classes
January 1	University holiday, no classes, offices closed
January 11	Close of classes

2019 Spring Semester

January 14	Opening of classes
January 21	Martin Luther King Jr. Convocation, all classes suspended, offices closed
March 17-24	Spring break
March 25	Classes resume
May 3	Close of classes
May 6-10	Final examination week
May 9-12	Commencement ceremonies**

**Spring commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar website.

2019 Summer Sessions

The University of Iowa offers several summer sessions: one 12-week session, one 8-week session, two 6-week sessions, and one 4-week session. Each session is listed below in order by its starting date.

May 14-June 6	Four-week session (final examination day: June 7)
May 14-June 20	Six-week session I (final examination day: June 21)
May 14-August 1	Twelve-week session (final examination day: August 2)
May 27	University holiday, no classes, offices closed
June 10-August 1	Eight-week session (final examination day: August 2)

June 24-August 1
Six-week session II (final examination day: August 2)

July 4 University holiday, no classes, offices closed

Office of the Registrar Calendars

The Office of the Registrar provides additional calendars that list detailed academic deadlines, final exam schedules, and University holidays. It also publishes a five-year academic calendar. See Calendars and Deadlines on the Office of the Registrar website.

Individual College Calendars

Some University of Iowa colleges have academic year schedules that vary from the one listed above. Contact the individual colleges or visit their websites; use the A-Z Search or the Directory Search on the University of Iowa home page.

Campus Visits

Each year the University of Iowa is the destination for visitors with wide-ranging interests. Prospective and new students and their parents, new faculty and staff members, fans of intercollegiate athletics, University of Iowa Health Care patients, audiences for the visual and performing arts, museum visitors, and conference and continuing education participants are among those drawn to the campus.

Prospective and New Students

Prospective and new students should contact the Admission Visitors Center if they are interested in a campus visit. The Admission Visitors Center hosts a variety of programs for future students and their families, including large group events and individual visits tailored to specific interests. It is best to visit the campus on weekdays when classes are in session and when other University offices are open. See Visit Campus on the Office of Admissions website or call 319-335-1566 to arrange for a campus visit.

Attractions, Campus Maps, Parking

For links to campus maps, walking tours, how to arrange visits to varied attractions, and where to park on campus, see Campus Maps. For additional information about the University, use the A-Z Search on the University of Iowa home page.

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